Plots from WimpEvent run in res-b

Generated on Tue Sep 25 22:01:20 CEST 2007

Run parameters

```
# Fluxtype:     12 (1D diff)
### Run with WimpEvent version = wimpevent-2.09
###   Using nusigma version  = nusigma-1.15-pyr
###   Using DarkSUSY version = ds-4.1.6
### WimpEvent run parameters
#  Detector latitude =  -.90000000E+02
#  Start time, t1 =     0.24500000E+00
#  End time, t2 =       0.75500000E+00
### Simulated interactions = cc
### Target material = ice/water
#
### WimpAnn input event file = dat-wa/wa-m10-ch1-sun.dat
### Below is header from WimpAnn input event file
### Run with WimpAnn version = wimpann-2.08
###   Using Pythia version   = Pythia 6.400
###   Using nusigma version  = nusigma-1.15-pyr
###   Using DarkSUSY version = ds-4.1.6
### Neutrino oscillation parameters
#      theta_12 =  0.33200000E+02
#      theta_13 =  0.00000000E+00
#      theta_23 =  0.45000000E+02
#         delta =  0.00000000E+00
#  delta_m^2_21 =  0.81000000E-04
#  delta_m^2_31 =  0.22000000E-02
### WimpAnn run parameters
#  Number of annihilations =   2500000
```

Contents

1 Mass 10 **27**

1.1 Channel 1 – $c\bar{c}$ . . . 27
1.1.1 Neutrino fluxes at detector (Sun) . . . 27
1.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 27
1.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 28
1.1.4 Neutrino fluxes at detector (Earth) . . . 28
1.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 28
1.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 29
1.1.7 Muons at detector (Sun/Earth) . . . 29

1.2 Channel 2 – $b\bar{b}$ . . . 30
1.2.1 Neutrino fluxes at detector (Sun) . . . 30
1.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 30
1.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 30
1.2.4 Neutrino fluxes at detector (Earth) . . . 31
1.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 31
1.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 31
1.2.7 Muons at detector (Sun/Earth) . . . 32

1.3 Channel 4 – $\tau^-\tau^+$ . . . 33
1.3.1 Neutrino fluxes at detector (Sun) . . . 33
1.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 33
1.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 33
1.3.4 Neutrino fluxes at detector (Earth) . . . 34
1.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 34
1.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 34
1.3.7 Muons at detector (Sun/Earth) . . . 35

1.4 Channel 12 – gg . . . 36
1.4.1 Neutrino fluxes at detector (Sun) . . . 36
1.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 36
1.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 36
1.4.4 Neutrino fluxes at detector (Earth) . . . 37
1.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 37
1.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 37
1.4.7 Muons at detector (Sun/Earth) . . . 38

1.5 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 39
1.5.1 Neutrino fluxes at detector (Sun) . . . 39
1.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 39
1.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 39
1.5.4 Neutrino fluxes at detector (Earth) . . . 40
1.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 40
1.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 40
1.5.7 Muons at detector (Sun/Earth) . . . 41

1.6 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 42
1.6.1 Neutrino fluxes at detector (Sun) . . . 42
1.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 42
1.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 42
1.6.4 Neutrino fluxes at detector (Earth) . . . 43
1.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 43
1.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 43
1.6.7 Muons at detector (Sun/Earth) . . . 44

1.7 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 45
1.7.1 Neutrino fluxes at detector (Sun) . . . 45
1.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 45
1.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 45
1.7.4 Neutrino fluxes at detector (Earth) . . . 46
1.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 46
1.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 46
1.7.7 Muons at detector (Sun/Earth) . . . 47

2 Mass 25 **48**
2.1 Channel 1 – $c\bar{c}$ . . . 48
2.1.1 Neutrino fluxes at detector (Sun) . . . 48
2.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 48
2.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 49
2.1.4 Neutrino fluxes at detector (Earth) . . . 49
2.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 49
2.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 50
2.1.7 Muons at detector (Sun/Earth) . . . 50
2.2 Channel 2 – $b\bar{b}$ . . . 51
2.2.1 Neutrino fluxes at detector (Sun) . . . 51
2.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 51
2.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 51
2.2.4 Neutrino fluxes at detector (Earth) . . . 52
2.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 52
2.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 52
2.2.7 Muons at detector (Sun/Earth) . . . 53
2.3 Channel 4 – $\tau^-\tau^+$ . . . 54
2.3.1 Neutrino fluxes at detector (Sun) . . . 54
2.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 54
2.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 54
2.3.4 Neutrino fluxes at detector (Earth) . . . 55
2.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 55
2.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 55
2.3.7 Muons at detector (Sun/Earth) . . . 56
2.4 Channel 12 – gg . . . 57
2.4.1 Neutrino fluxes at detector (Sun) . . . 57
2.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 57
2.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 57
2.4.4 Neutrino fluxes at detector (Earth) . . . 58
2.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 58
2.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 58
2.4.7 Muons at detector (Sun/Earth) . . . 59
2.5 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 60
2.5.1 Neutrino fluxes at detector (Sun) . . . 60
2.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 60
2.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 60
2.5.4 Neutrino fluxes at detector (Earth) . . . 61
2.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 61
2.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 61
2.5.7 Muons at detector (Sun/Earth) . . . 62
2.6 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 63
2.6.1 Neutrino fluxes at detector (Sun) . . . 63
2.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 63
2.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 63
2.6.4 Neutrino fluxes at detector (Earth) . . . 64
2.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 64
2.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 64
2.6.7 Muons at detector (Sun/Earth) . . . 65
2.7 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 66
2.7.1 Neutrino fluxes at detector (Sun) . . . 66
2.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 66
2.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 66
2.7.4 Neutrino fluxes at detector (Earth) . . . 67
2.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 67
2.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 67
2.7.7 Muons at detector (Sun/Earth) . . . 68

3 Mass 50 **69**
3.1 Channel 1 – $c\bar{c}$ . . . 69
3.1.1 Neutrino fluxes at detector (Sun) . . . 69
3.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 69
3.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 70
3.1.4 Neutrino fluxes at detector (Earth) . . . 70
3.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 70
3.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 71
3.1.7 Muons at detector (Sun/Earth) . . . 71
3.2 Channel 2 – $b\bar{b}$ . . . 72
3.2.1 Neutrino fluxes at detector (Sun) . . . 72
3.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 72
3.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 72
3.2.4 Neutrino fluxes at detector (Earth) . . . 73
3.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 73
3.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 73
3.2.7 Muons at detector (Sun/Earth) . . . 74
3.3 Channel 4 – $\tau^-\tau^+$ . . . 75
3.3.1 Neutrino fluxes at detector (Sun) . . . 75
3.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 75
3.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 75
3.3.4 Neutrino fluxes at detector (Earth) . . . 76
3.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 76
3.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 76
3.3.7 Muons at detector (Sun/Earth) . . . 77
3.4 Channel 12 – gg . . . 78
3.4.1 Neutrino fluxes at detector (Sun) . . . 78
3.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 78
3.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 78
3.4.4 Neutrino fluxes at detector (Earth) . . . 79
3.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 79
3.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 79
3.4.7 Muons at detector (Sun/Earth) . . . 80
3.5 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 81
3.5.1 Neutrino fluxes at detector (Sun) . . . 81
3.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 81
3.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 81
3.5.4 Neutrino fluxes at detector (Earth) . . . 82
3.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 82
3.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 82
3.5.7 Muons at detector (Sun/Earth) . . . 83
3.6 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 84
3.6.1 Neutrino fluxes at detector (Sun) . . . 84
3.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 84
3.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 84
3.6.4 Neutrino fluxes at detector (Earth) . . . 85
3.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 85
3.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 85
3.6.7 Muons at detector (Sun/Earth) . . . 86
3.7 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 87
3.7.1 Neutrino fluxes at detector (Sun) . . . 87
3.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 87
3.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 87
3.7.4 Neutrino fluxes at detector (Earth) . . . 88
3.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 88
3.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 88
3.7.7 Muons at detector (Sun/Earth) . . . 89

4 Mass 80.3 **90**
4.1 Channel 1 – $c\bar{c}$ . . . 90
4.1.1 Neutrino fluxes at detector (Sun) . . . 90
4.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 90
4.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 91
4.1.4 Neutrino fluxes at detector (Earth) . . . 91
4.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 91
4.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 92
4.1.7 Muons at detector (Sun/Earth) . . . 92
4.2 Channel 2 – $b\bar{b}$ . . . 93
4.2.1 Neutrino fluxes at detector (Sun) . . . 93
4.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 93
4.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 93
4.2.4 Neutrino fluxes at detector (Earth) . . . 94
4.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 94
4.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 94
4.2.7 Muons at detector (Sun/Earth) . . . 95
4.3 Channel 4 – $\tau^-\tau^+$ . . . 96
4.3.1 Neutrino fluxes at detector (Sun) . . . 96
4.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 96
4.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 96
4.3.4 Neutrino fluxes at detector (Earth) . . . 97
4.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 97
4.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 97
4.3.7 Muons at detector (Sun/Earth) . . . 98
4.4 Channel 5 – W^-W^+ . . . 99
4.4.1 Neutrino fluxes at detector (Sun) . . . 99
4.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 99
4.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 99
4.4.4 Neutrino fluxes at detector (Earth) . . . 100
4.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 100
4.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 100
4.4.7 Muons at detector (Sun/Earth) . . . 101
4.5 Channel 12 – gg . . . 102
4.5.1 Neutrino fluxes at detector (Sun) . . . 102
4.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 102
4.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 102
4.5.4 Neutrino fluxes at detector (Earth) . . . 103
4.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 103
4.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 103
4.5.7 Muons at detector (Sun/Earth) . . . 104
4.6 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 105
4.6.1 Neutrino fluxes at detector (Sun) . . . 105
4.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 105
4.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 105
4.6.4 Neutrino fluxes at detector (Earth) . . . 106
4.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 106
4.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 106
4.6.7 Muons at detector (Sun/Earth) . . . 107
4.7 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 108
4.7.1 Neutrino fluxes at detector (Sun) . . . 108
4.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 108
4.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 108
4.7.4 Neutrino fluxes at detector (Earth) . . . 109
4.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 109
4.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 109
4.7.7 Muons at detector (Sun/Earth) . . . 110
4.8 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 111
4.8.1 Neutrino fluxes at detector (Sun) . . . 111

4.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 111
4.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 111
4.8.4 Neutrino fluxes at detector (Earth) 112
4.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 112
4.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 112
4.8.7 Muons at detector (Sun/Earth) 113

5 Mass 91.2 **114**
5.1 Channel 1 – $c\bar{c}$ 114
5.1.1 Neutrino fluxes at detector (Sun) 114
5.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 114
5.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 115
5.1.4 Neutrino fluxes at detector (Earth) 115
5.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 115
5.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 116
5.1.7 Muons at detector (Sun/Earth) 116
5.2 Channel 2 – $b\bar{b}$ 117
5.2.1 Neutrino fluxes at detector (Sun) 117
5.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 117
5.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 117
5.2.4 Neutrino fluxes at detector (Earth) 118
5.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 118
5.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 118
5.2.7 Muons at detector (Sun/Earth) 119
5.3 Channel 4 – $\tau^-\tau^+$ 120
5.3.1 Neutrino fluxes at detector (Sun) 120
5.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 120
5.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 120
5.3.4 Neutrino fluxes at detector (Earth) 121
5.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 121
5.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 121
5.3.7 Muons at detector (Sun/Earth) 122
5.4 Channel 5 – W^-W^+ 123
5.4.1 Neutrino fluxes at detector (Sun) 123
5.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 123
5.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 123
5.4.4 Neutrino fluxes at detector (Earth) 124
5.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 124
5.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 124
5.4.7 Muons at detector (Sun/Earth) 125
5.5 Channel 6 – Z^0Z^0 126
5.5.1 Neutrino fluxes at detector (Sun) 126
5.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 126
5.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 126
5.5.4 Neutrino fluxes at detector (Earth) 127
5.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 127
5.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 127
5.5.7 Muons at detector (Sun/Earth) 128
5.6 Channel 12 – gg 129
5.6.1 Neutrino fluxes at detector (Sun) 129
5.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 129
5.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 129
5.6.4 Neutrino fluxes at detector (Earth) 130
5.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 130
5.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 130
5.6.7 Muons at detector (Sun/Earth) 131
5.7 Channel 16 – $\nu_e\bar{\nu}_e$ 132
5.7.1 Neutrino fluxes at detector (Sun) 132
5.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 132

5.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 132
5.7.4 Neutrino fluxes at detector (Earth) 133
5.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 133
5.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 133
5.7.7 Muons at detector (Sun/Earth) 134
5.8 Channel 17 – $\nu_\mu \bar{\nu}_\mu$ 135
5.8.1 Neutrino fluxes at detector (Sun) 135
5.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 135
5.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 135
5.8.4 Neutrino fluxes at detector (Earth) 136
5.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 136
5.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 136
5.8.7 Muons at detector (Sun/Earth) 137
5.9 Channel 18 – $\nu_\tau \bar{\nu}_\tau$ 138
5.9.1 Neutrino fluxes at detector (Sun) 138
5.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 138
5.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 138
5.9.4 Neutrino fluxes at detector (Earth) 139
5.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 139
5.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 139
5.9.7 Muons at detector (Sun/Earth) 140

6 Mass 100 **141**
6.1 Channel 1 – $c\bar{c}$ 141
6.1.1 Neutrino fluxes at detector (Sun) 141
6.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 141
6.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 142
6.1.4 Neutrino fluxes at detector (Earth) 142
6.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 142
6.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 143
6.1.7 Muons at detector (Sun/Earth) 143
6.2 Channel 2 – $b\bar{b}$ 144
6.2.1 Neutrino fluxes at detector (Sun) 144
6.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 144
6.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 144
6.2.4 Neutrino fluxes at detector (Earth) 145
6.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 145
6.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 145
6.2.7 Muons at detector (Sun/Earth) 146
6.3 Channel 4 – $\tau^-\tau^+$ 147
6.3.1 Neutrino fluxes at detector (Sun) 147
6.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 147
6.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 147
6.3.4 Neutrino fluxes at detector (Earth) 148
6.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 148
6.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 148
6.3.7 Muons at detector (Sun/Earth) 149
6.4 Channel 5 – W^-W^+ 150
6.4.1 Neutrino fluxes at detector (Sun) 150
6.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 150
6.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 150
6.4.4 Neutrino fluxes at detector (Earth) 151
6.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 151
6.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 151
6.4.7 Muons at detector (Sun/Earth) 152
6.5 Channel 6 – Z^0Z^0 153
6.5.1 Neutrino fluxes at detector (Sun) 153
6.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 153
6.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 153

6.5.4 Neutrino fluxes at detector (Earth) . . . 154
6.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 154
6.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 154
6.5.7 Muons at detector (Sun/Earth) . . . 155
6.6 Channel 12 – gg . . . 156
6.6.1 Neutrino fluxes at detector (Sun) . . . 156
6.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 156
6.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 156
6.6.4 Neutrino fluxes at detector (Earth) . . . 157
6.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 157
6.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 157
6.6.7 Muons at detector (Sun/Earth) . . . 158
6.7 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 159
6.7.1 Neutrino fluxes at detector (Sun) . . . 159
6.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 159
6.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 159
6.7.4 Neutrino fluxes at detector (Earth) . . . 160
6.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 160
6.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 160
6.7.7 Muons at detector (Sun/Earth) . . . 161
6.8 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 162
6.8.1 Neutrino fluxes at detector (Sun) . . . 162
6.8.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 162
6.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 162
6.8.4 Neutrino fluxes at detector (Earth) . . . 163
6.8.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 163
6.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 163
6.8.7 Muons at detector (Sun/Earth) . . . 164
6.9 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 165
6.9.1 Neutrino fluxes at detector (Sun) . . . 165
6.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 165
6.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 165
6.9.4 Neutrino fluxes at detector (Earth) . . . 166
6.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 166
6.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 166
6.9.7 Muons at detector (Sun/Earth) . . . 167

7 Mass 150 **168**
7.1 Channel 1 – $c\bar{c}$ . . . 168
7.1.1 Neutrino fluxes at detector (Sun) . . . 168
7.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 168
7.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 169
7.1.4 Neutrino fluxes at detector (Earth) . . . 169
7.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 169
7.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 170
7.1.7 Muons at detector (Sun/Earth) . . . 170
7.2 Channel 2 – $b\bar{b}$ . . . 171
7.2.1 Neutrino fluxes at detector (Sun) . . . 171
7.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 171
7.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 171
7.2.4 Neutrino fluxes at detector (Earth) . . . 172
7.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 172
7.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 172
7.2.7 Muons at detector (Sun/Earth) . . . 173
7.3 Channel 4 – $\tau^-\tau^+$ . . . 174
7.3.1 Neutrino fluxes at detector (Sun) . . . 174
7.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 174
7.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 174
7.3.4 Neutrino fluxes at detector (Earth) . . . 175

7.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 175
7.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 175
7.3.7 Muons at detector (Sun/Earth) 176
7.4 Channel 5 – W^-W^+ 177
7.4.1 Neutrino fluxes at detector (Sun) 177
7.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 177
7.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 177
7.4.4 Neutrino fluxes at detector (Earth) 178
7.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 178
7.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 178
7.4.7 Muons at detector (Sun/Earth) 179
7.5 Channel 6 – Z^0Z^0 180
7.5.1 Neutrino fluxes at detector (Sun) 180
7.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 180
7.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 180
7.5.4 Neutrino fluxes at detector (Earth) 181
7.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 181
7.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 181
7.5.7 Muons at detector (Sun/Earth) 182
7.6 Channel 12 – gg 183
7.6.1 Neutrino fluxes at detector (Sun) 183
7.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 183
7.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 183
7.6.4 Neutrino fluxes at detector (Earth) 184
7.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 184
7.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 184
7.6.7 Muons at detector (Sun/Earth) 185
7.7 Channel 16 – $\nu_e\bar{\nu}_e$ 186
7.7.1 Neutrino fluxes at detector (Sun) 186
7.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 186
7.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 186
7.7.4 Neutrino fluxes at detector (Earth) 187
7.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 187
7.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 187
7.7.7 Muons at detector (Sun/Earth) 188
7.8 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 189
7.8.1 Neutrino fluxes at detector (Sun) 189
7.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 189
7.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 189
7.8.4 Neutrino fluxes at detector (Earth) 190
7.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 190
7.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 190
7.8.7 Muons at detector (Sun/Earth) 191
7.9 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 192
7.9.1 Neutrino fluxes at detector (Sun) 192
7.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 192
7.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 192
7.9.4 Neutrino fluxes at detector (Earth) 193
7.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 193
7.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 193
7.9.7 Muons at detector (Sun/Earth) 194

8 Mass 176 195
8.1 Channel 1 – $c\bar{c}$ 195
8.1.1 Neutrino fluxes at detector (Sun) 195
8.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 195
8.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 196
8.1.4 Neutrino fluxes at detector (Earth) 196
8.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 196

8.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 197
8.1.7 Muons at detector (Sun/Earth) 197
8.2 Channel 2 – $b\bar{b}$ 198
8.2.1 Neutrino fluxes at detector (Sun) 198
8.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 198
8.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 198
8.2.4 Neutrino fluxes at detector (Earth) 199
8.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 199
8.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 199
8.2.7 Muons at detector (Sun/Earth) 200
8.3 Channel 3 – $t\bar{t}$ 201
8.3.1 Neutrino fluxes at detector (Sun) 201
8.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 201
8.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 201
8.3.4 Neutrino fluxes at detector (Earth) 202
8.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 202
8.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 202
8.3.7 Muons at detector (Sun/Earth) 203
8.4 Channel 4 – $\tau^-\tau^+$ 204
8.4.1 Neutrino fluxes at detector (Sun) 204
8.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 204
8.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 204
8.4.4 Neutrino fluxes at detector (Earth) 205
8.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 205
8.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 205
8.4.7 Muons at detector (Sun/Earth) 206
8.5 Channel 5 – W^-W^+ 207
8.5.1 Neutrino fluxes at detector (Sun) 207
8.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 207
8.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 207
8.5.4 Neutrino fluxes at detector (Earth) 208
8.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 208
8.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 208
8.5.7 Muons at detector (Sun/Earth) 209
8.6 Channel 6 – Z^0Z^0 210
8.6.1 Neutrino fluxes at detector (Sun) 210
8.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 210
8.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 210
8.6.4 Neutrino fluxes at detector (Earth) 211
8.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 211
8.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 211
8.6.7 Muons at detector (Sun/Earth) 212
8.7 Channel 12 – gg 213
8.7.1 Neutrino fluxes at detector (Sun) 213
8.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 213
8.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 213
8.7.4 Neutrino fluxes at detector (Earth) 214
8.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 214
8.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 214
8.7.7 Muons at detector (Sun/Earth) 215
8.8 Channel 16 – $\nu_e\bar{\nu}_e$ 216
8.8.1 Neutrino fluxes at detector (Sun) 216
8.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 216
8.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 216
8.8.4 Neutrino fluxes at detector (Earth) 217
8.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 217
8.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 217
8.8.7 Muons at detector (Sun/Earth) 218
8.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 219

8.9.1 Neutrino fluxes at detector (Sun) . . . 219
8.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 219
8.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 219
8.9.4 Neutrino fluxes at detector (Earth) . . . 220
8.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 220
8.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 220
8.9.7 Muons at detector (Sun/Earth) . . . 221
8.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$ . . . 222
8.10.1 Neutrino fluxes at detector (Sun) . . . 222
8.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 222
8.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 222
8.10.4 Neutrino fluxes at detector (Earth) . . . 223
8.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 223
8.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 223
8.10.7 Muons at detector (Sun/Earth) . . . 224

9 Mass 200 . . . 225
9.1 Channel 1 – $c\bar{c}$ . . . 225
9.1.1 Neutrino fluxes at detector (Sun) . . . 225
9.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 225
9.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 226
9.1.4 Neutrino fluxes at detector (Earth) . . . 226
9.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 226
9.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 227
9.1.7 Muons at detector (Sun/Earth) . . . 227
9.2 Channel 2 – $b\bar{b}$ . . . 228
9.2.1 Neutrino fluxes at detector (Sun) . . . 228
9.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 228
9.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 228
9.2.4 Neutrino fluxes at detector (Earth) . . . 229
9.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 229
9.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 229
9.2.7 Muons at detector (Sun/Earth) . . . 230
9.3 Channel 3 – $t\bar{t}$ . . . 231
9.3.1 Neutrino fluxes at detector (Sun) . . . 231
9.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 231
9.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 231
9.3.4 Neutrino fluxes at detector (Earth) . . . 232
9.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 232
9.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 232
9.3.7 Muons at detector (Sun/Earth) . . . 233
9.4 Channel 4 – $\tau^-\tau^+$ . . . 234
9.4.1 Neutrino fluxes at detector (Sun) . . . 234
9.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 234
9.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 234
9.4.4 Neutrino fluxes at detector (Earth) . . . 235
9.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 235
9.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 235
9.4.7 Muons at detector (Sun/Earth) . . . 236
9.5 Channel 5 – W^-W^+ . . . 237
9.5.1 Neutrino fluxes at detector (Sun) . . . 237
9.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 237
9.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 237
9.5.4 Neutrino fluxes at detector (Earth) . . . 238
9.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 238
9.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 238
9.5.7 Muons at detector (Sun/Earth) . . . 239
9.6 Channel 6 – Z^0Z^0 . . . 240
9.6.1 Neutrino fluxes at detector (Sun) . . . 240

9.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 240
9.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 240
9.6.4 Neutrino fluxes at detector (Earth) 241
9.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 241
9.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 241
9.6.7 Muons at detector (Sun/Earth) 242
9.7 Channel 12 – gg 243
9.7.1 Neutrino fluxes at detector (Sun) 243
9.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 243
9.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 243
9.7.4 Neutrino fluxes at detector (Earth) 244
9.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 244
9.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 244
9.7.7 Muons at detector (Sun/Earth) 245
9.8 Channel 16 – $\nu_e\bar{\nu}_e$ 246
9.8.1 Neutrino fluxes at detector (Sun) 246
9.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 246
9.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 246
9.8.4 Neutrino fluxes at detector (Earth) 247
9.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 247
9.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 247
9.8.7 Muons at detector (Sun/Earth) 248
9.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 249
9.9.1 Neutrino fluxes at detector (Sun) 249
9.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 249
9.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 249
9.9.4 Neutrino fluxes at detector (Earth) 250
9.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 250
9.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 250
9.9.7 Muons at detector (Sun/Earth) 251
9.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 252
9.10.1 Neutrino fluxes at detector (Sun) 252
9.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 252
9.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 252
9.10.4 Neutrino fluxes at detector (Earth) 253
9.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 253
9.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 253
9.10.7 Muons at detector (Sun/Earth) 254

10 Mass 250 **255**
10.1 Channel 1 – $c\bar{c}$ 255
10.1.1 Neutrino fluxes at detector (Sun) 255
10.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 255
10.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 256
10.1.4 Neutrino fluxes at detector (Earth) 256
10.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 256
10.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 257
10.1.7 Muons at detector (Sun/Earth) 257
10.2 Channel 2 – $b\bar{b}$ 258
10.2.1 Neutrino fluxes at detector (Sun) 258
10.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 258
10.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 258
10.2.4 Neutrino fluxes at detector (Earth) 259
10.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 259
10.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 259
10.2.7 Muons at detector (Sun/Earth) 260
10.3 Channel 3 – $t\bar{t}$ 261
10.3.1 Neutrino fluxes at detector (Sun) 261
10.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 261

10.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 261
10.3.4 Neutrino fluxes at detector (Earth) 262
10.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 262
10.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 262
10.3.7 Muons at detector (Sun/Earth) 263
10.4 Channel 4 – $\tau^-\tau^+$ 264
10.4.1 Neutrino fluxes at detector (Sun) 264
10.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 264
10.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 264
10.4.4 Neutrino fluxes at detector (Earth) 265
10.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 265
10.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 265
10.4.7 Muons at detector (Sun/Earth) 266
10.5 Channel 5 – W^-W^+ 267
10.5.1 Neutrino fluxes at detector (Sun) 267
10.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 267
10.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 267
10.5.4 Neutrino fluxes at detector (Earth) 268
10.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 268
10.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 268
10.5.7 Muons at detector (Sun/Earth) 269
10.6 Channel 6 – Z^0Z^0 270
10.6.1 Neutrino fluxes at detector (Sun) 270
10.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 270
10.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 270
10.6.4 Neutrino fluxes at detector (Earth) 271
10.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 271
10.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 271
10.6.7 Muons at detector (Sun/Earth) 272
10.7 Channel 12 – gg 273
10.7.1 Neutrino fluxes at detector (Sun) 273
10.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 273
10.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 273
10.7.4 Neutrino fluxes at detector (Earth) 274
10.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 274
10.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 274
10.7.7 Muons at detector (Sun/Earth) 275
10.8 Channel 16 – $\nu_e\bar{\nu}_e$ 276
10.8.1 Neutrino fluxes at detector (Sun) 276
10.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 276
10.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 276
10.8.4 Neutrino fluxes at detector (Earth) 277
10.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 277
10.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 277
10.8.7 Muons at detector (Sun/Earth) 278
10.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 279
10.9.1 Neutrino fluxes at detector (Sun) 279
10.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 279
10.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 279
10.9.4 Neutrino fluxes at detector (Earth) 280
10.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 280
10.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 280
10.9.7 Muons at detector (Sun/Earth) 281
10.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 282
10.10.1 Neutrino fluxes at detector (Sun) 282
10.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 282
10.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 282
10.10.4 Neutrino fluxes at detector (Earth) 283
10.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 283

10.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 283
10.10.7 Muons at detector (Sun/Earth) 284

11 Mass 350 **285**
11.1 Channel 1 – $c\bar{c}$ 285
11.1.1 Neutrino fluxes at detector (Sun) 285
11.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 285
11.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 286
11.1.4 Neutrino fluxes at detector (Earth) 286
11.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 286
11.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 287
11.1.7 Muons at detector (Sun/Earth) 287
11.2 Channel 2 – $b\bar{b}$ 288
11.2.1 Neutrino fluxes at detector (Sun) 288
11.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 288
11.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 288
11.2.4 Neutrino fluxes at detector (Earth) 289
11.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 289
11.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 289
11.2.7 Muons at detector (Sun/Earth) 290
11.3 Channel 3 – $t\bar{t}$ 291
11.3.1 Neutrino fluxes at detector (Sun) 291
11.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 291
11.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 291
11.3.4 Neutrino fluxes at detector (Earth) 292
11.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 292
11.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 292
11.3.7 Muons at detector (Sun/Earth) 293
11.4 Channel 4 – $\tau^-\tau^+$ 294
11.4.1 Neutrino fluxes at detector (Sun) 294
11.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 294
11.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 294
11.4.4 Neutrino fluxes at detector (Earth) 295
11.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 295
11.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 295
11.4.7 Muons at detector (Sun/Earth) 296
11.5 Channel 5 – W^-W^+ 297
11.5.1 Neutrino fluxes at detector (Sun) 297
11.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 297
11.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 297
11.5.4 Neutrino fluxes at detector (Earth) 298
11.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 298
11.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 298
11.5.7 Muons at detector (Sun/Earth) 299
11.6 Channel 6 – Z^0Z^0 300
11.6.1 Neutrino fluxes at detector (Sun) 300
11.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 300
11.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 300
11.6.4 Neutrino fluxes at detector (Earth) 301
11.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 301
11.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 301
11.6.7 Muons at detector (Sun/Earth) 302
11.7 Channel 12 – gg 303
11.7.1 Neutrino fluxes at detector (Sun) 303
11.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 303
11.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 303
11.7.4 Neutrino fluxes at detector (Earth) 304
11.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 304
11.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 304

11.7.7 Muons at detector (Sun/Earth) . . . 305
11.8 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 306
11.8.1 Neutrino fluxes at detector (Sun) . . . 306
11.8.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 306
11.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 306
11.8.4 Neutrino fluxes at detector (Earth) . . . 307
11.8.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 307
11.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 307
11.8.7 Muons at detector (Sun/Earth) . . . 308
11.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 309
11.9.1 Neutrino fluxes at detector (Sun) . . . 309
11.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 309
11.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 309
11.9.4 Neutrino fluxes at detector (Earth) . . . 310
11.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 310
11.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 310
11.9.7 Muons at detector (Sun/Earth) . . . 311
11.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 312
11.10.1 Neutrino fluxes at detector (Sun) . . . 312
11.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 312
11.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 312
11.10.4 Neutrino fluxes at detector (Earth) . . . 313
11.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 313
11.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 313
11.10.7 Muons at detector (Sun/Earth) . . . 314

12 Mass 500 **315**
12.1 Channel 1 – $c\bar{c}$ . . . 315
12.1.1 Neutrino fluxes at detector (Sun) . . . 315
12.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 315
12.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 316
12.1.4 Neutrino fluxes at detector (Earth) . . . 316
12.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 316
12.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 317
12.1.7 Muons at detector (Sun/Earth) . . . 317
12.2 Channel 2 – $b\bar{b}$ . . . 318
12.2.1 Neutrino fluxes at detector (Sun) . . . 318
12.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 318
12.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 318
12.2.4 Neutrino fluxes at detector (Earth) . . . 319
12.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 319
12.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 319
12.2.7 Muons at detector (Sun/Earth) . . . 320
12.3 Channel 3 – $t\bar{t}$ . . . 321
12.3.1 Neutrino fluxes at detector (Sun) . . . 321
12.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 321
12.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 321
12.3.4 Neutrino fluxes at detector (Earth) . . . 322
12.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 322
12.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 322
12.3.7 Muons at detector (Sun/Earth) . . . 323
12.4 Channel 4 – $\tau^-\tau^+$ . . . 324
12.4.1 Neutrino fluxes at detector (Sun) . . . 324
12.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 324
12.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 324
12.4.4 Neutrino fluxes at detector (Earth) . . . 325
12.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 325
12.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 325
12.4.7 Muons at detector (Sun/Earth) . . . 326

12.5 Channel 5 – W^-W^+ . . . 327
12.5.1 Neutrino fluxes at detector (Sun) . . . 327
12.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 327
12.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 327
12.5.4 Neutrino fluxes at detector (Earth) . . . 328
12.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 328
12.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 328
12.5.7 Muons at detector (Sun/Earth) . . . 329
12.6 Channel 6 – Z^0Z^0 . . . 330
12.6.1 Neutrino fluxes at detector (Sun) . . . 330
12.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 330
12.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 330
12.6.4 Neutrino fluxes at detector (Earth) . . . 331
12.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 331
12.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 331
12.6.7 Muons at detector (Sun/Earth) . . . 332
12.7 Channel 12 – gg . . . 333
12.7.1 Neutrino fluxes at detector (Sun) . . . 333
12.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 333
12.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 333
12.7.4 Neutrino fluxes at detector (Earth) . . . 334
12.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 334
12.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 334
12.7.7 Muons at detector (Sun/Earth) . . . 335
12.8 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 336
12.8.1 Neutrino fluxes at detector (Sun) . . . 336
12.8.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 336
12.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 336
12.8.4 Neutrino fluxes at detector (Earth) . . . 337
12.8.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 337
12.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 337
12.8.7 Muons at detector (Sun/Earth) . . . 338
12.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 339
12.9.1 Neutrino fluxes at detector (Sun) . . . 339
12.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 339
12.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 339
12.9.4 Neutrino fluxes at detector (Earth) . . . 340
12.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 340
12.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 340
12.9.7 Muons at detector (Sun/Earth) . . . 341
12.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 342
12.10.1 Neutrino fluxes at detector (Sun) . . . 342
12.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 342
12.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 342
12.10.4 Neutrino fluxes at detector (Earth) . . . 343
12.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 343
12.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 343
12.10.7 Muons at detector (Sun/Earth) . . . 344

13 Mass 750 **345**
13.1 Channel 1 – $c\bar{c}$ . . . 345
13.1.1 Neutrino fluxes at detector (Sun) . . . 345
13.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 345
13.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 346
13.1.4 Neutrino fluxes at detector (Earth) . . . 346
13.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 346
13.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 347
13.1.7 Muons at detector (Sun/Earth) . . . 347
13.2 Channel 2 – $b\bar{b}$ . . . 348

13.2.1 Neutrino fluxes at detector (Sun) . . . 348
13.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 348
13.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 348
13.2.4 Neutrino fluxes at detector (Earth) . . . 349
13.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 349
13.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 349
13.2.7 Muons at detector (Sun/Earth) . . . 350
13.3 Channel 3 – $t\bar{t}$ . . . 351
13.3.1 Neutrino fluxes at detector (Sun) . . . 351
13.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 351
13.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 351
13.3.4 Neutrino fluxes at detector (Earth) . . . 352
13.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 352
13.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 352
13.3.7 Muons at detector (Sun/Earth) . . . 353
13.4 Channel 4 – $\tau^-\tau^+$ . . . 354
13.4.1 Neutrino fluxes at detector (Sun) . . . 354
13.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 354
13.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 354
13.4.4 Neutrino fluxes at detector (Earth) . . . 355
13.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 355
13.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 355
13.4.7 Muons at detector (Sun/Earth) . . . 356
13.5 Channel 5 – W^-W^+ . . . 357
13.5.1 Neutrino fluxes at detector (Sun) . . . 357
13.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 357
13.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 357
13.5.4 Neutrino fluxes at detector (Earth) . . . 358
13.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 358
13.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 358
13.5.7 Muons at detector (Sun/Earth) . . . 359
13.6 Channel 6 – Z^0Z^0 . . . 360
13.6.1 Neutrino fluxes at detector (Sun) . . . 360
13.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 360
13.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 360
13.6.4 Neutrino fluxes at detector (Earth) . . . 361
13.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 361
13.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 361
13.6.7 Muons at detector (Sun/Earth) . . . 362
13.7 Channel 12 – gg . . . 363
13.7.1 Neutrino fluxes at detector (Sun) . . . 363
13.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 363
13.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 363
13.7.4 Neutrino fluxes at detector (Earth) . . . 364
13.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 364
13.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 364
13.7.7 Muons at detector (Sun/Earth) . . . 365
13.8 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 366
13.8.1 Neutrino fluxes at detector (Sun) . . . 366
13.8.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 366
13.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 366
13.8.4 Neutrino fluxes at detector (Earth) . . . 367
13.8.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 367
13.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 367
13.8.7 Muons at detector (Sun/Earth) . . . 368
13.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 369
13.9.1 Neutrino fluxes at detector (Sun) . . . 369
13.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 369
13.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 369

13.9.4 Neutrino fluxes at detector (Earth) . . . 370
13.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 370
13.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 370
13.9.7 Muons at detector (Sun/Earth) . . . 371
13.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$ . . . 372
13.10.1 Neutrino fluxes at detector (Sun) . . . 372
13.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 372
13.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 372
13.10.4 Neutrino fluxes at detector (Earth) . . . 373
13.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 373
13.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 373
13.10.7 Muons at detector (Sun/Earth) . . . 374

14 Mass 1000 **375**
14.1 Channel 1 – $c\bar{c}$ . . . 375
14.1.1 Neutrino fluxes at detector (Sun) . . . 375
14.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 375
14.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 376
14.1.4 Neutrino fluxes at detector (Earth) . . . 376
14.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 376
14.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 377
14.1.7 Muons at detector (Sun/Earth) . . . 377
14.2 Channel 2 – $b\bar{b}$ . . . 378
14.2.1 Neutrino fluxes at detector (Sun) . . . 378
14.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 378
14.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 378
14.2.4 Neutrino fluxes at detector (Earth) . . . 379
14.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 379
14.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 379
14.2.7 Muons at detector (Sun/Earth) . . . 380
14.3 Channel 3 – $t\bar{t}$ . . . 381
14.3.1 Neutrino fluxes at detector (Sun) . . . 381
14.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 381
14.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 381
14.3.4 Neutrino fluxes at detector (Earth) . . . 382
14.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 382
14.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 382
14.3.7 Muons at detector (Sun/Earth) . . . 383
14.4 Channel 4 – $\tau^-\tau^+$ . . . 384
14.4.1 Neutrino fluxes at detector (Sun) . . . 384
14.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 384
14.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 384
14.4.4 Neutrino fluxes at detector (Earth) . . . 385
14.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 385
14.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 385
14.4.7 Muons at detector (Sun/Earth) . . . 386
14.5 Channel 5 – W^-W^+ . . . 387
14.5.1 Neutrino fluxes at detector (Sun) . . . 387
14.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 387
14.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 387
14.5.4 Neutrino fluxes at detector (Earth) . . . 388
14.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 388
14.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 388
14.5.7 Muons at detector (Sun/Earth) . . . 389
14.6 Channel 6 – Z^0Z^0 . . . 390
14.6.1 Neutrino fluxes at detector (Sun) . . . 390
14.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 390
14.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 390
14.6.4 Neutrino fluxes at detector (Earth) . . . 391

14.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 391
14.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 391
14.6.7 Muons at detector (Sun/Earth) 392
14.7 Channel 12 – gg 393
14.7.1 Neutrino fluxes at detector (Sun) 393
14.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 393
14.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 393
14.7.4 Neutrino fluxes at detector (Earth) 394
14.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 394
14.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 394
14.7.7 Muons at detector (Sun/Earth) 395
14.8 Channel 16 – $\nu_e\bar{\nu}_e$ 396
14.8.1 Neutrino fluxes at detector (Sun) 396
14.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 396
14.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 396
14.8.4 Neutrino fluxes at detector (Earth) 397
14.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 397
14.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 397
14.8.7 Muons at detector (Sun/Earth) 398
14.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 399
14.9.1 Neutrino fluxes at detector (Sun) 399
14.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 399
14.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 399
14.9.4 Neutrino fluxes at detector (Earth) 400
14.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 400
14.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 400
14.9.7 Muons at detector (Sun/Earth) 401
14.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 402
14.10.1 Neutrino fluxes at detector (Sun) 402
14.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 402
14.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 402
14.10.4 Neutrino fluxes at detector (Earth) 403
14.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 403
14.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 403
14.10.7 Muons at detector (Sun/Earth) 404

15 Mass 1500 **405**
15.1 Channel 1 – $c\bar{c}$ 405
15.1.1 Neutrino fluxes at detector (Sun) 405
15.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 405
15.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 406
15.1.4 Neutrino fluxes at detector (Earth) 406
15.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 406
15.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 407
15.1.7 Muons at detector (Sun/Earth) 407
15.2 Channel 2 – $b\bar{b}$ 408
15.2.1 Neutrino fluxes at detector (Sun) 408
15.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 408
15.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 408
15.2.4 Neutrino fluxes at detector (Earth) 409
15.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 409
15.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 409
15.2.7 Muons at detector (Sun/Earth) 410
15.3 Channel 3 – $t\bar{t}$ 411
15.3.1 Neutrino fluxes at detector (Sun) 411
15.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 411
15.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 411
15.3.4 Neutrino fluxes at detector (Earth) 412
15.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 412

15.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 412
15.3.7 Muons at detector (Sun/Earth) 413
15.4 Channel 4 – $\tau^-\tau^+$ 414
15.4.1 Neutrino fluxes at detector (Sun) 414
15.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 414
15.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 414
15.4.4 Neutrino fluxes at detector (Earth) 415
15.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 415
15.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 415
15.4.7 Muons at detector (Sun/Earth) 416
15.5 Channel 5 – W^-W^+ 417
15.5.1 Neutrino fluxes at detector (Sun) 417
15.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 417
15.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 417
15.5.4 Neutrino fluxes at detector (Earth) 418
15.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 418
15.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 418
15.5.7 Muons at detector (Sun/Earth) 419
15.6 Channel 6 – Z^0Z^0 420
15.6.1 Neutrino fluxes at detector (Sun) 420
15.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 420
15.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 420
15.6.4 Neutrino fluxes at detector (Earth) 421
15.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 421
15.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 421
15.6.7 Muons at detector (Sun/Earth) 422
15.7 Channel 12 – gg 423
15.7.1 Neutrino fluxes at detector (Sun) 423
15.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 423
15.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 423
15.7.4 Neutrino fluxes at detector (Earth) 424
15.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 424
15.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 424
15.7.7 Muons at detector (Sun/Earth) 425
15.8 Channel 16 – $\nu_e\bar{\nu}_e$ 426
15.8.1 Neutrino fluxes at detector (Sun) 426
15.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 426
15.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 426
15.8.4 Neutrino fluxes at detector (Earth) 427
15.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 427
15.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 427
15.8.7 Muons at detector (Sun/Earth) 428
15.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 429
15.9.1 Neutrino fluxes at detector (Sun) 429
15.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 429
15.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 429
15.9.4 Neutrino fluxes at detector (Earth) 430
15.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 430
15.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 430
15.9.7 Muons at detector (Sun/Earth) 431
15.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 432
15.10.1 Neutrino fluxes at detector (Sun) 432
15.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 432
15.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 432
15.10.4 Neutrino fluxes at detector (Earth) 433
15.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 433
15.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 433
15.10.7 Muons at detector (Sun/Earth) 434

16 Mass 2000 **435**
16.1 Channel 1 – $c\bar{c}$ . . . 435
16.1.1 Neutrino fluxes at detector (Sun) . . . 435
16.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 435
16.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 436
16.1.4 Neutrino fluxes at detector (Earth) . . . 436
16.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 436
16.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 437
16.1.7 Muons at detector (Sun/Earth) . . . 437
16.2 Channel 2 – $b\bar{b}$ . . . 438
16.2.1 Neutrino fluxes at detector (Sun) . . . 438
16.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 438
16.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 438
16.2.4 Neutrino fluxes at detector (Earth) . . . 439
16.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 439
16.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 439
16.2.7 Muons at detector (Sun/Earth) . . . 440
16.3 Channel 3 – $t\bar{t}$ . . . 441
16.3.1 Neutrino fluxes at detector (Sun) . . . 441
16.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 441
16.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 441
16.3.4 Neutrino fluxes at detector (Earth) . . . 442
16.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 442
16.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 442
16.3.7 Muons at detector (Sun/Earth) . . . 443
16.4 Channel 4 – $\tau^-\tau^+$ . . . 444
16.4.1 Neutrino fluxes at detector (Sun) . . . 444
16.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 444
16.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 444
16.4.4 Neutrino fluxes at detector (Earth) . . . 445
16.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 445
16.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 445
16.4.7 Muons at detector (Sun/Earth) . . . 446
16.5 Channel 5 – W^-W^+ . . . 447
16.5.1 Neutrino fluxes at detector (Sun) . . . 447
16.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 447
16.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 447
16.5.4 Neutrino fluxes at detector (Earth) . . . 448
16.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 448
16.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 448
16.5.7 Muons at detector (Sun/Earth) . . . 449
16.6 Channel 6 – Z^0Z^0 . . . 450
16.6.1 Neutrino fluxes at detector (Sun) . . . 450
16.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 450
16.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 450
16.6.4 Neutrino fluxes at detector (Earth) . . . 451
16.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 451
16.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 451
16.6.7 Muons at detector (Sun/Earth) . . . 452
16.7 Channel 12 – gg . . . 453
16.7.1 Neutrino fluxes at detector (Sun) . . . 453
16.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 453
16.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 453
16.7.4 Neutrino fluxes at detector (Earth) . . . 454
16.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 454
16.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 454
16.7.7 Muons at detector (Sun/Earth) . . . 455
16.8 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 456
16.8.1 Neutrino fluxes at detector (Sun) . . . 456

16.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 456
16.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 456
16.8.4 Neutrino fluxes at detector (Earth) 457
16.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 457
16.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 457
16.8.7 Muons at detector (Sun/Earth) 458
16.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 459
16.9.1 Neutrino fluxes at detector (Sun) 459
16.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 459
16.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 459
16.9.4 Neutrino fluxes at detector (Earth) 460
16.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 460
16.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 460
16.9.7 Muons at detector (Sun/Earth) 461
16.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 462
16.10.1 Neutrino fluxes at detector (Sun) 462
16.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 462
16.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 462
16.10.4 Neutrino fluxes at detector (Earth) 463
16.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 463
16.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 463
16.10.7 Muons at detector (Sun/Earth) 464

17 Mass 3000 **465**
17.1 Channel 1 – $c\bar{c}$ 465
17.1.1 Neutrino fluxes at detector (Sun) 465
17.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 465
17.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 466
17.1.4 Neutrino fluxes at detector (Earth) 466
17.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 466
17.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 467
17.1.7 Muons at detector (Sun/Earth) 467
17.2 Channel 2 – $b\bar{b}$ 468
17.2.1 Neutrino fluxes at detector (Sun) 468
17.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 468
17.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 468
17.2.4 Neutrino fluxes at detector (Earth) 469
17.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 469
17.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 469
17.2.7 Muons at detector (Sun/Earth) 470
17.3 Channel 3 – $t\bar{t}$ 471
17.3.1 Neutrino fluxes at detector (Sun) 471
17.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 471
17.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 471
17.3.4 Neutrino fluxes at detector (Earth) 472
17.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 472
17.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 472
17.3.7 Muons at detector (Sun/Earth) 473
17.4 Channel 4 – $\tau^-\tau^+$ 474
17.4.1 Neutrino fluxes at detector (Sun) 474
17.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 474
17.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 474
17.4.4 Neutrino fluxes at detector (Earth) 475
17.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 475
17.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 475
17.4.7 Muons at detector (Sun/Earth) 476
17.5 Channel 5 – W^-W^+ 477
17.5.1 Neutrino fluxes at detector (Sun) 477
17.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 477

17.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 477
17.5.4 Neutrino fluxes at detector (Earth) 478
17.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 478
17.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 478
17.5.7 Muons at detector (Sun/Earth) 479
17.6 Channel 6 – Z^0Z^0 480
17.6.1 Neutrino fluxes at detector (Sun) 480
17.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 480
17.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 480
17.6.4 Neutrino fluxes at detector (Earth) 481
17.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 481
17.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 481
17.6.7 Muons at detector (Sun/Earth) 482
17.7 Channel 12 – gg 483
17.7.1 Neutrino fluxes at detector (Sun) 483
17.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 483
17.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 483
17.7.4 Neutrino fluxes at detector (Earth) 484
17.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 484
17.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 484
17.7.7 Muons at detector (Sun/Earth) 485
17.8 Channel 16 – $\nu_e\bar{\nu}_e$ 486
17.8.1 Neutrino fluxes at detector (Sun) 486
17.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 486
17.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 486
17.8.4 Neutrino fluxes at detector (Earth) 487
17.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 487
17.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 487
17.8.7 Muons at detector (Sun/Earth) 488
17.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 489
17.9.1 Neutrino fluxes at detector (Sun) 489
17.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 489
17.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 489
17.9.4 Neutrino fluxes at detector (Earth) 490
17.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 490
17.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 490
17.9.7 Muons at detector (Sun/Earth) 491
17.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ 492
17.10.1 Neutrino fluxes at detector (Sun) 492
17.10.2 Charged leptons at neutrino-nucleon vertex (Sun) 492
17.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) 492
17.10.4 Neutrino fluxes at detector (Earth) 493
17.10.5 Charged leptons at neutrino-nucleon vertex (Earth) 493
17.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) 493
17.10.7 Muons at detector (Sun/Earth) 494

18 Mass 5000 **495**
18.1 Channel 1 – $c\bar{c}$ 495
18.1.1 Neutrino fluxes at detector (Sun) 495
18.1.2 Charged leptons at neutrino-nucleon vertex (Sun) 495
18.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) 496
18.1.4 Neutrino fluxes at detector (Earth) 496
18.1.5 Charged leptons at neutrino-nucleon vertex (Earth) 496
18.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) 497
18.1.7 Muons at detector (Sun/Earth) 497
18.2 Channel 2 – $b\bar{b}$ 498
18.2.1 Neutrino fluxes at detector (Sun) 498
18.2.2 Charged leptons at neutrino-nucleon vertex (Sun) 498
18.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) 498

18.2.4 Neutrino fluxes at detector (Earth) 499
18.2.5 Charged leptons at neutrino-nucleon vertex (Earth) 499
18.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) 499
18.2.7 Muons at detector (Sun/Earth) 500
18.3 Channel 3 – $t\bar{t}$ 501
18.3.1 Neutrino fluxes at detector (Sun) 501
18.3.2 Charged leptons at neutrino-nucleon vertex (Sun) 501
18.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) 501
18.3.4 Neutrino fluxes at detector (Earth) 502
18.3.5 Charged leptons at neutrino-nucleon vertex (Earth) 502
18.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) 502
18.3.7 Muons at detector (Sun/Earth) 503
18.4 Channel 4 – $\tau^-\tau^+$ 504
18.4.1 Neutrino fluxes at detector (Sun) 504
18.4.2 Charged leptons at neutrino-nucleon vertex (Sun) 504
18.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) 504
18.4.4 Neutrino fluxes at detector (Earth) 505
18.4.5 Charged leptons at neutrino-nucleon vertex (Earth) 505
18.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) 505
18.4.7 Muons at detector (Sun/Earth) 506
18.5 Channel 5 – W^-W^+ 507
18.5.1 Neutrino fluxes at detector (Sun) 507
18.5.2 Charged leptons at neutrino-nucleon vertex (Sun) 507
18.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) 507
18.5.4 Neutrino fluxes at detector (Earth) 508
18.5.5 Charged leptons at neutrino-nucleon vertex (Earth) 508
18.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) 508
18.5.7 Muons at detector (Sun/Earth) 509
18.6 Channel 6 – Z^0Z^0 510
18.6.1 Neutrino fluxes at detector (Sun) 510
18.6.2 Charged leptons at neutrino-nucleon vertex (Sun) 510
18.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) 510
18.6.4 Neutrino fluxes at detector (Earth) 511
18.6.5 Charged leptons at neutrino-nucleon vertex (Earth) 511
18.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) 511
18.6.7 Muons at detector (Sun/Earth) 512
18.7 Channel 12 – gg 513
18.7.1 Neutrino fluxes at detector (Sun) 513
18.7.2 Charged leptons at neutrino-nucleon vertex (Sun) 513
18.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) 513
18.7.4 Neutrino fluxes at detector (Earth) 514
18.7.5 Charged leptons at neutrino-nucleon vertex (Earth) 514
18.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) 514
18.7.7 Muons at detector (Sun/Earth) 515
18.8 Channel 16 – $\nu_e\bar{\nu}_e$ 516
18.8.1 Neutrino fluxes at detector (Sun) 516
18.8.2 Charged leptons at neutrino-nucleon vertex (Sun) 516
18.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) 516
18.8.4 Neutrino fluxes at detector (Earth) 517
18.8.5 Charged leptons at neutrino-nucleon vertex (Earth) 517
18.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) 517
18.8.7 Muons at detector (Sun/Earth) 518
18.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ 519
18.9.1 Neutrino fluxes at detector (Sun) 519
18.9.2 Charged leptons at neutrino-nucleon vertex (Sun) 519
18.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) 519
18.9.4 Neutrino fluxes at detector (Earth) 520
18.9.5 Charged leptons at neutrino-nucleon vertex (Earth) 520
18.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) 520

18.9.7 Muons at detector (Sun/Earth) . . . 521
18.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$ . . . 522
18.10.1 Neutrino fluxes at detector (Sun) . . . 522
18.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 522
18.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 522
18.10.4 Neutrino fluxes at detector (Earth) . . . 523
18.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 523
18.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 523
18.10.7 Muons at detector (Sun/Earth) . . . 524

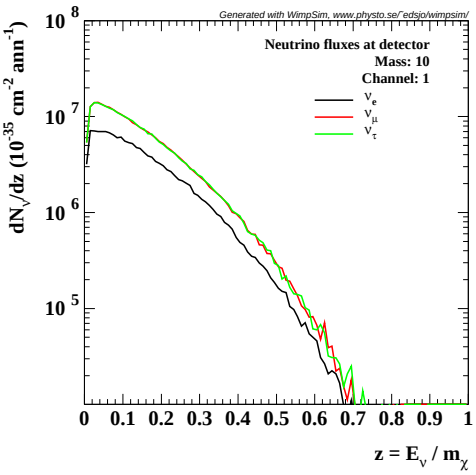
19 Mass 10000 **525**
19.1 Channel 1 – $c\bar{c}$ . . . 525
19.1.1 Neutrino fluxes at detector (Sun) . . . 525
19.1.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 525
19.1.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 526
19.1.4 Neutrino fluxes at detector (Earth) . . . 526
19.1.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 526
19.1.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 527
19.1.7 Muons at detector (Sun/Earth) . . . 527
19.2 Channel 2 – $b\bar{b}$ . . . 528
19.2.1 Neutrino fluxes at detector (Sun) . . . 528
19.2.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 528
19.2.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 528
19.2.4 Neutrino fluxes at detector (Earth) . . . 529
19.2.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 529
19.2.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 529
19.2.7 Muons at detector (Sun/Earth) . . . 530
19.3 Channel 3 – $t\bar{t}$ . . . 531
19.3.1 Neutrino fluxes at detector (Sun) . . . 531
19.3.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 531
19.3.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 531
19.3.4 Neutrino fluxes at detector (Earth) . . . 532
19.3.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 532
19.3.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 532
19.3.7 Muons at detector (Sun/Earth) . . . 533
19.4 Channel 4 – $\tau^-\tau^+$ . . . 534
19.4.1 Neutrino fluxes at detector (Sun) . . . 534
19.4.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 534
19.4.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 534
19.4.4 Neutrino fluxes at detector (Earth) . . . 535
19.4.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 535
19.4.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 535
19.4.7 Muons at detector (Sun/Earth) . . . 536
19.5 Channel 5 – W^-W^+ . . . 537
19.5.1 Neutrino fluxes at detector (Sun) . . . 537
19.5.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 537
19.5.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 537
19.5.4 Neutrino fluxes at detector (Earth) . . . 538
19.5.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 538
19.5.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 538
19.5.7 Muons at detector (Sun/Earth) . . . 539
19.6 Channel 6 – Z^0Z^0 . . . 540
19.6.1 Neutrino fluxes at detector (Sun) . . . 540
19.6.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 540
19.6.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 540
19.6.4 Neutrino fluxes at detector (Earth) . . . 541
19.6.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 541
19.6.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 541
19.6.7 Muons at detector (Sun/Earth) . . . 542

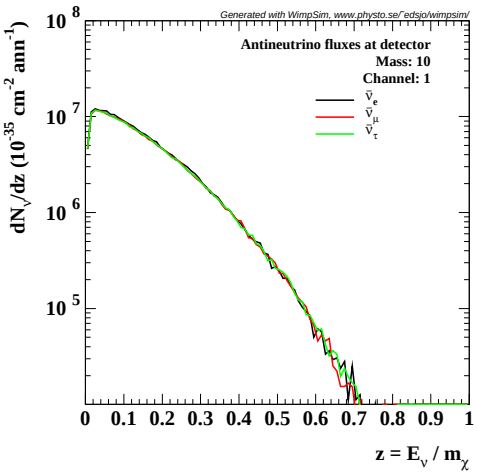
19.7 Channel 12 – gg . . . 543
19.7.1 Neutrino fluxes at detector (Sun) . . . 543
19.7.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 543
19.7.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 543
19.7.4 Neutrino fluxes at detector (Earth) . . . 544
19.7.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 544
19.7.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 544
19.7.7 Muons at detector (Sun/Earth) . . . 545
19.8 Channel 16 – $\nu_e\bar{\nu}_e$ . . . 546
19.8.1 Neutrino fluxes at detector (Sun) . . . 546
19.8.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 546
19.8.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 546
19.8.4 Neutrino fluxes at detector (Earth) . . . 547
19.8.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 547
19.8.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 547
19.8.7 Muons at detector (Sun/Earth) . . . 548
19.9 Channel 17 – $\nu_\mu\bar{\nu}_\mu$ . . . 549
19.9.1 Neutrino fluxes at detector (Sun) . . . 549
19.9.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 549
19.9.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 549
19.9.4 Neutrino fluxes at detector (Earth) . . . 550
19.9.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 550
19.9.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 550
19.9.7 Muons at detector (Sun/Earth) . . . 551
19.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$ . . . 552
19.10.1 Neutrino fluxes at detector (Sun) . . . 552
19.10.2 Charged leptons at neutrino-nucleon vertex (Sun) . . . 552
19.10.3 Hadronic shower at neutrino-nucleon vertex (Sun) . . . 552
19.10.4 Neutrino fluxes at detector (Earth) . . . 553
19.10.5 Charged leptons at neutrino-nucleon vertex (Earth) . . . 553
19.10.6 Hadronic shower at neutrino-nucleon vertex (Earth) . . . 553
19.10.7 Muons at detector (Sun/Earth) . . . 554

1 Mass 10

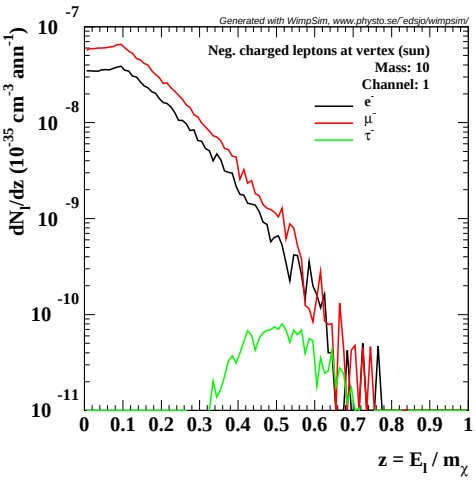
1.1 Channel 1 – $c\bar{c}$

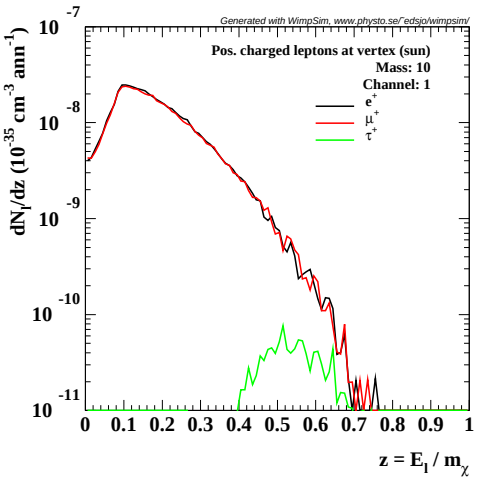
1.1.1 Neutrino fluxes at detector (Sun)



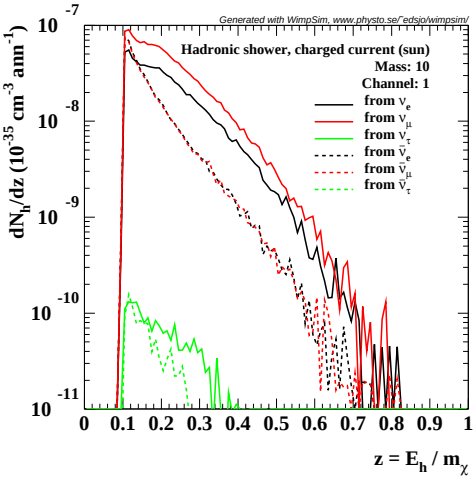


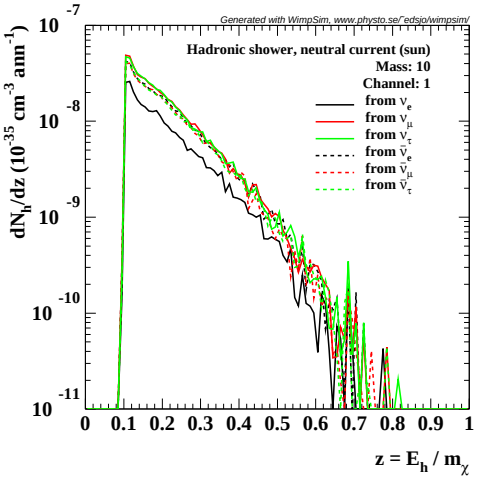
1.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



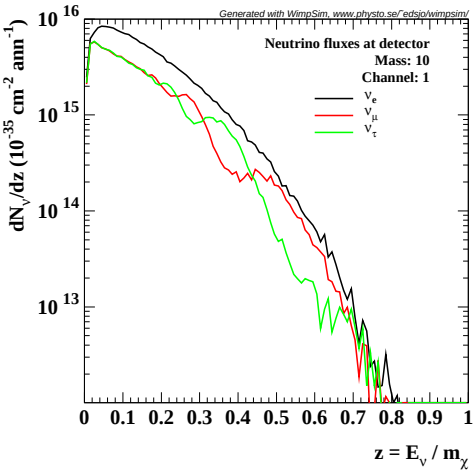


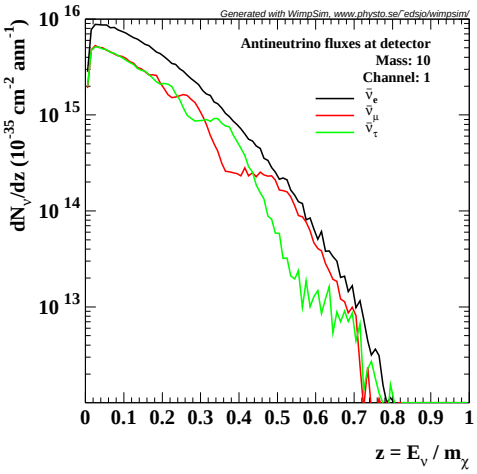
1.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



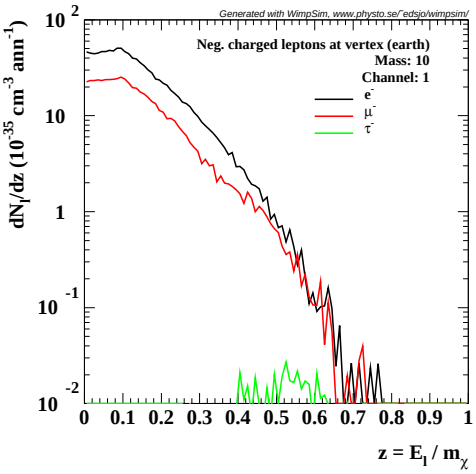


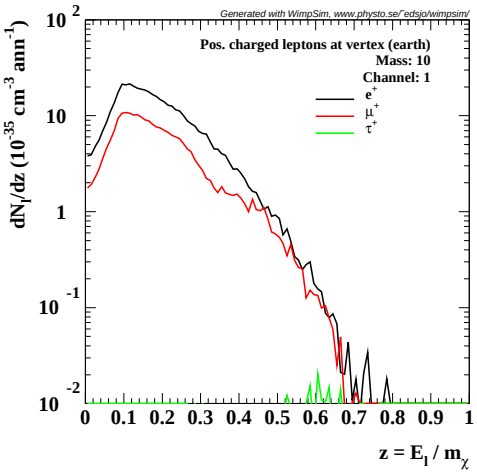
1.1.4 Neutrino fluxes at detector (Earth)



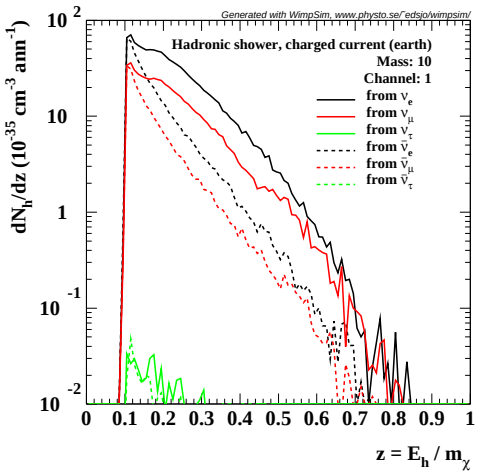


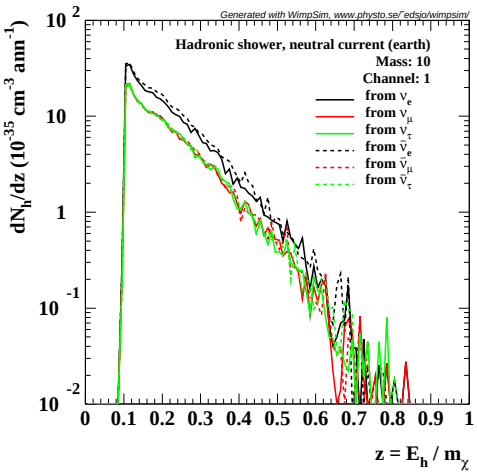
1.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



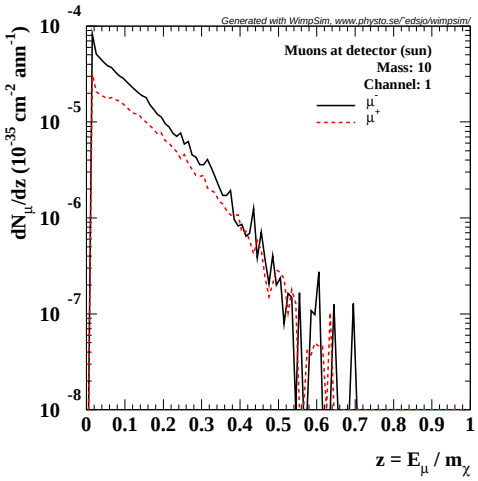


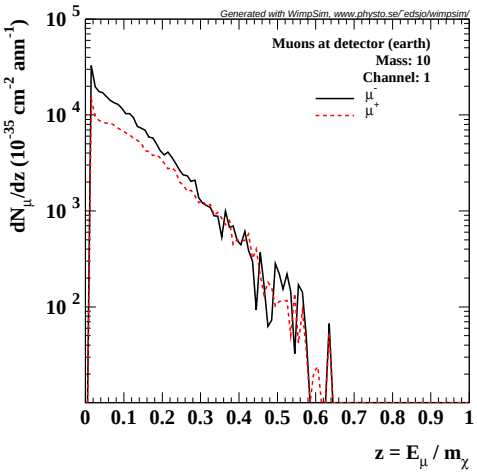
1.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





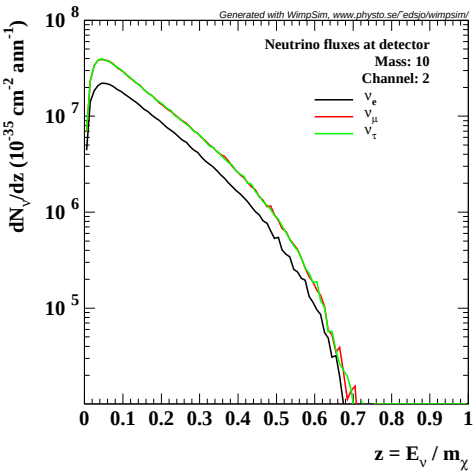
1.1.7 Muons at detector (Sun/Earth)

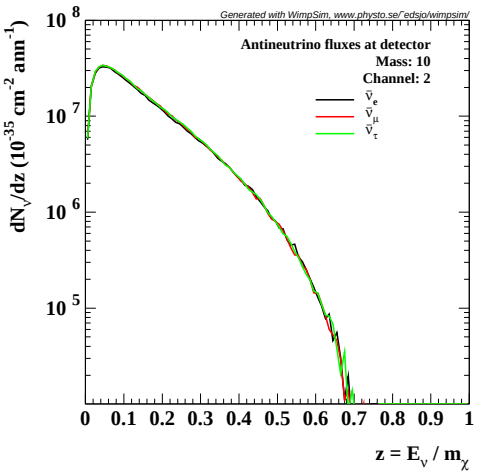




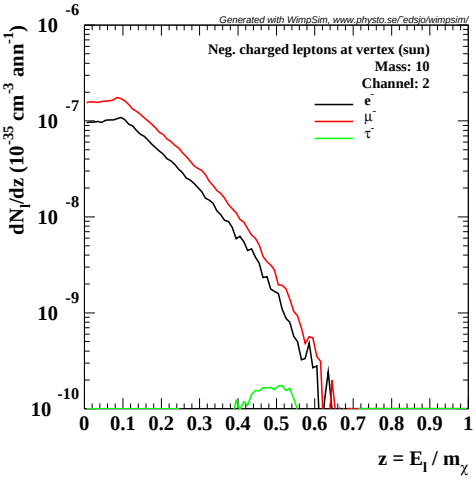
1.2 Channel 2 – $b\bar{b}$

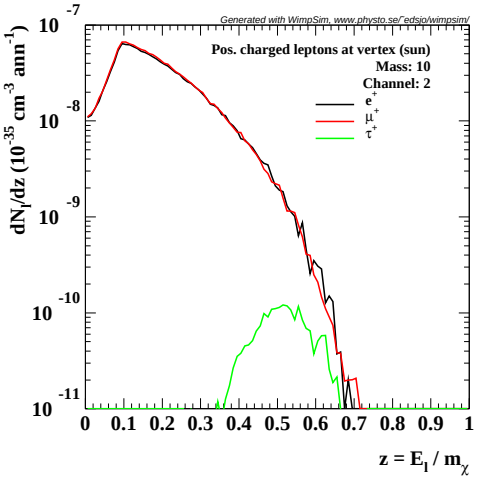
1.2.1 Neutrino fluxes at detector (Sun)



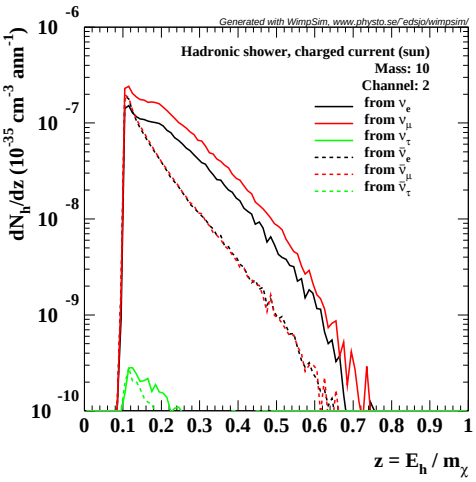


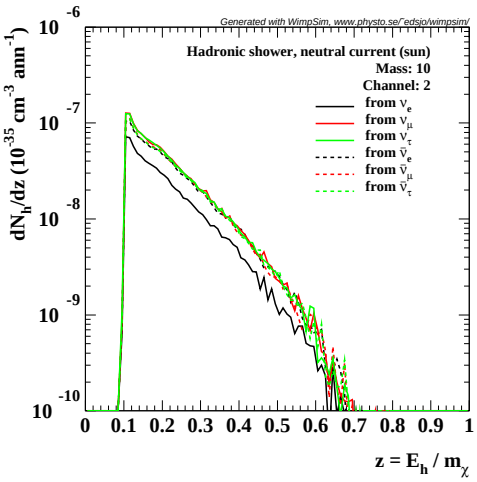
1.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



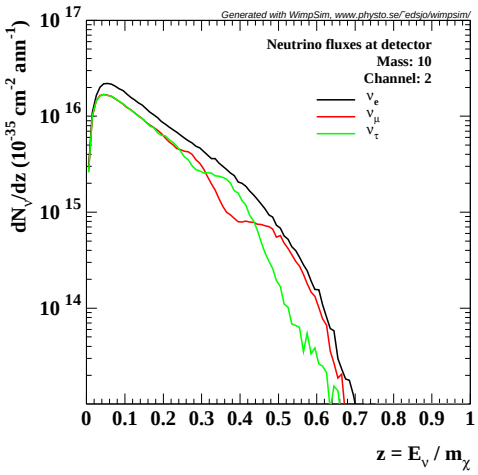


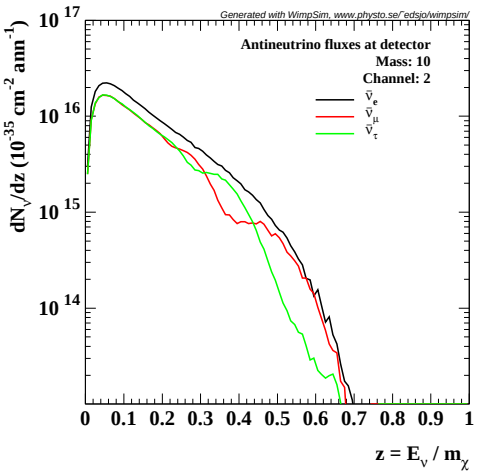
1.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



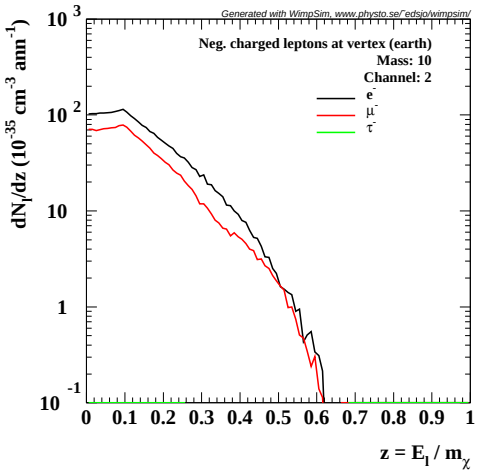


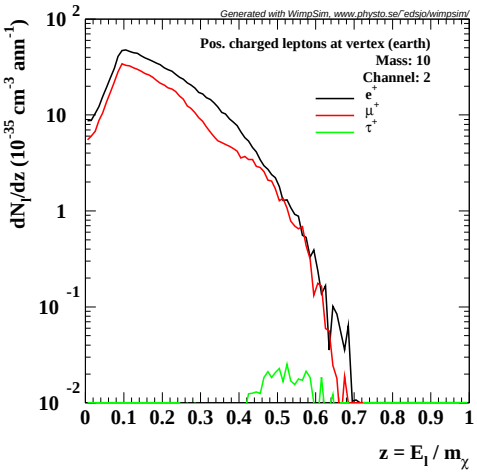
1.2.4 Neutrino fluxes at detector (Earth)



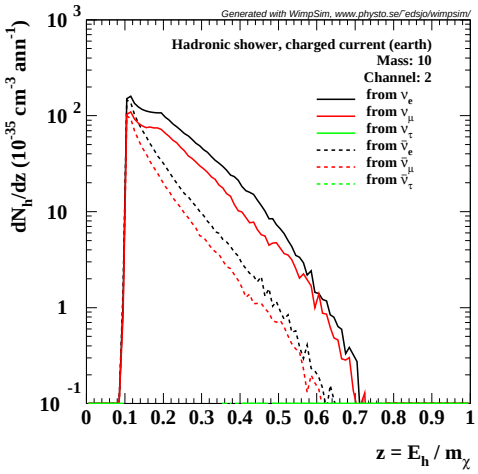


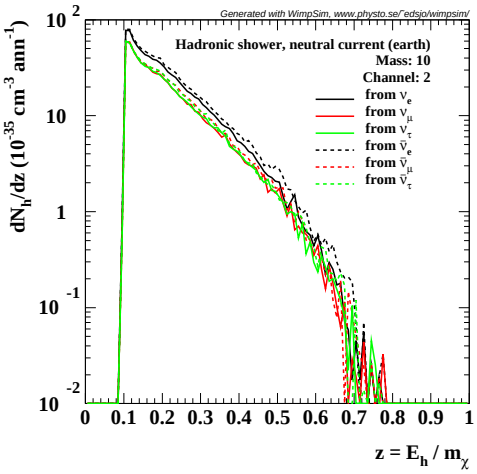
1.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



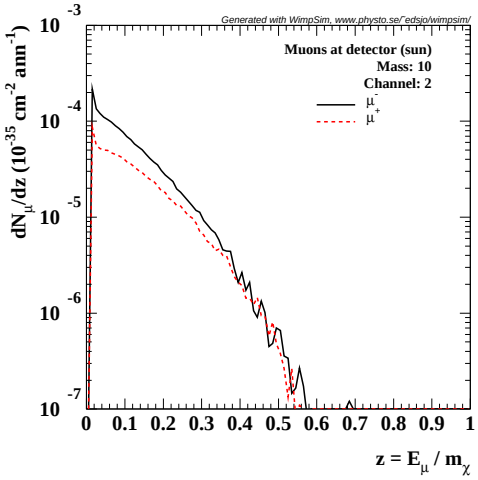


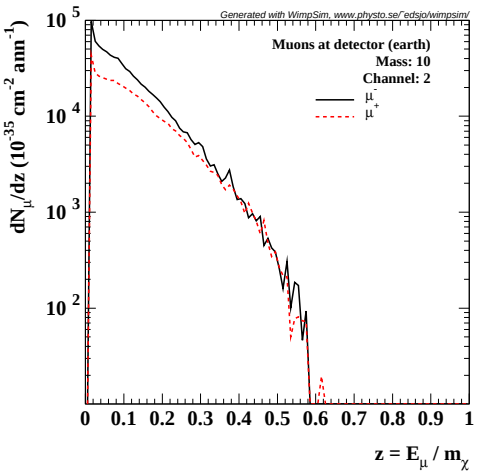
1.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





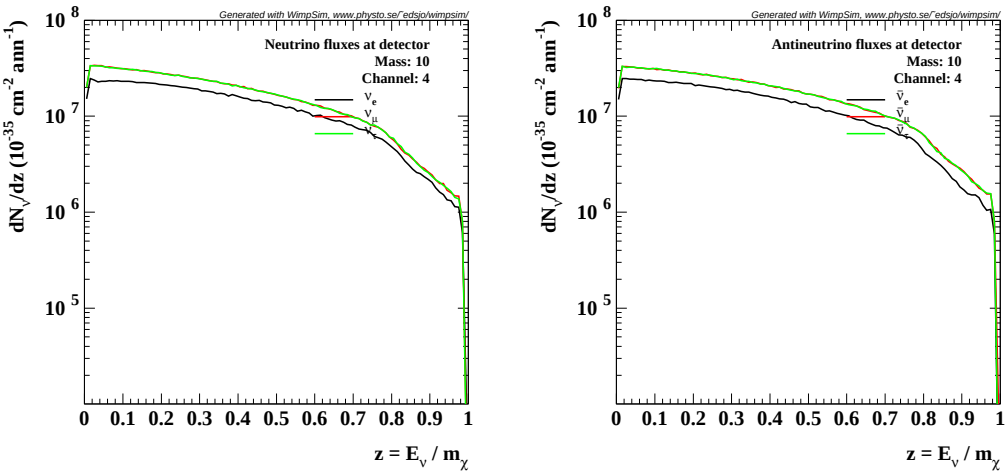
1.2.7 Muons at detector (Sun/Earth)



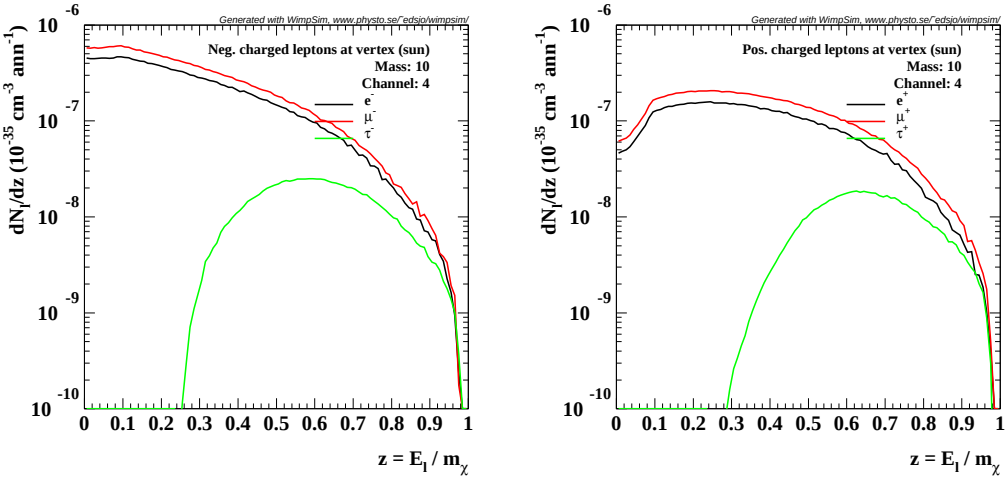


1.3 Channel 4 – $\tau^-\tau^+$

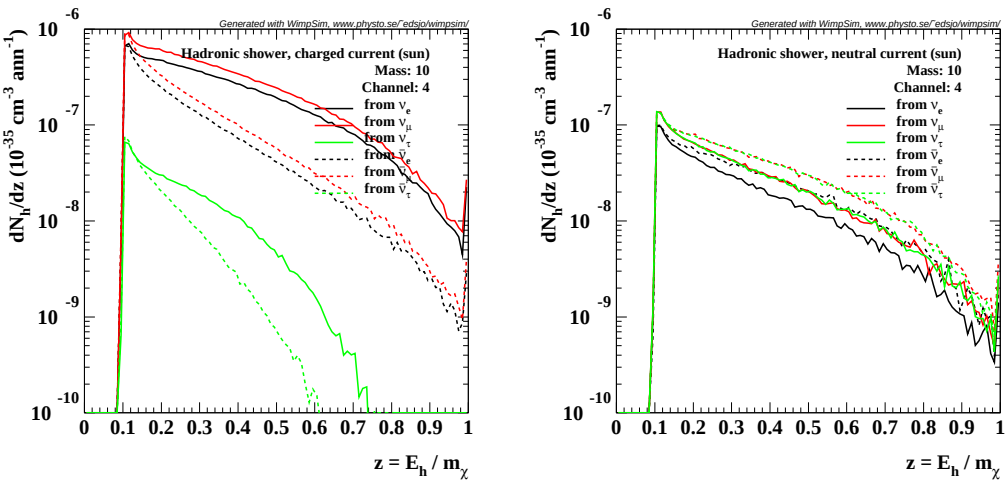
1.3.1 Neutrino fluxes at detector (Sun)



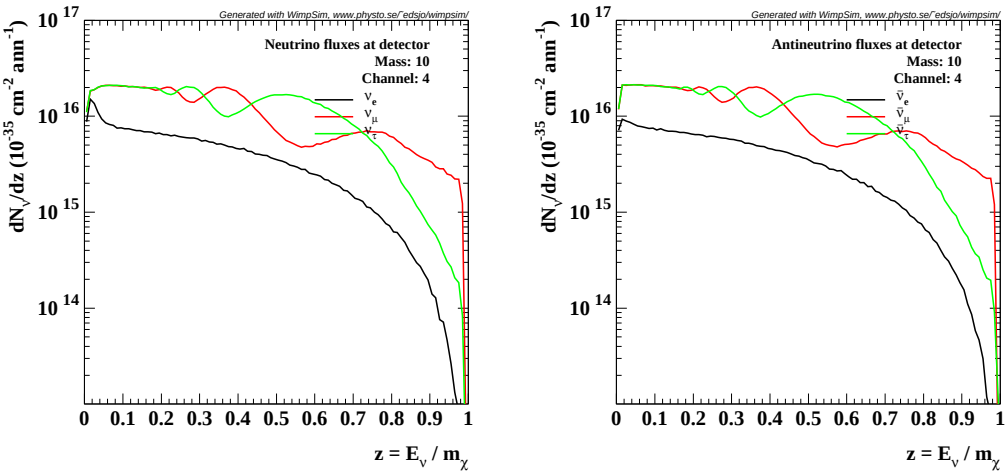
1.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



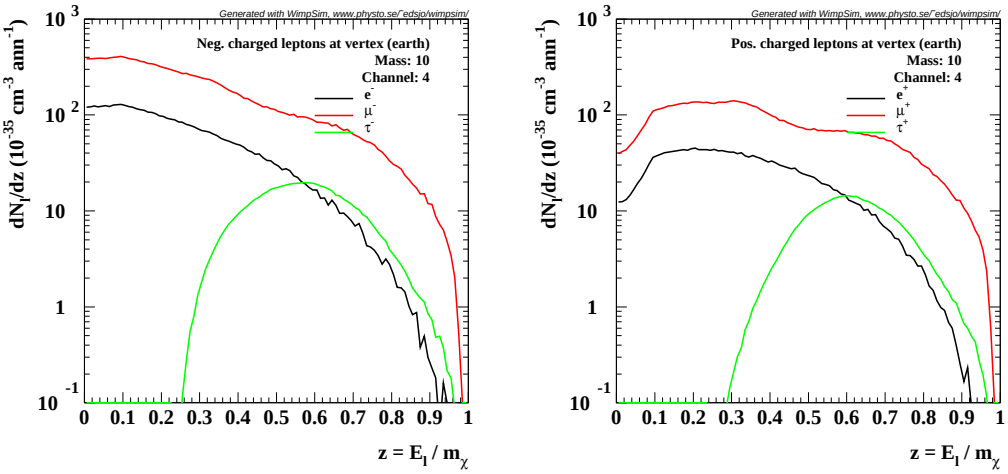
1.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



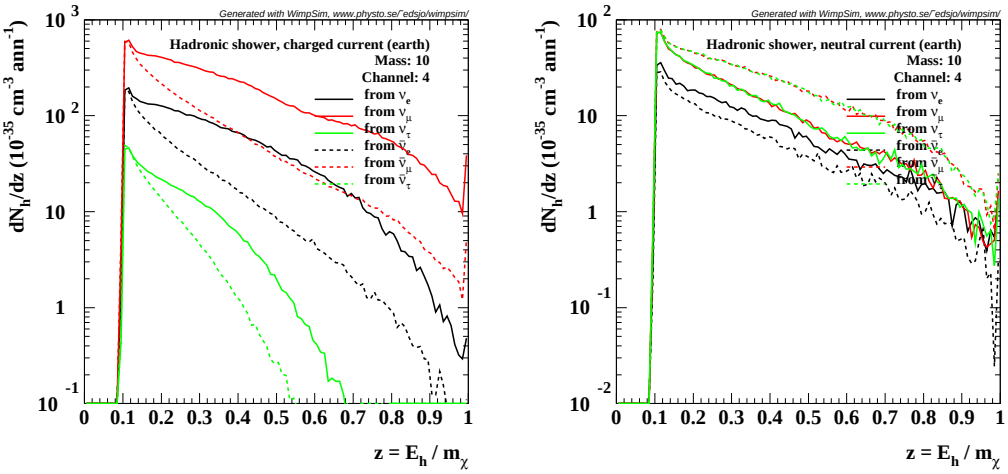
1.3.4 Neutrino fluxes at detector (Earth)



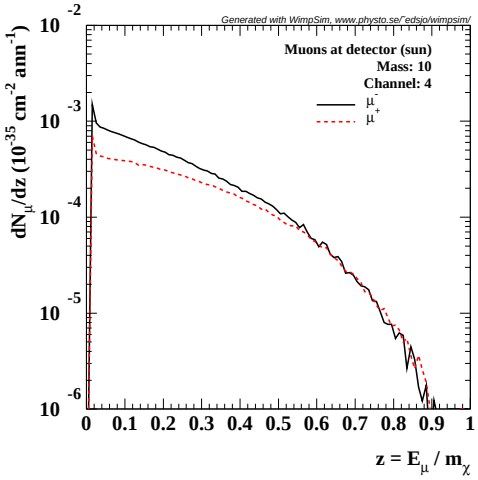
1.3.5 Charged leptons at neutrino-nucleon vertex (Earth)

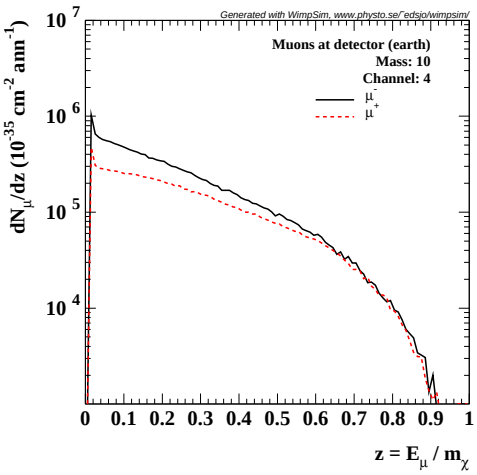


1.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)



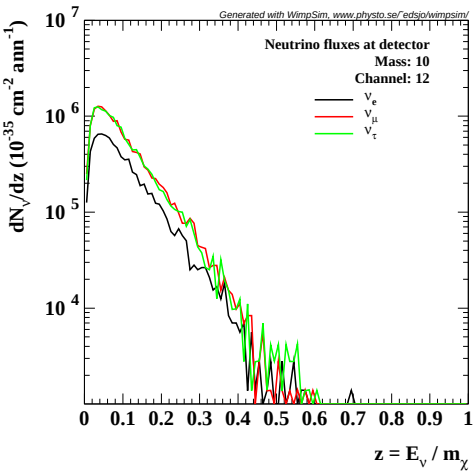
1.3.7 Muons at detector (Sun/Earth)

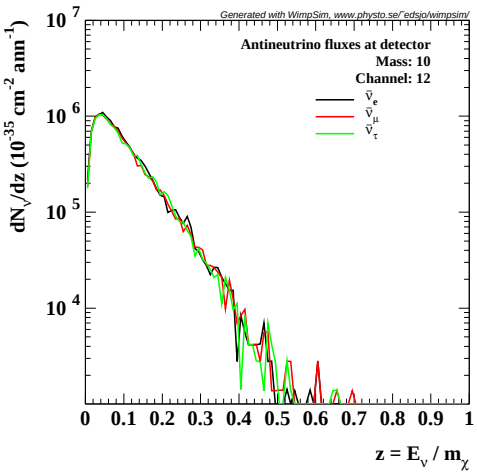




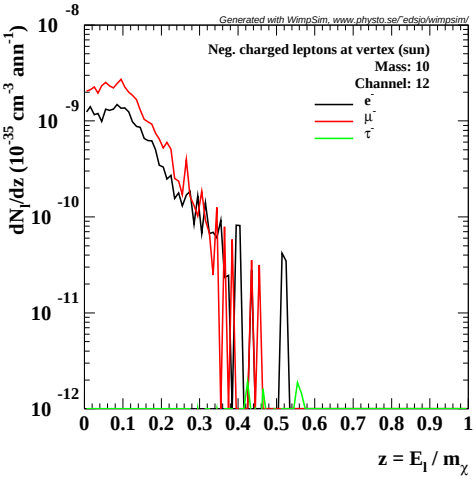
1.4 Channel 12 – gg

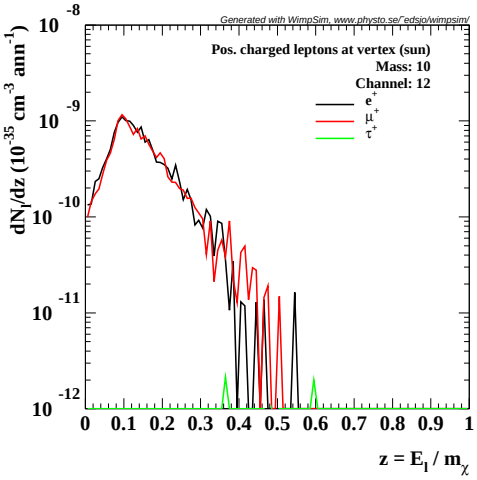
1.4.1 Neutrino fluxes at detector (Sun)



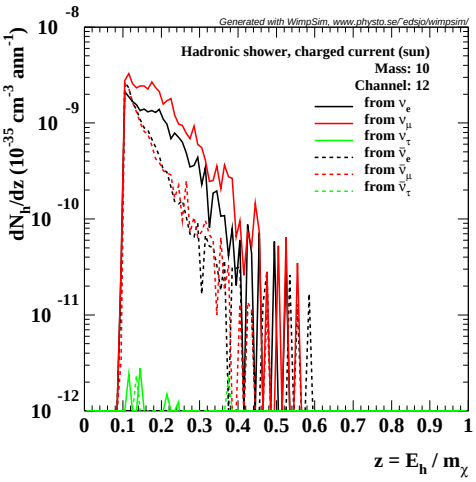


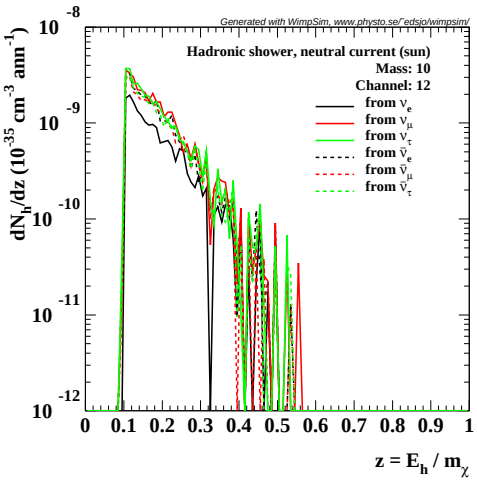
1.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



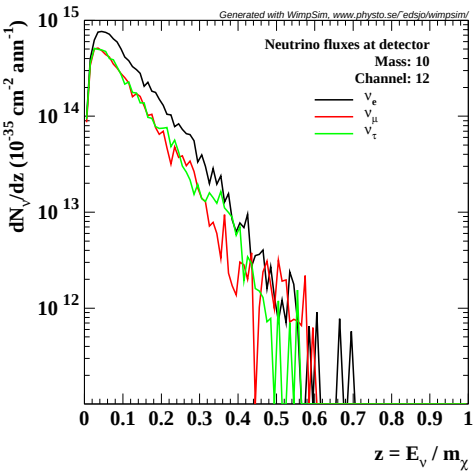


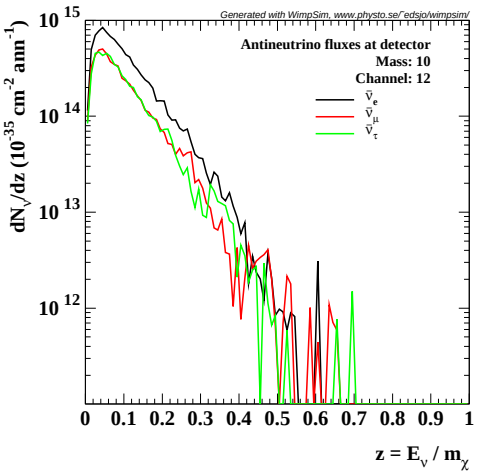
1.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



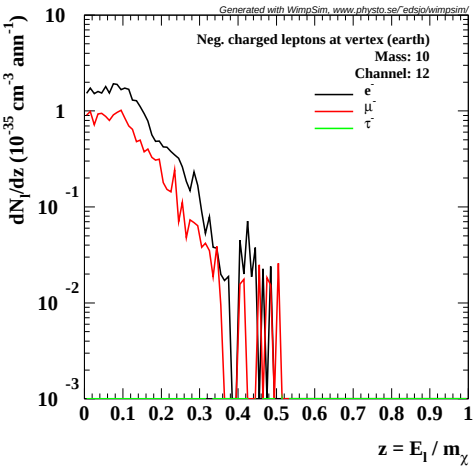


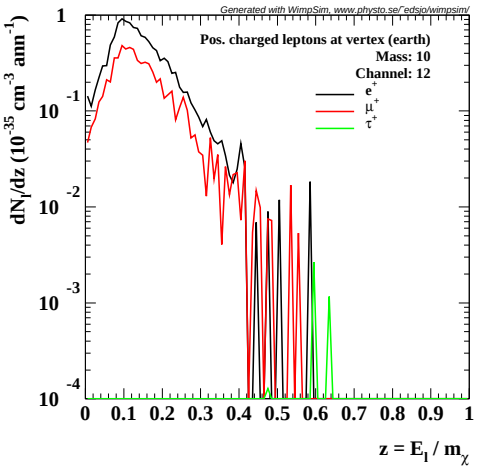
1.4.4 Neutrino fluxes at detector (Earth)



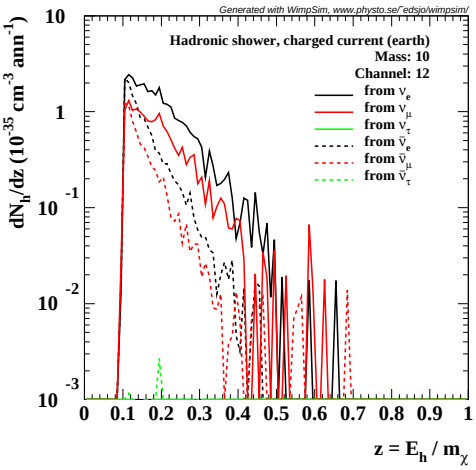


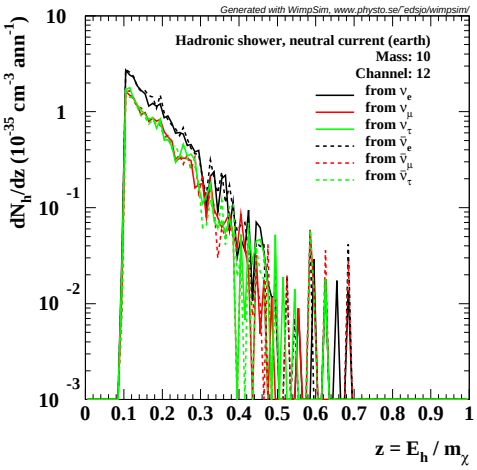
1.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



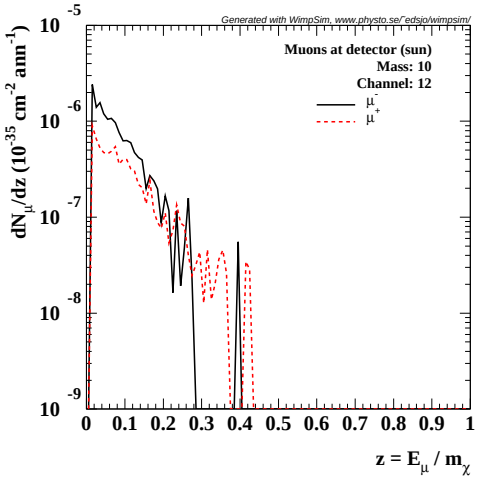


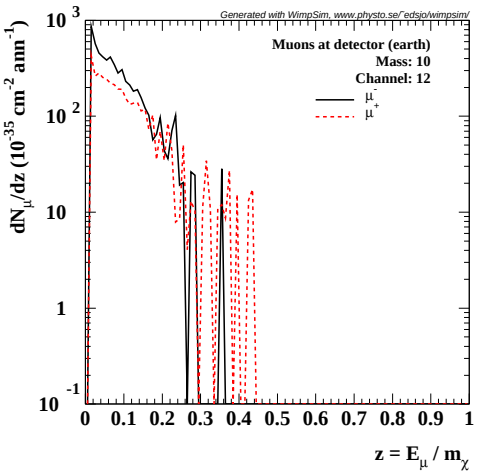
1.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





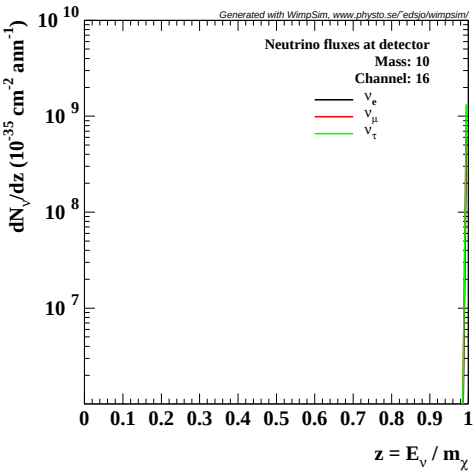
1.4.7 Muons at detector (Sun/Earth)

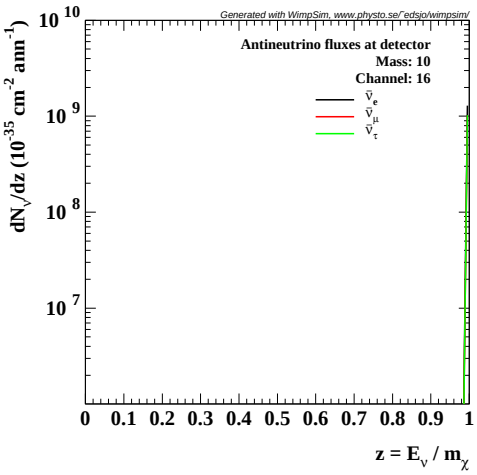




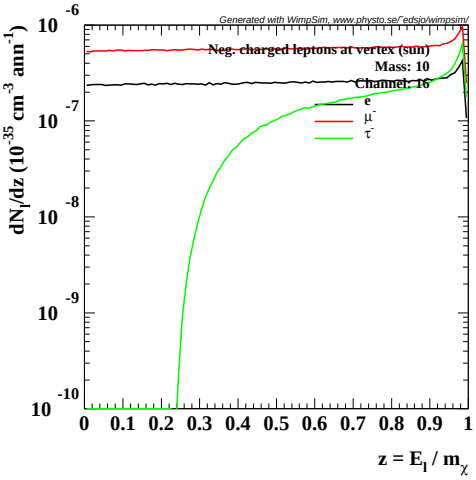
1.5 Channel 16 – $\nu_e\bar{\nu}_e$

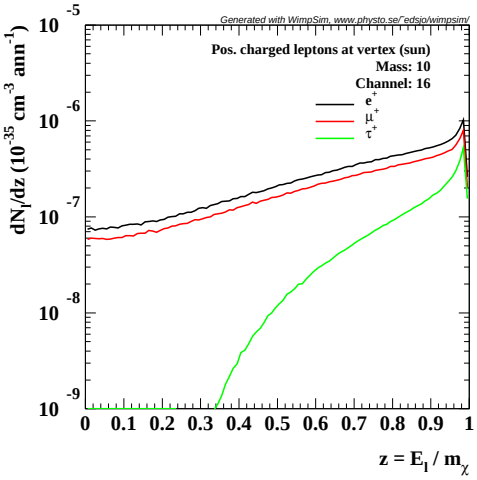
1.5.1 Neutrino fluxes at detector (Sun)



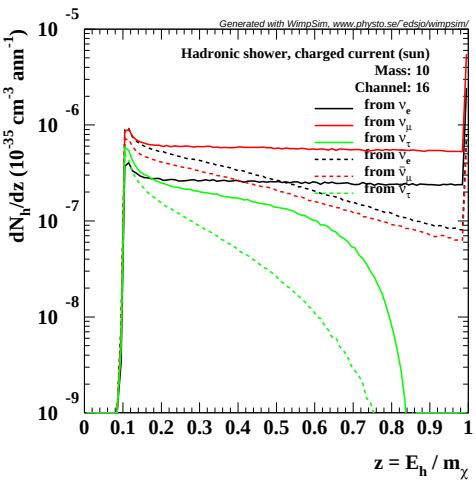


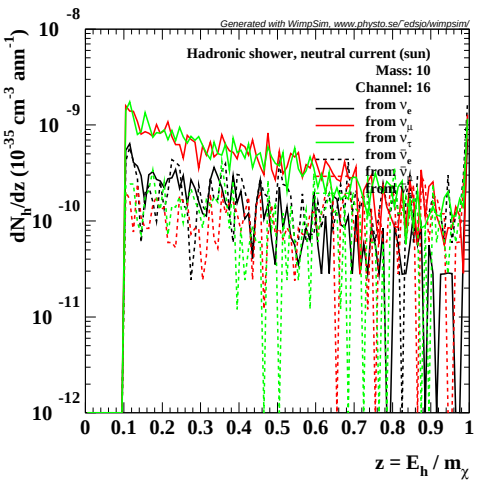
1.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



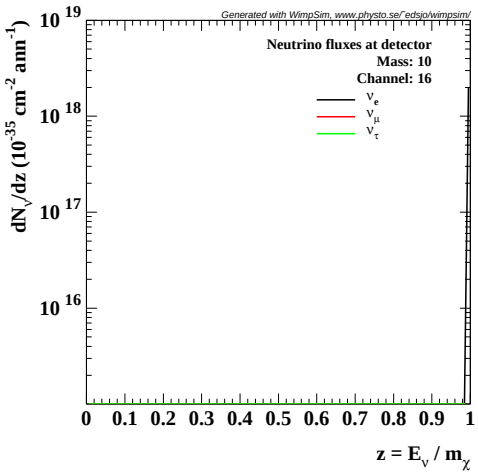


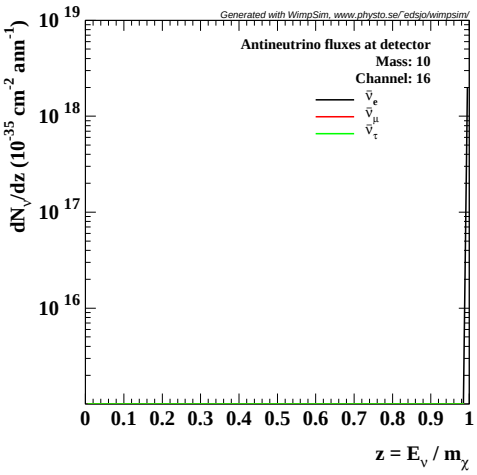
1.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



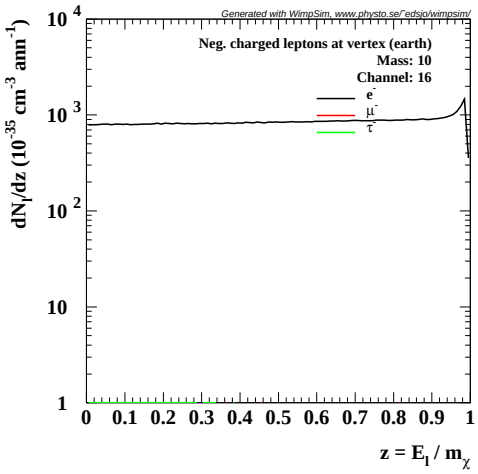


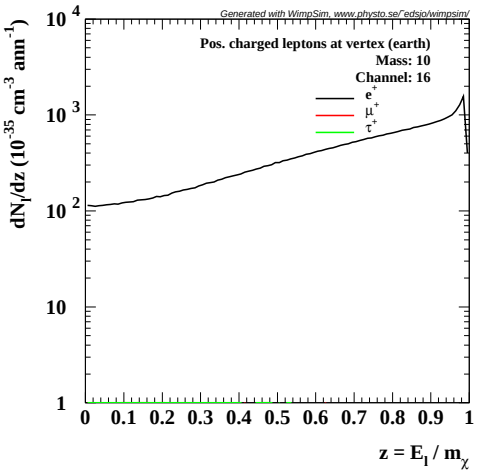
1.5.4 Neutrino fluxes at detector (Earth)



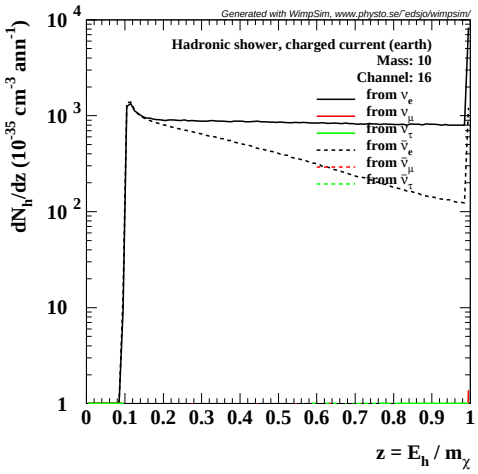


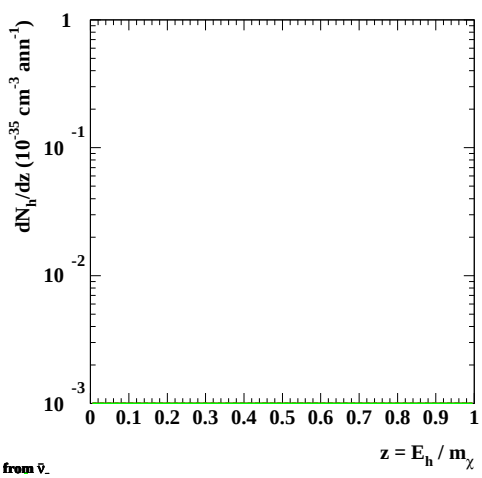
1.5.5 Charged leptons at neutrino-nucleon vertex (Earth)





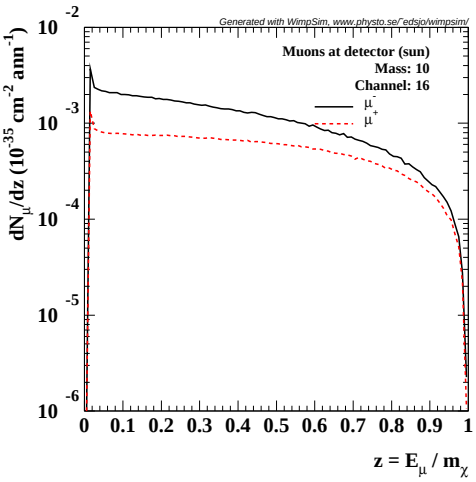
1.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)

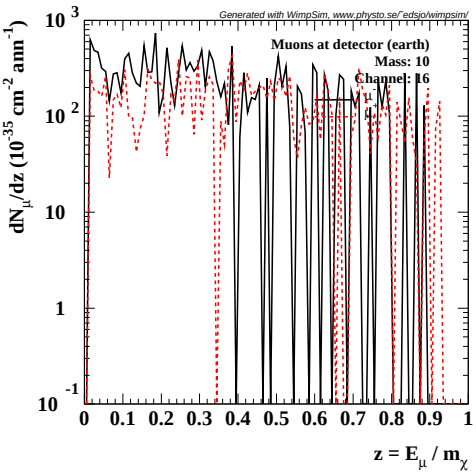




from $\bar{\nu}_\tau$

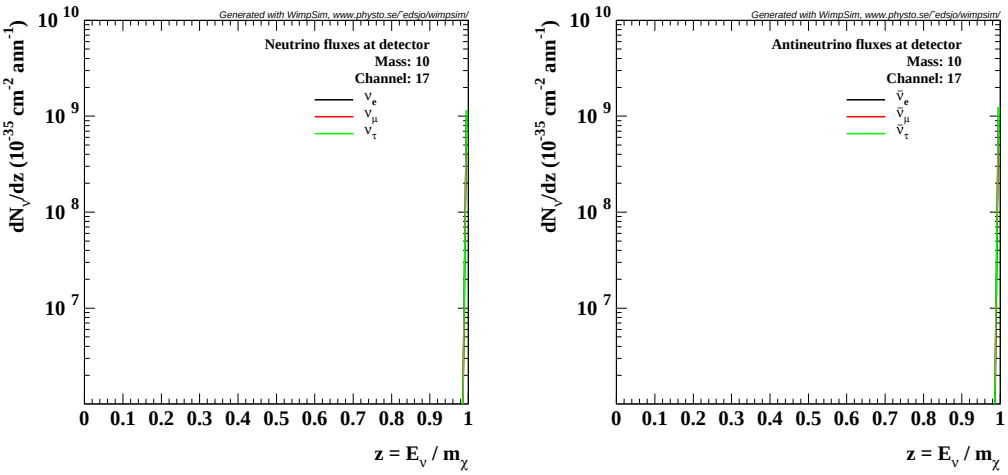
1.5.7 Muons at detector (Sun/Earth)



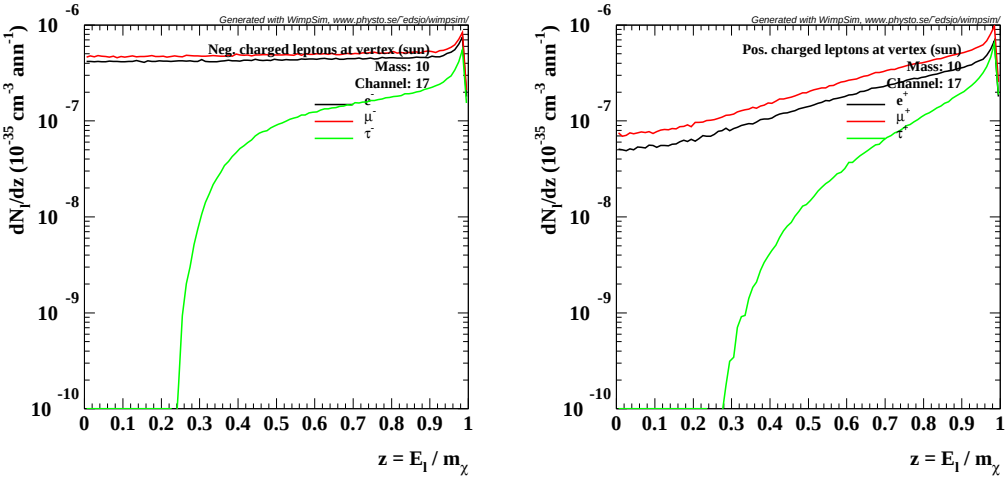


1.6 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

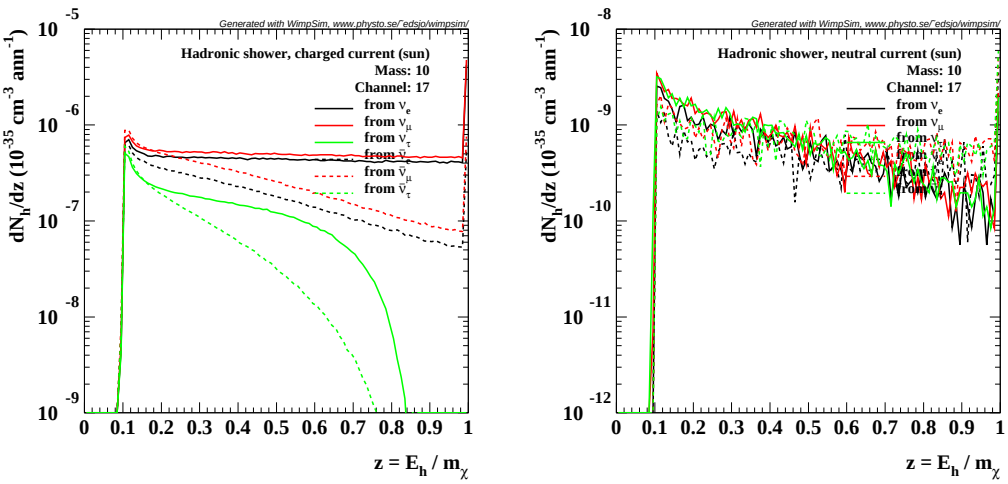
1.6.1 Neutrino fluxes at detector (Sun)



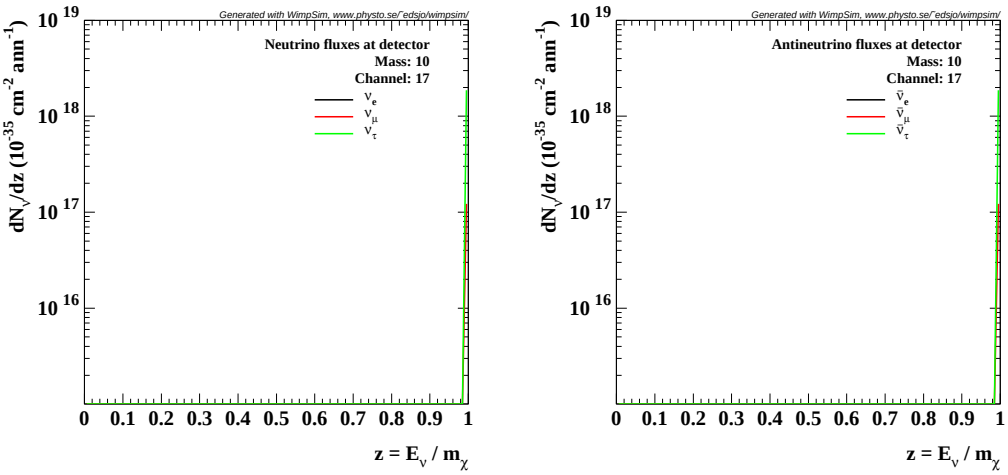
1.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



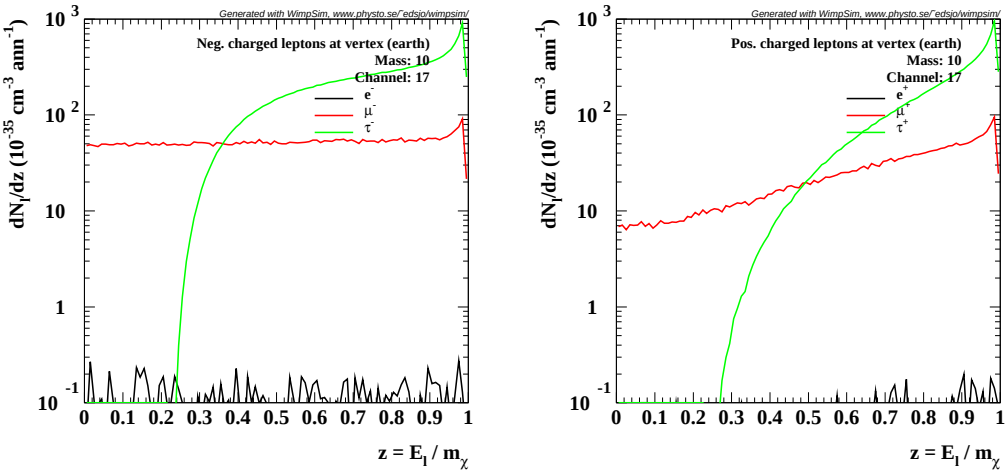
1.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



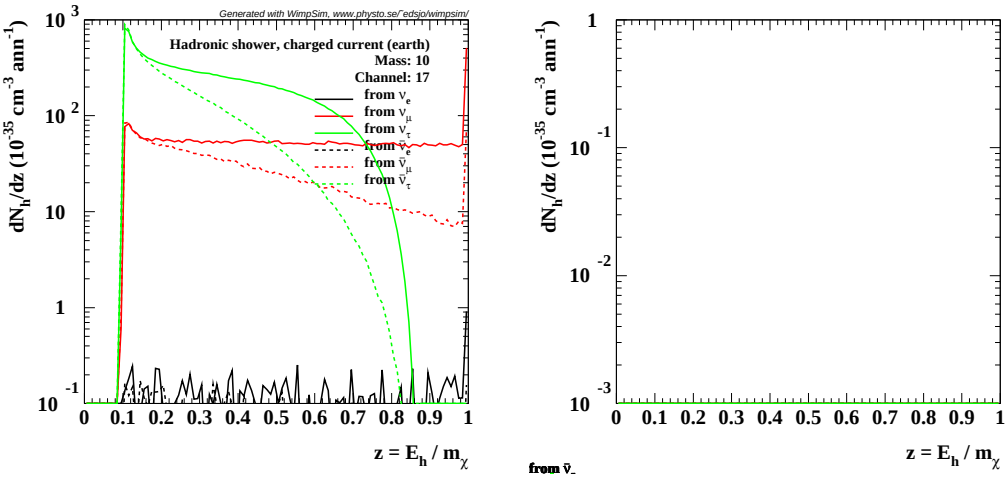
1.6.4 Neutrino fluxes at detector (Earth)



1.6.5 Charged leptons at neutrino-nucleon vertex (Earth)

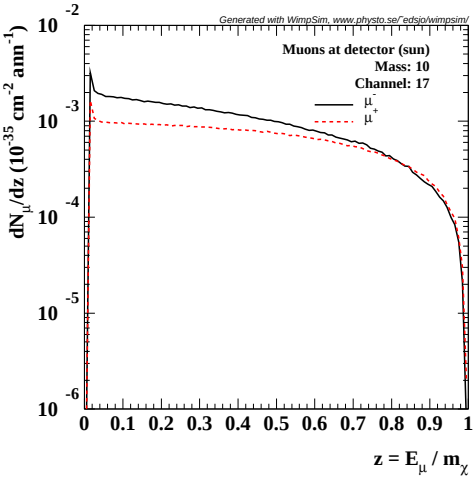


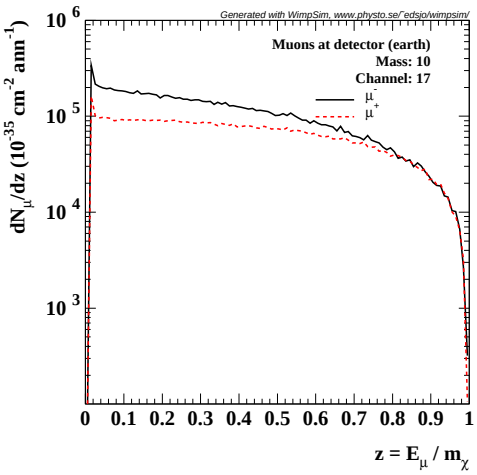
1.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

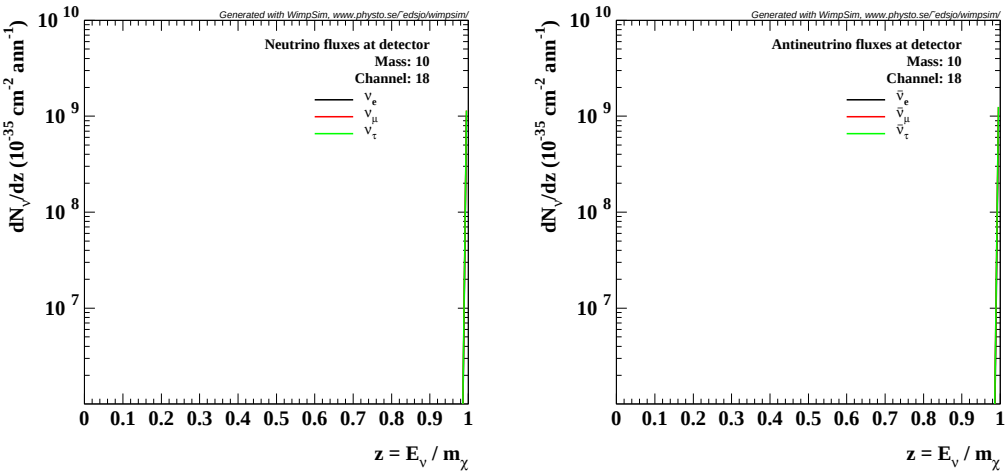
1.6.7 Muons at detector (Sun/Earth)



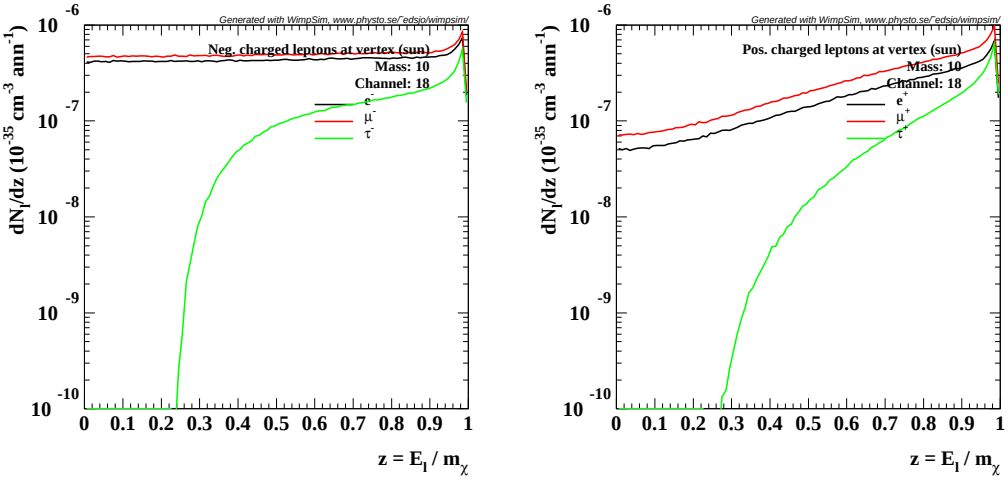


1.7 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

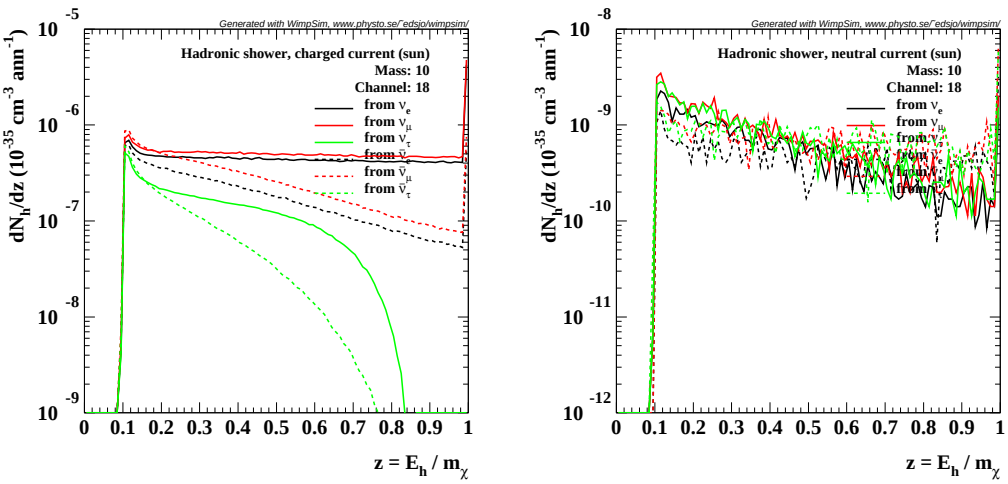
1.7.1 Neutrino fluxes at detector (Sun)



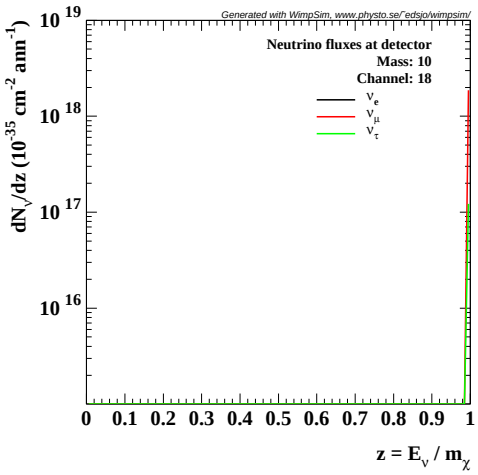
1.7.2 Charged leptons at neutrino-nucleon vertex (Sun)

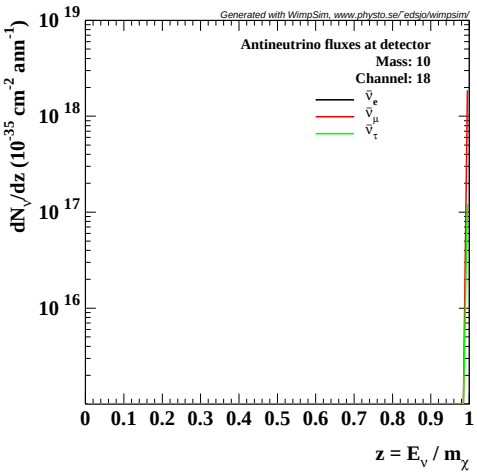


1.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

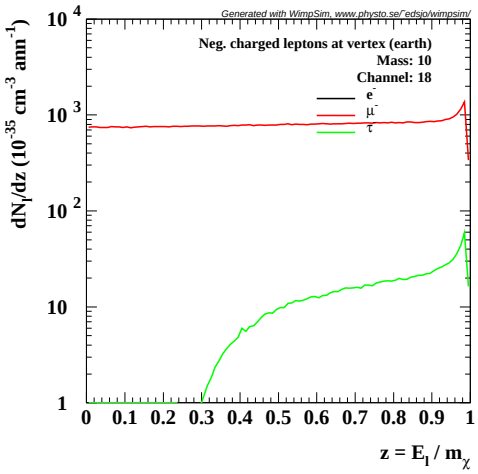


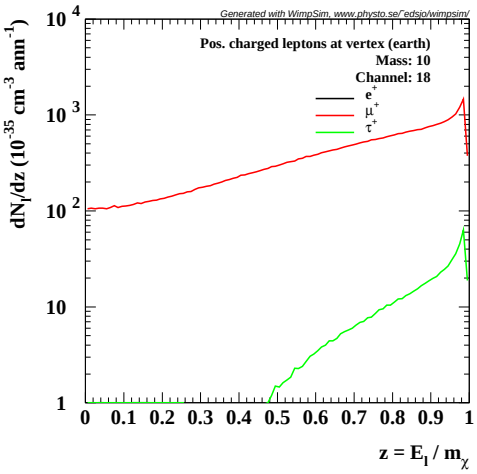
1.7.4 Neutrino fluxes at detector (Earth)



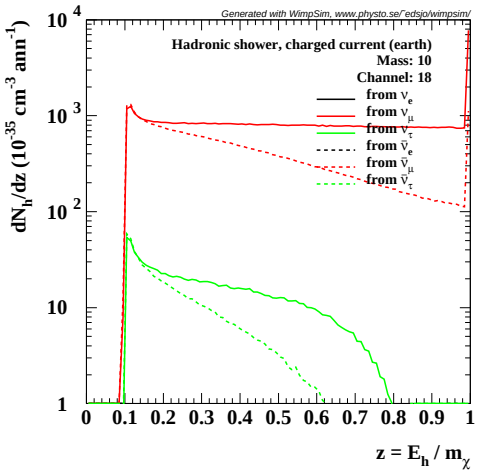


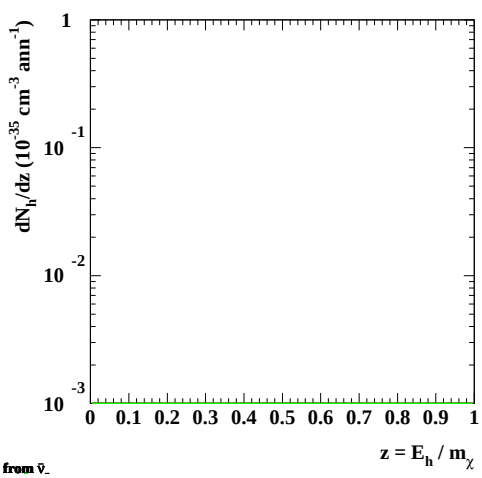
1.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



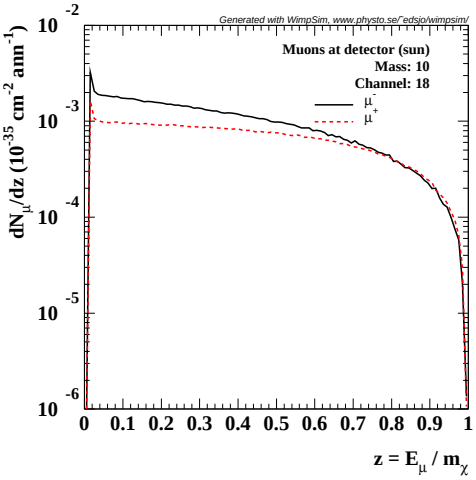


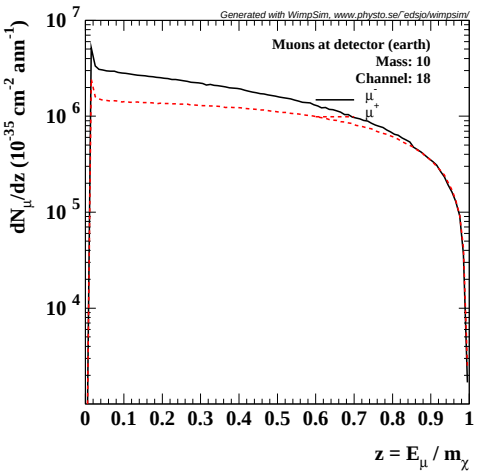
1.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





1.7.7 Muons at detector (Sun/Earth)

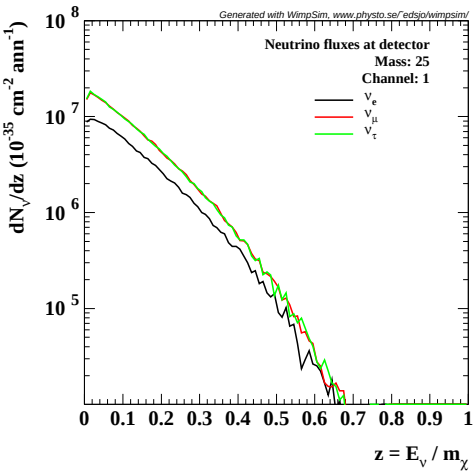


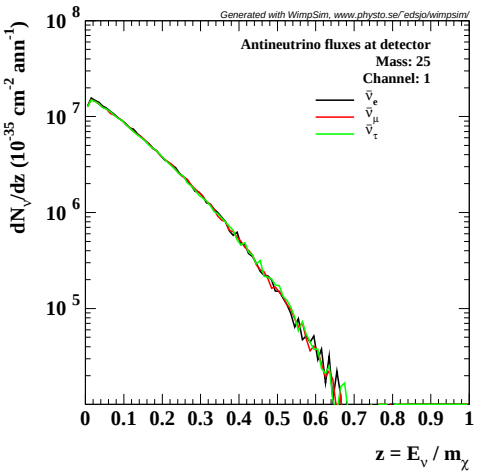


2 Mass 25

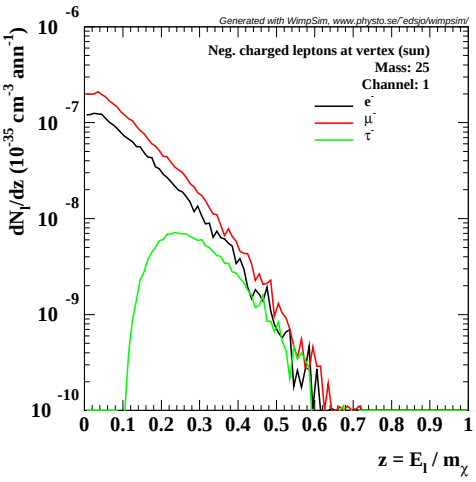
2.1 Channel 1 – $c\bar{c}$

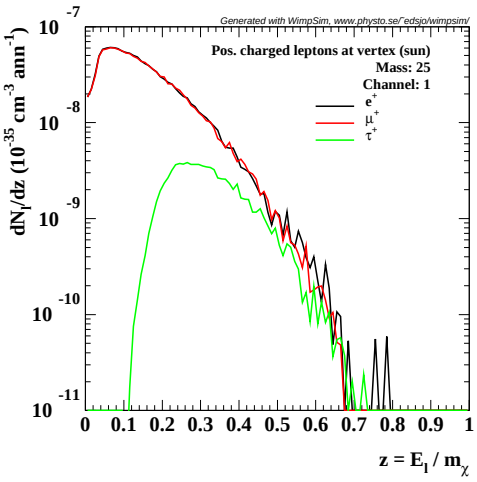
2.1.1 Neutrino fluxes at detector (Sun)



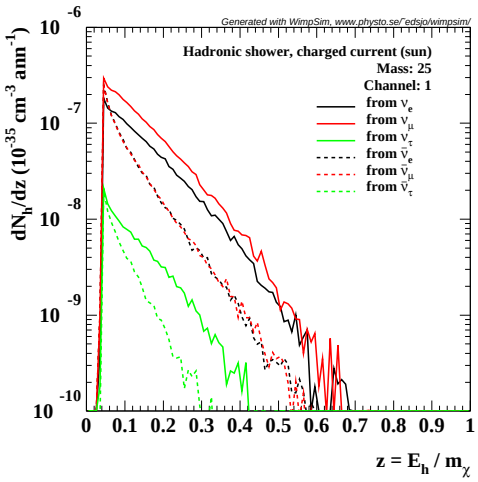


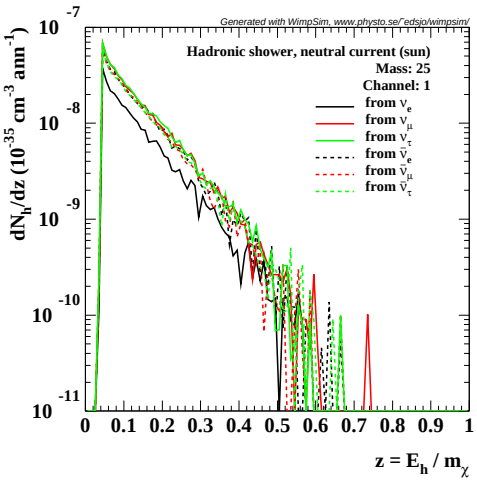
2.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



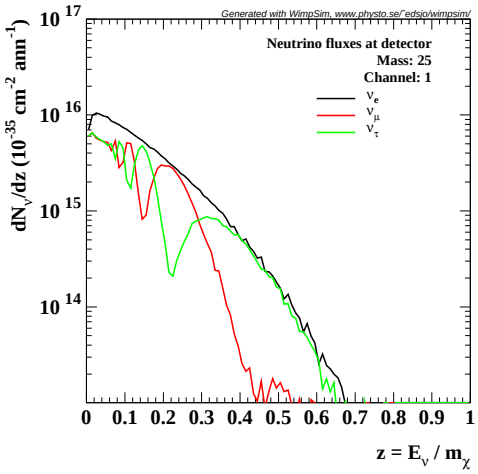


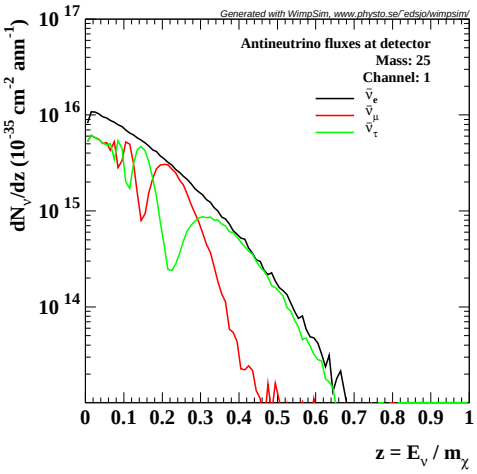
2.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



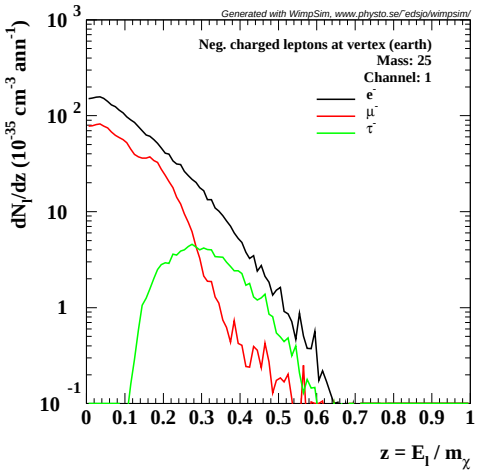


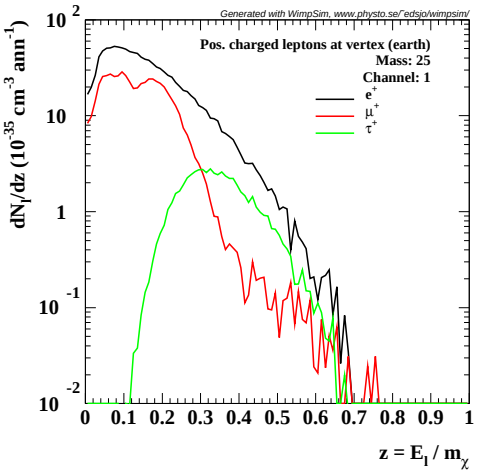
2.1.4 Neutrino fluxes at detector (Earth)



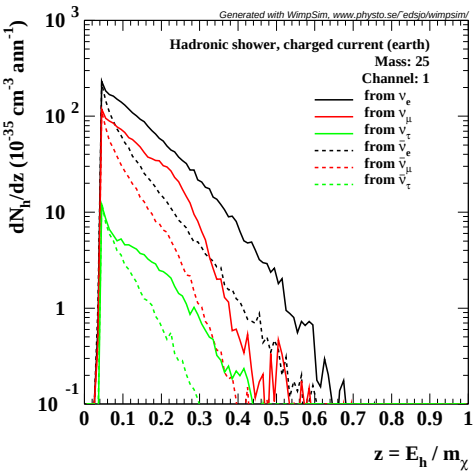


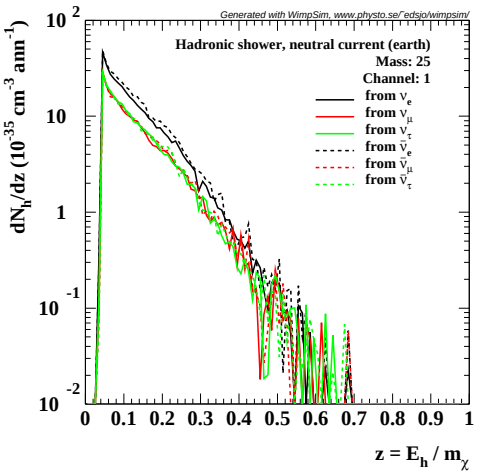
2.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



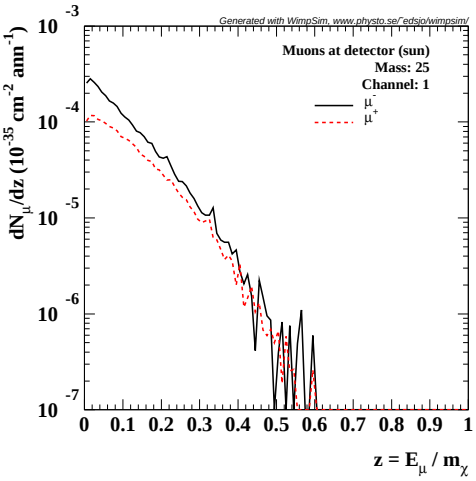


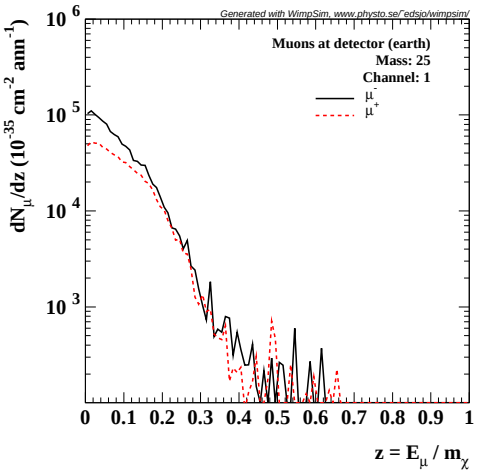
2.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





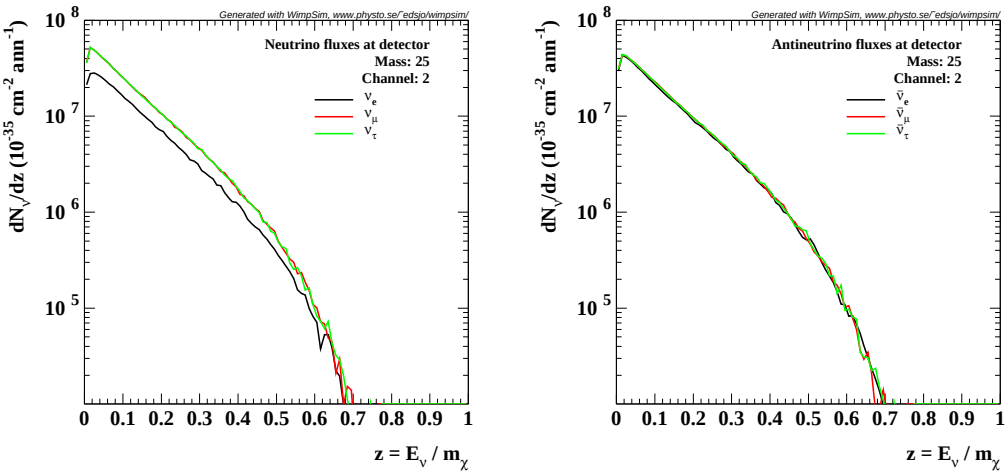
2.1.7 Muons at detector (Sun/Earth)



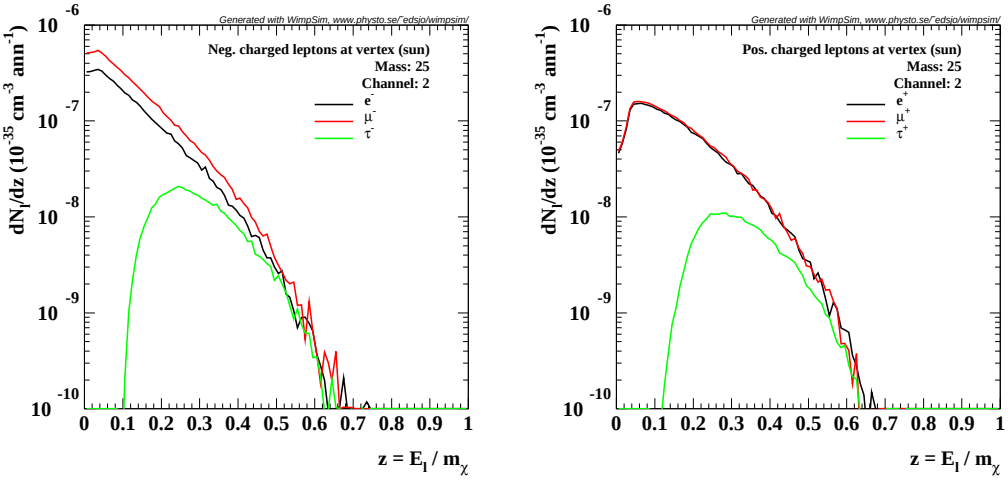


2.2 Channel 2 – $b\bar{b}$

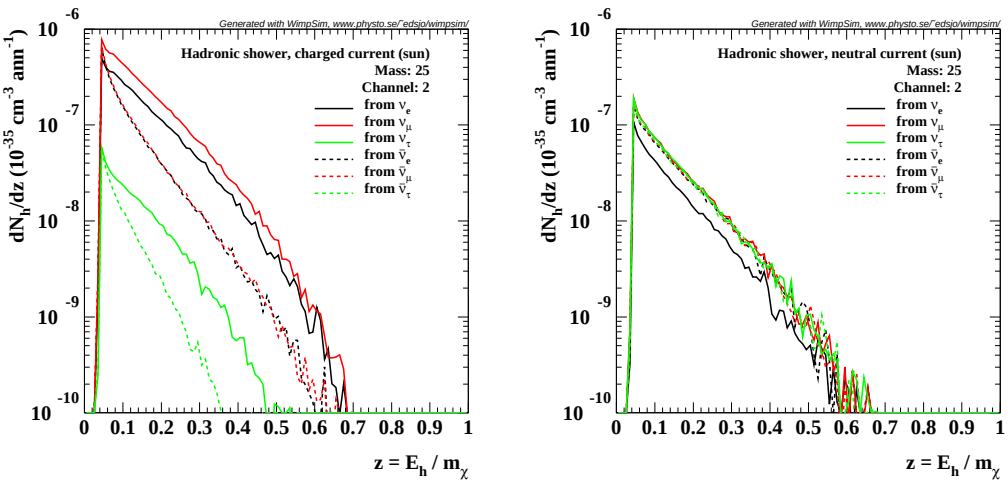
2.2.1 Neutrino fluxes at detector (Sun)



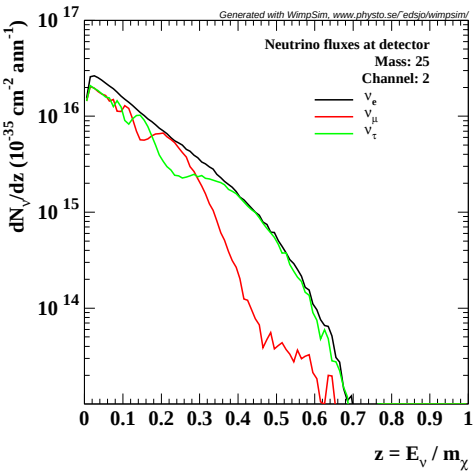
2.2.2 Charged leptons at neutrino-nucleon vertex (Sun)

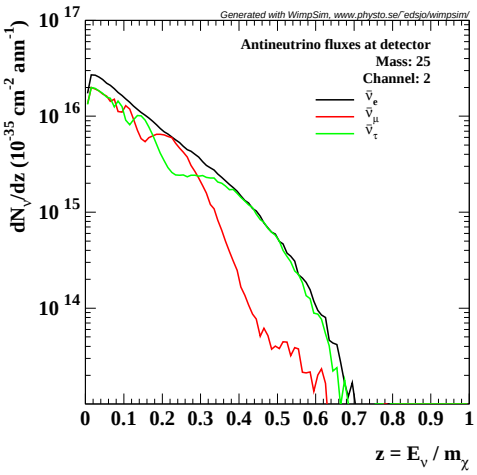


2.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)

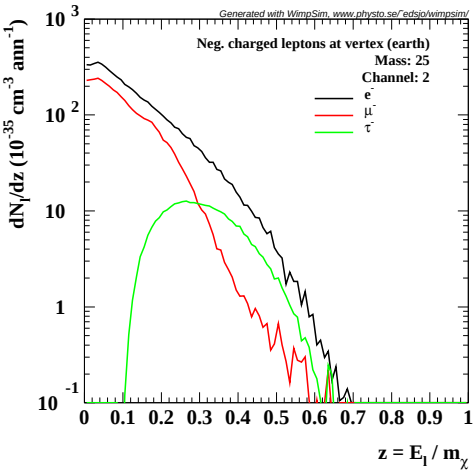


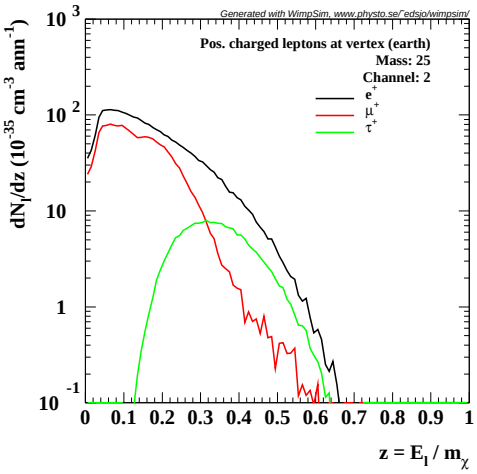
2.2.4 Neutrino fluxes at detector (Earth)



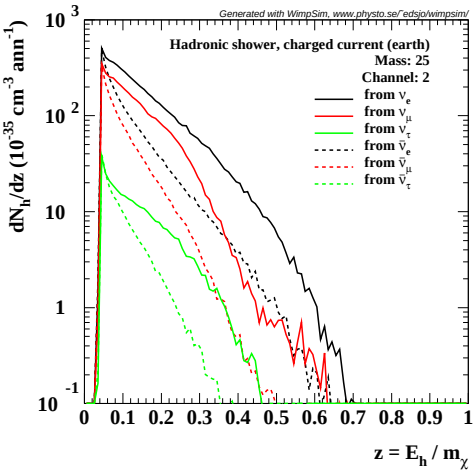


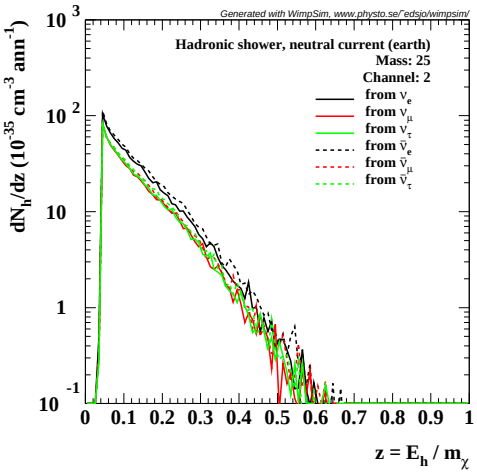
2.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



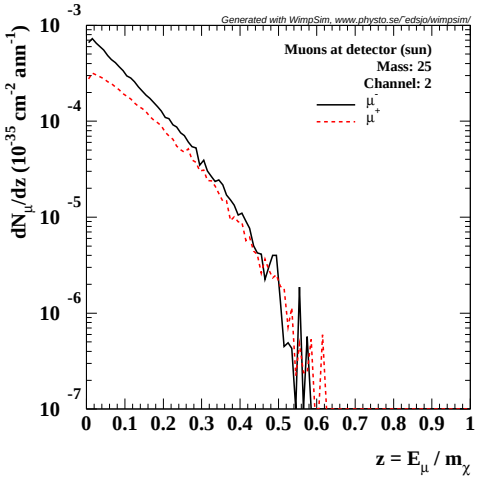


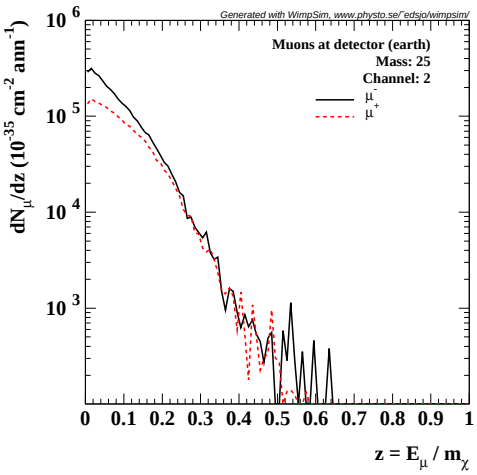
2.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





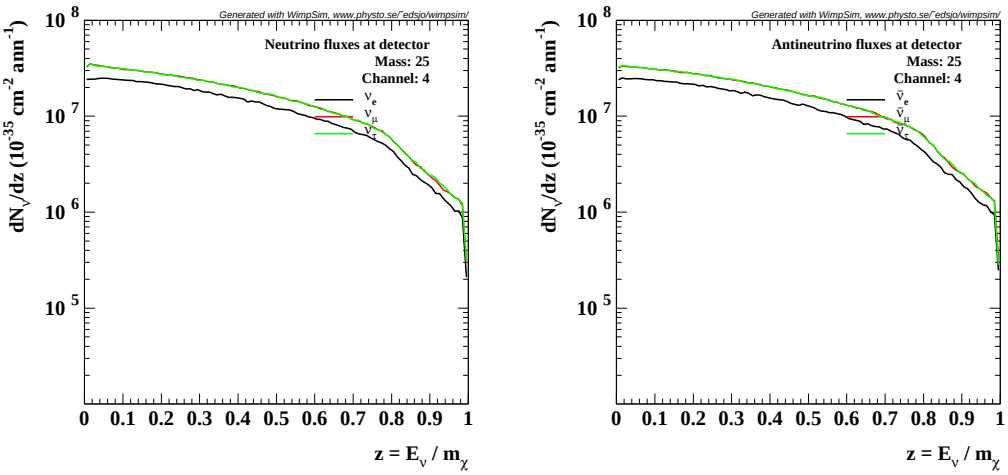
2.2.7 Muons at detector (Sun/Earth)



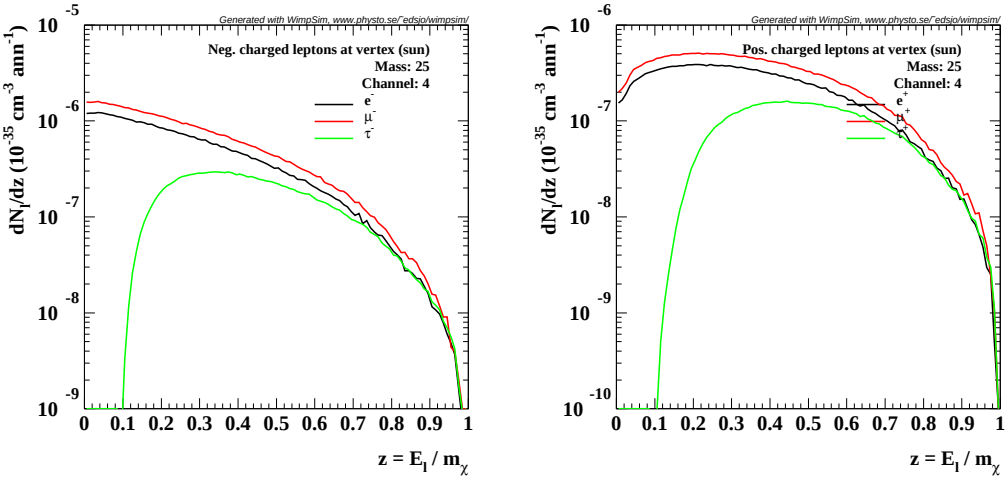


2.3 Channel 4 – $\tau^-\tau^+$

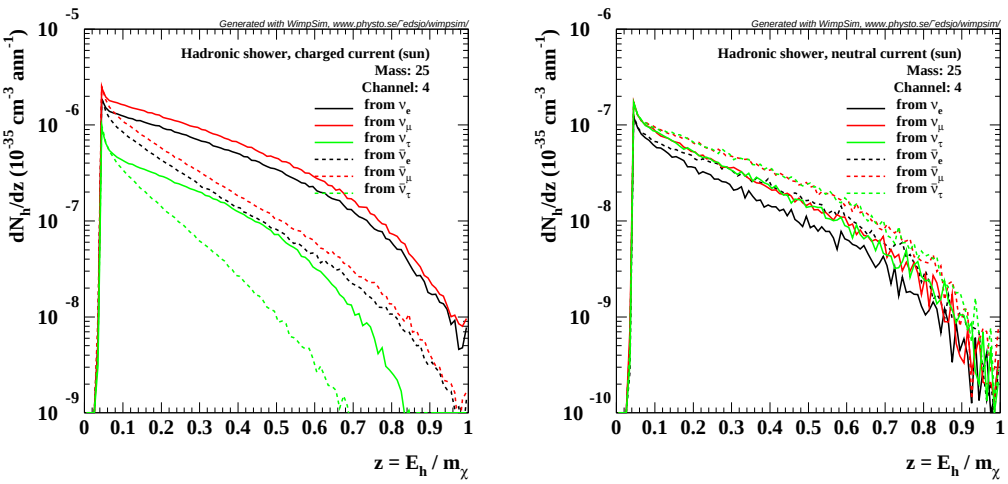
2.3.1 Neutrino fluxes at detector (Sun)



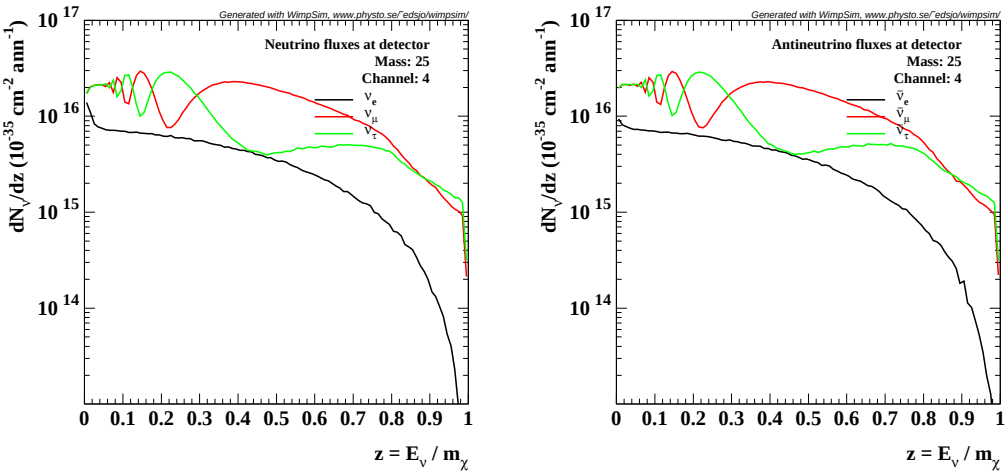
2.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



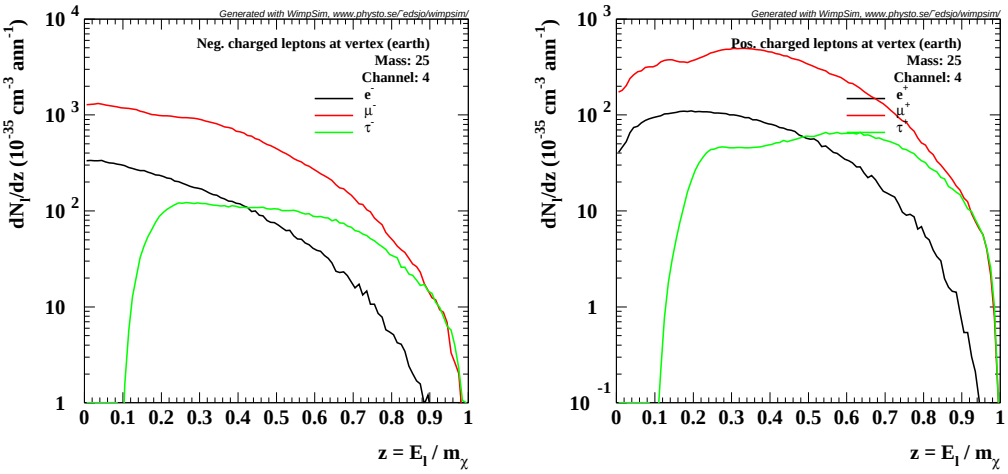
2.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



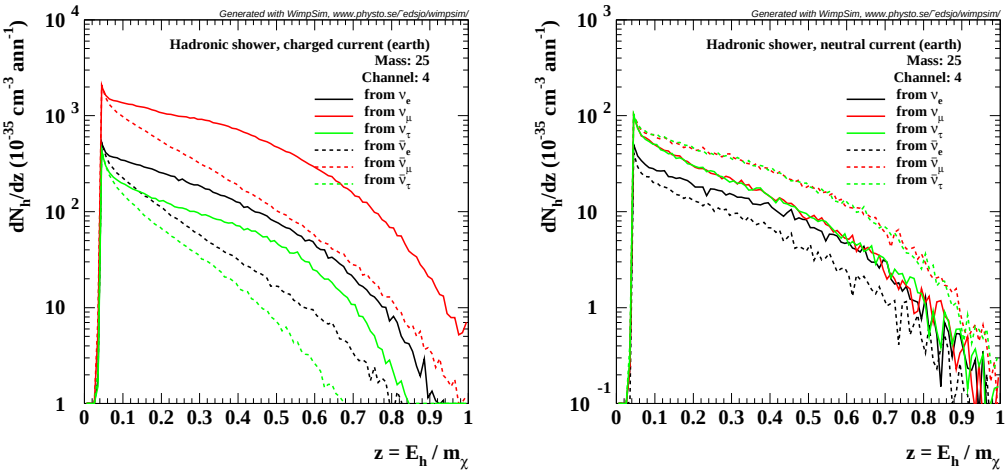
2.3.4 Neutrino fluxes at detector (Earth)



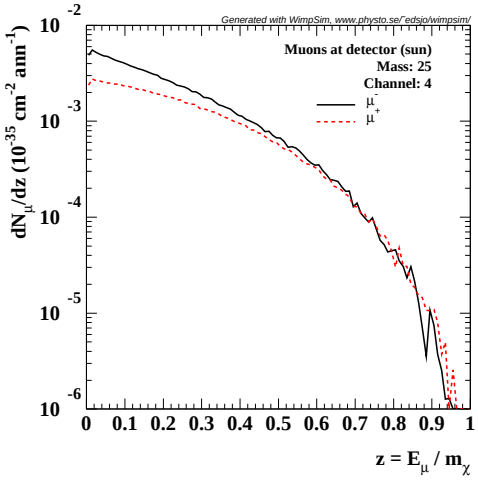
2.3.5 Charged leptons at neutrino-nucleon vertex (Earth)

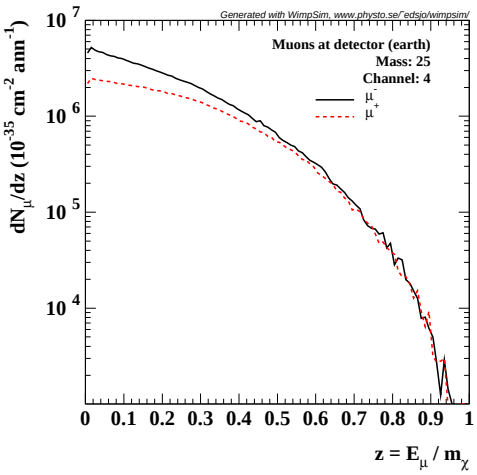


2.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)



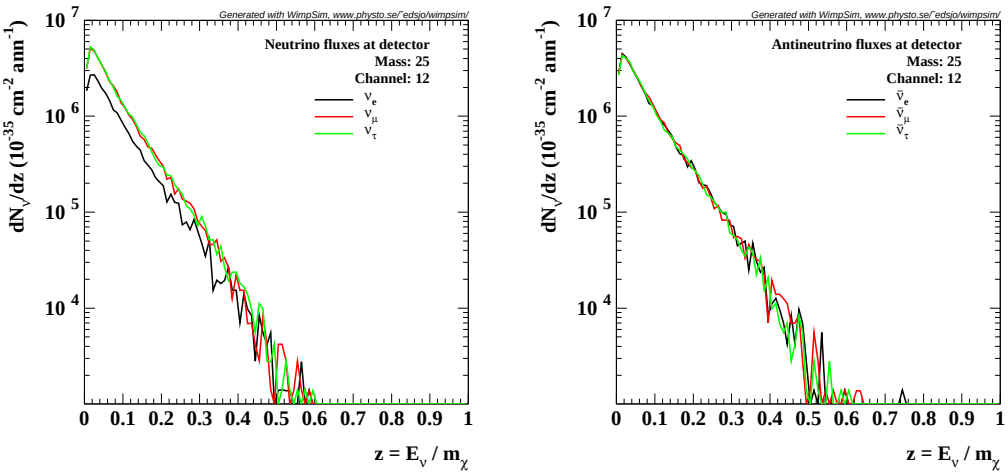
2.3.7 Muons at detector (Sun/Earth)



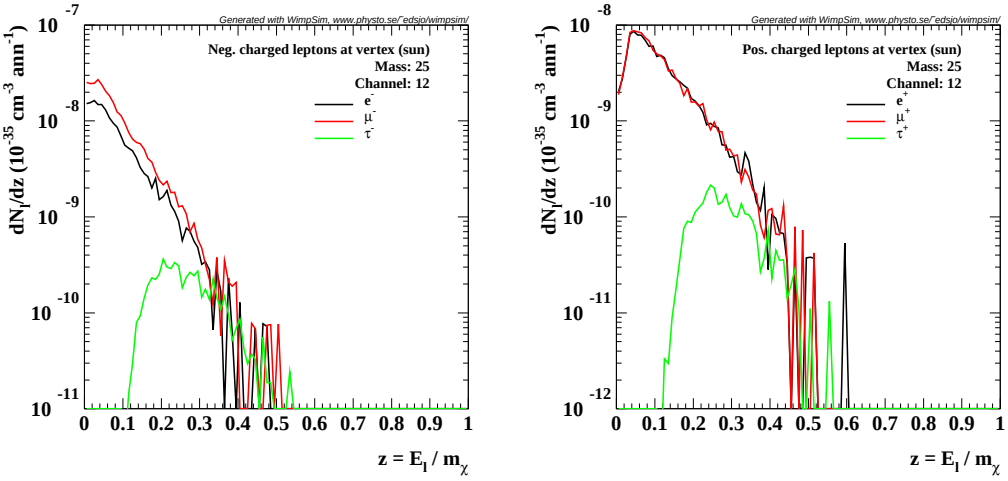


2.4 Channel 12 – gg

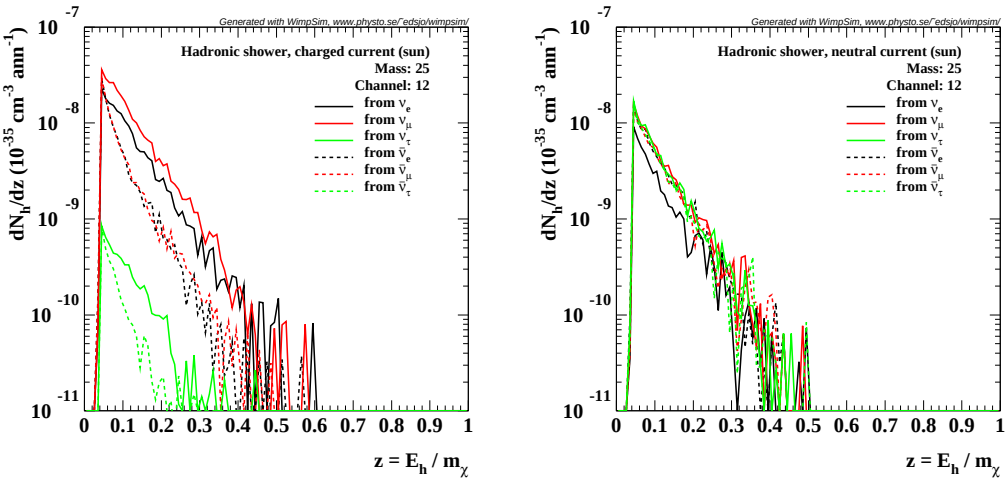
2.4.1 Neutrino fluxes at detector (Sun)



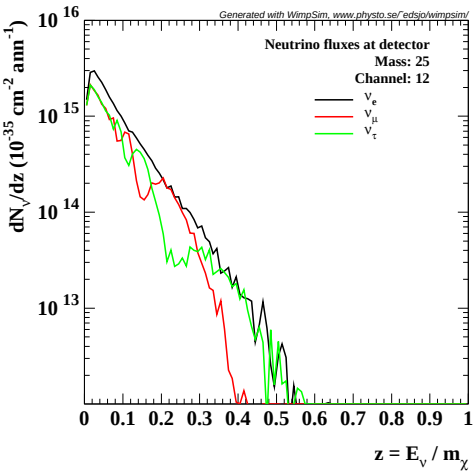
2.4.2 Charged leptons at neutrino-nucleon vertex (Sun)

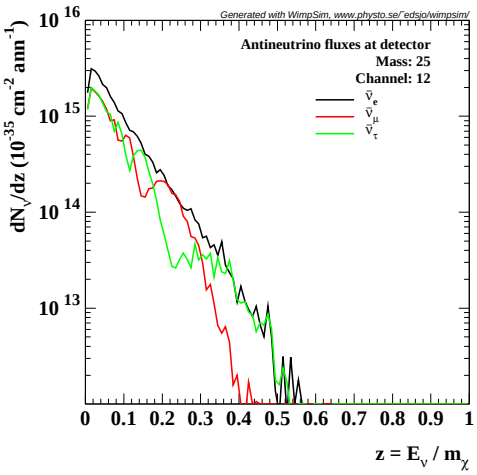


2.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)

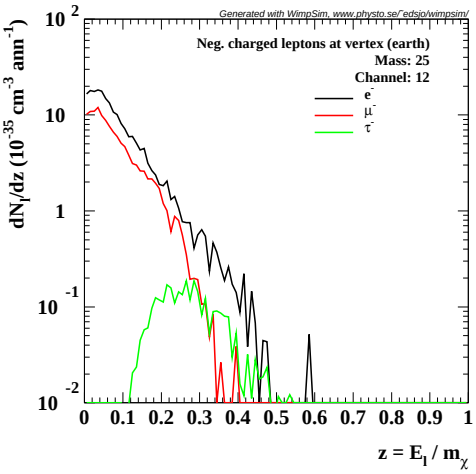


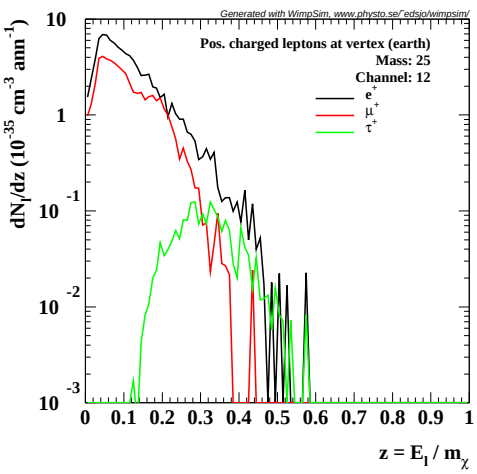
2.4.4 Neutrino fluxes at detector (Earth)



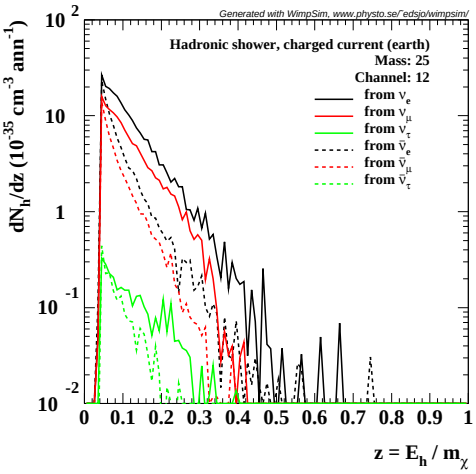


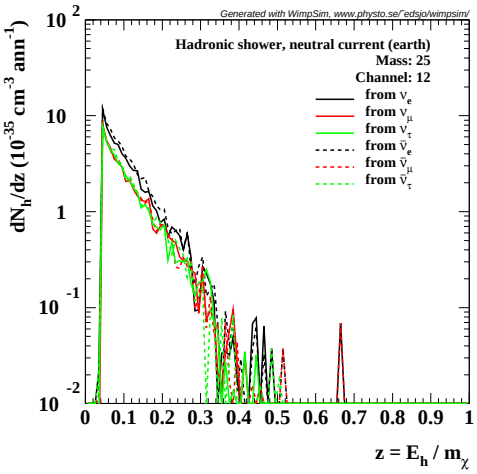
2.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



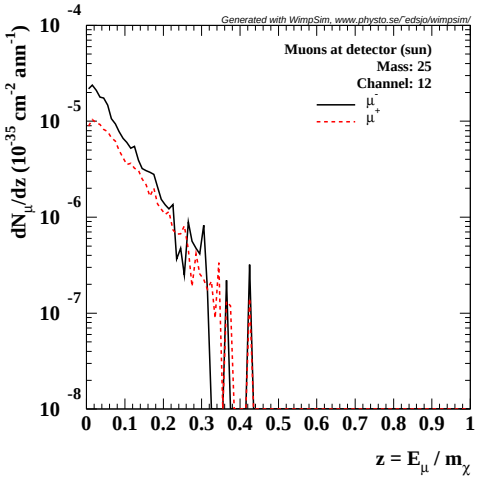


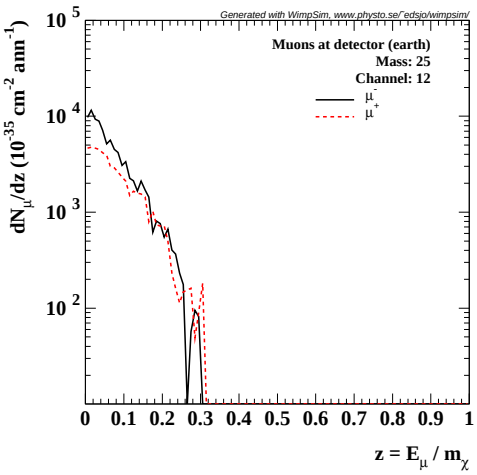
2.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





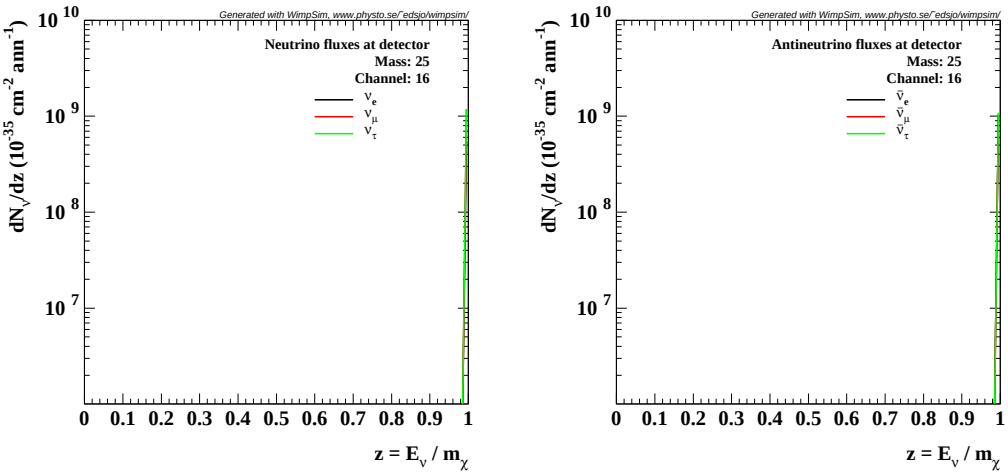
2.4.7 Muons at detector (Sun/Earth)



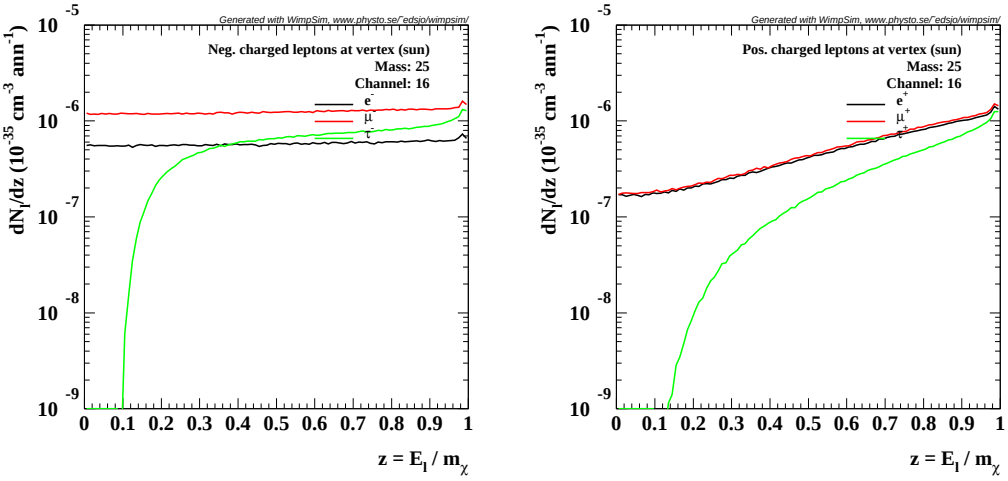


2.5 Channel 16 – $\nu_e\bar{\nu}_e$

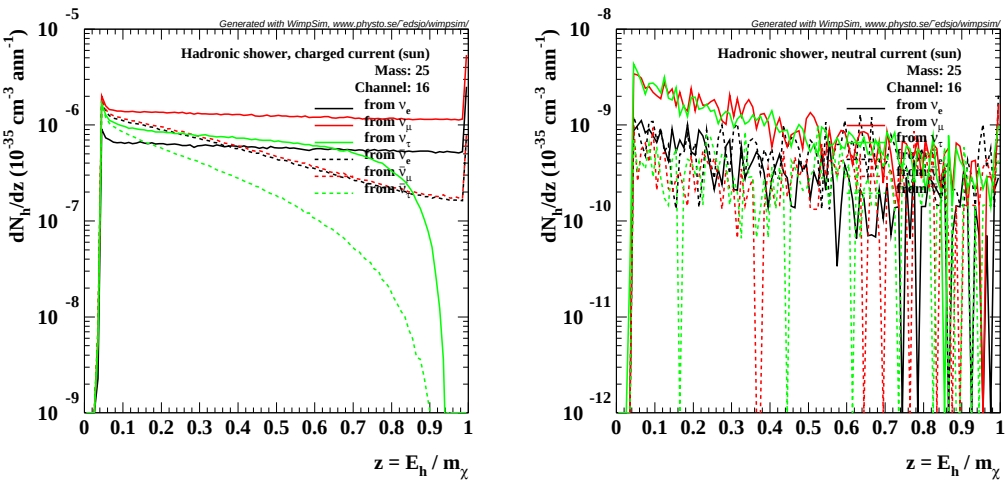
2.5.1 Neutrino fluxes at detector (Sun)



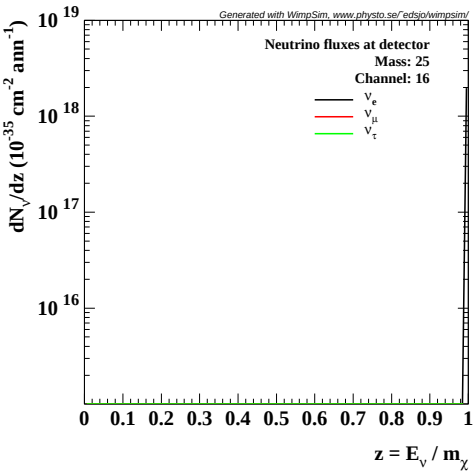
2.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

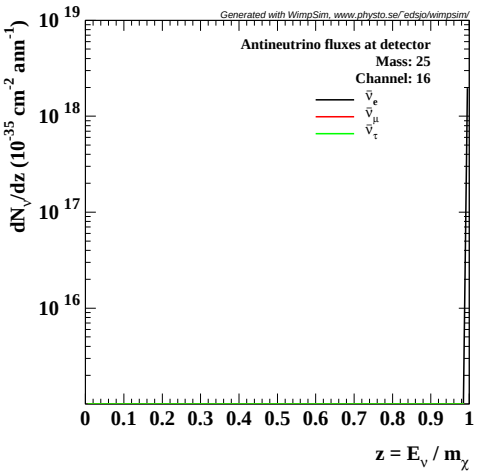


2.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

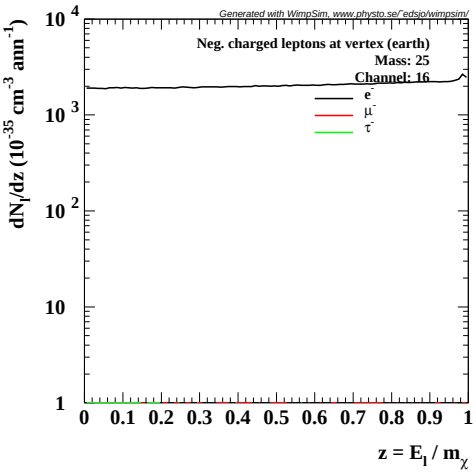


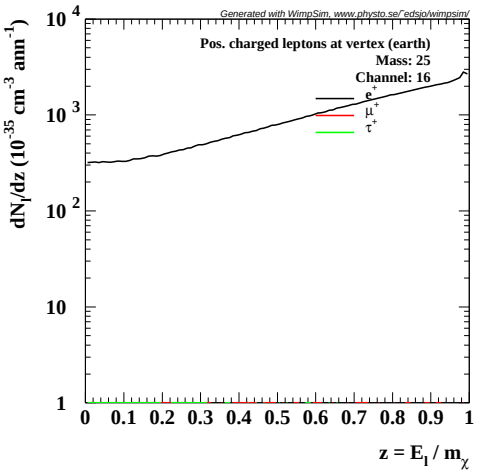
2.5.4 Neutrino fluxes at detector (Earth)



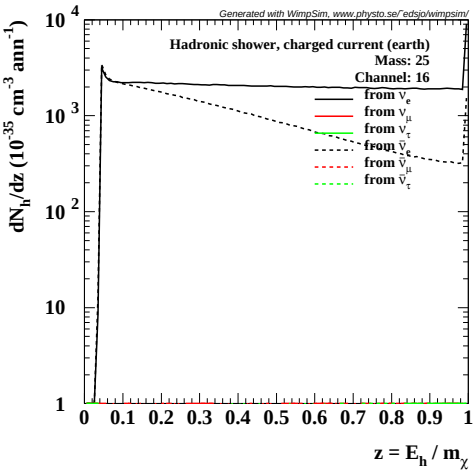


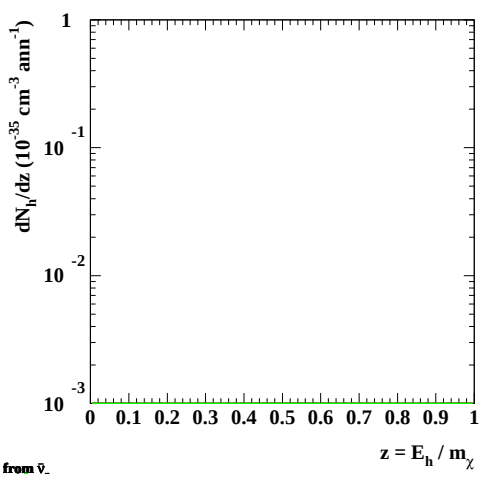
2.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



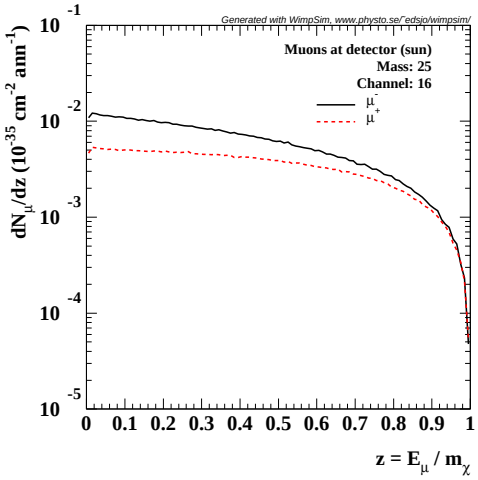


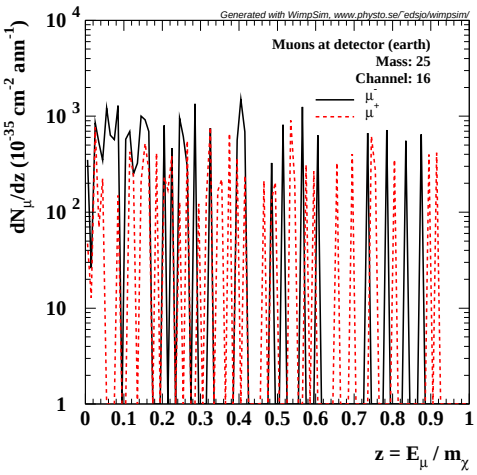
2.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





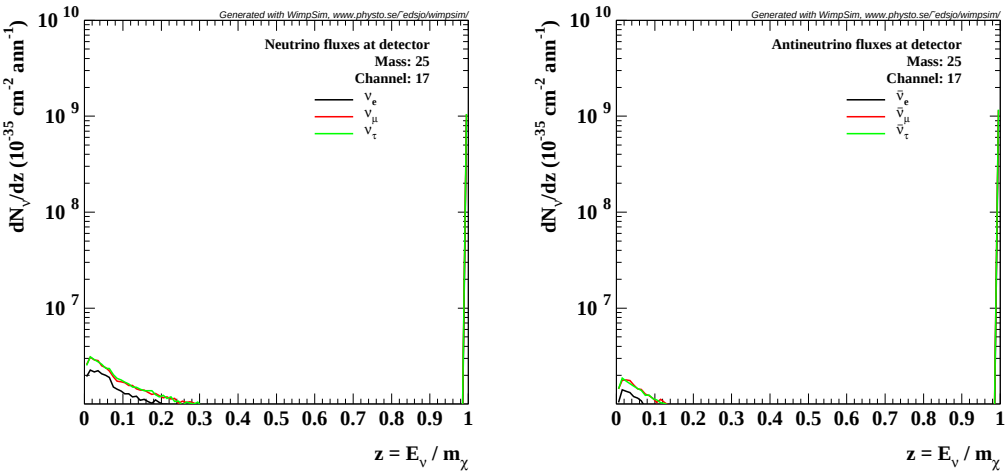
2.5.7 Muons at detector (Sun/Earth)



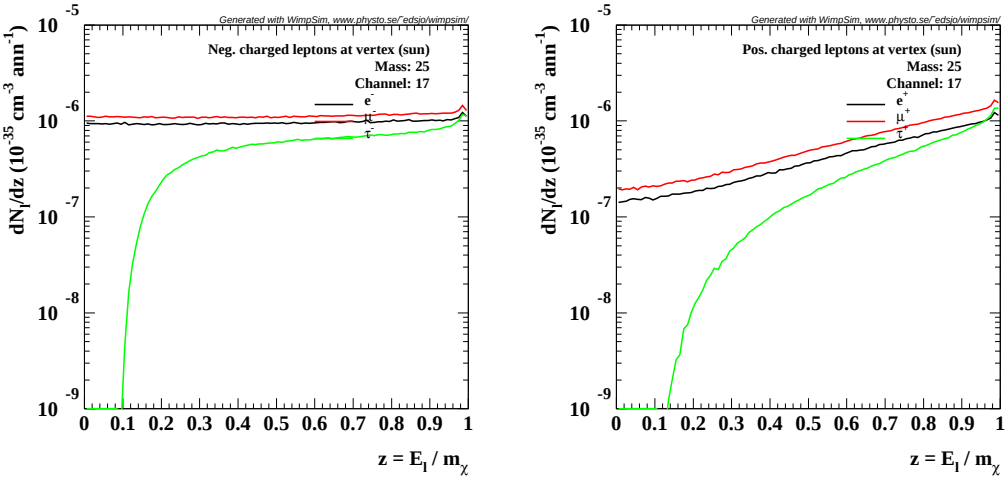


2.6 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

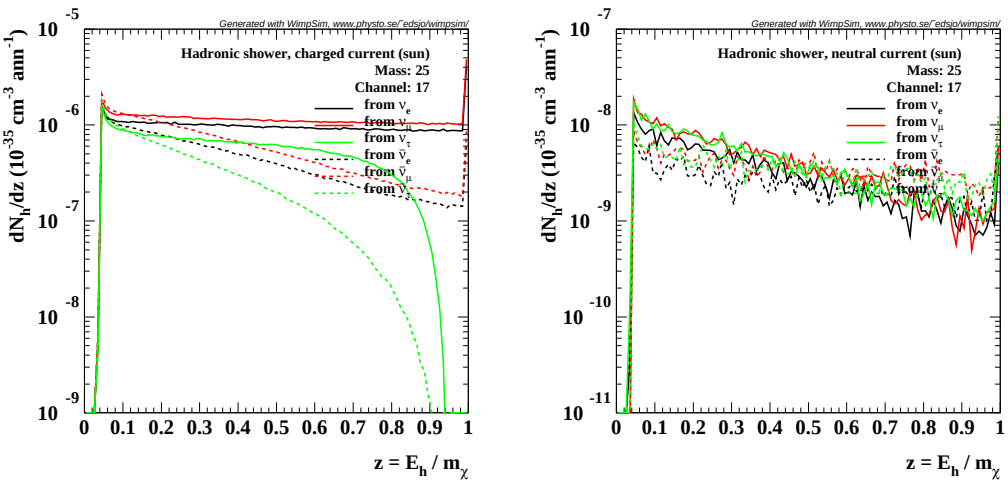
2.6.1 Neutrino fluxes at detector (Sun)



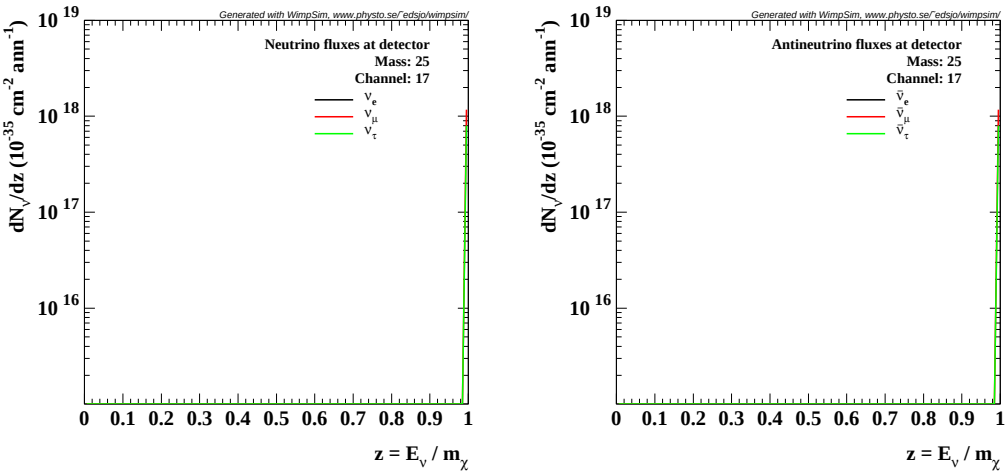
2.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



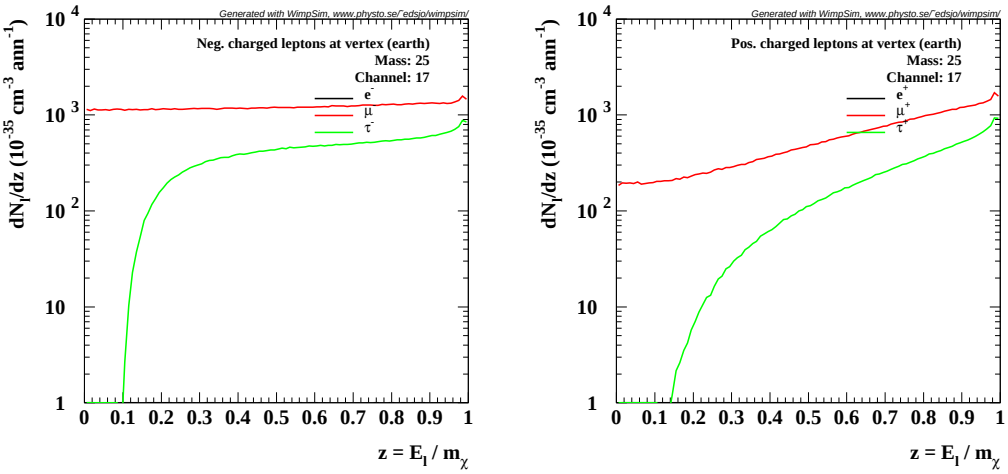
2.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



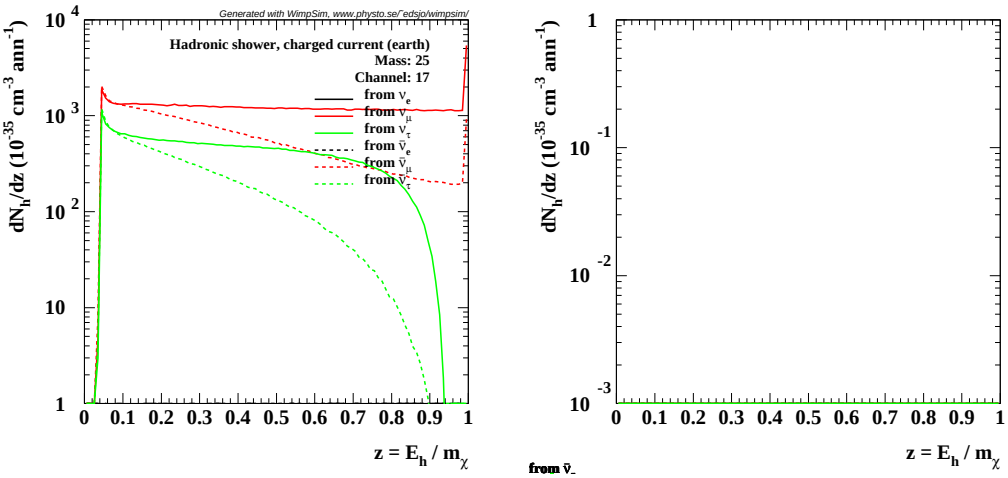
2.6.4 Neutrino fluxes at detector (Earth)



2.6.5 Charged leptons at neutrino-nucleon vertex (Earth)

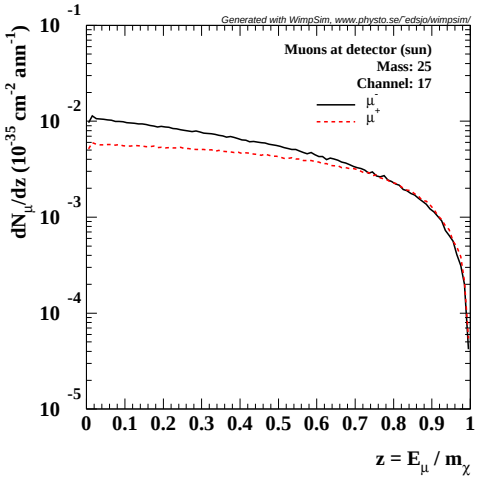


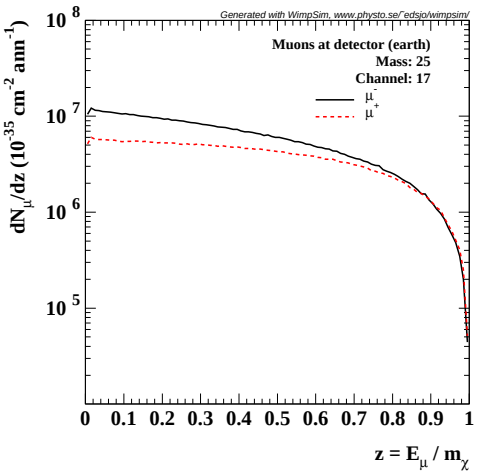
2.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

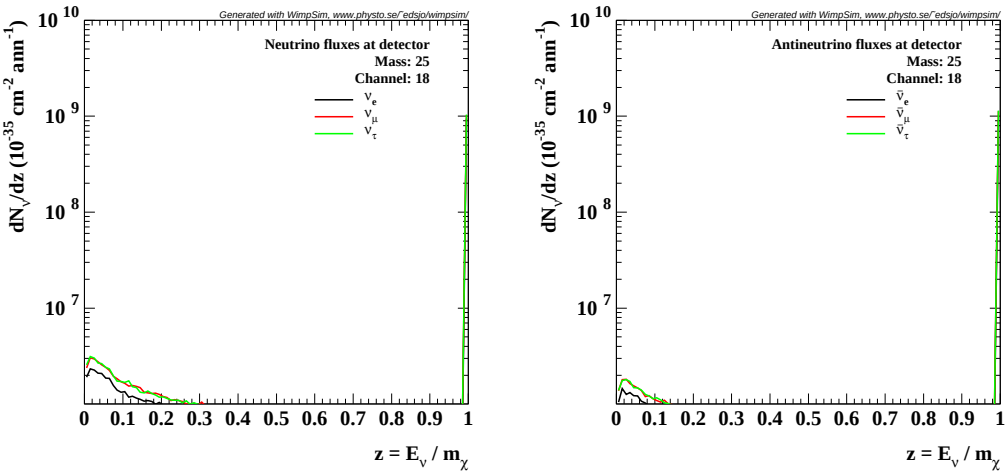
2.6.7 Muons at detector (Sun/Earth)



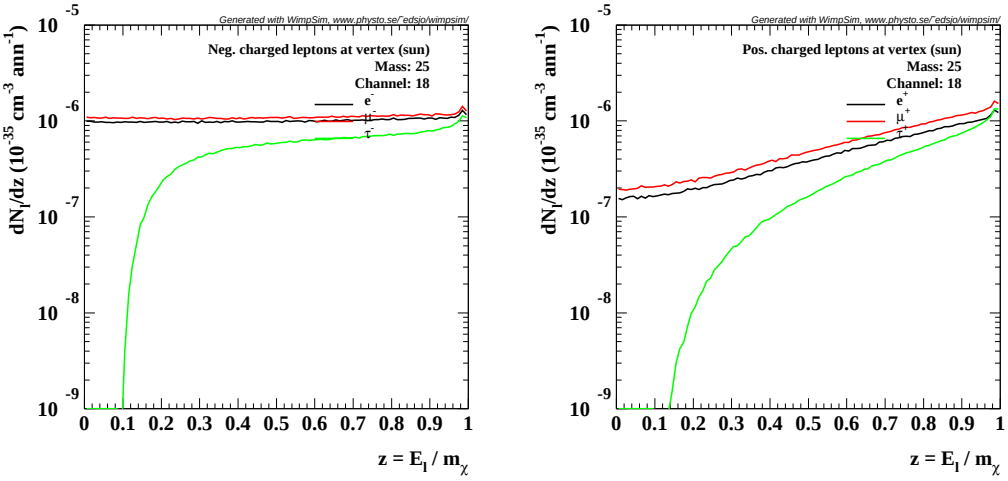


2.7 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

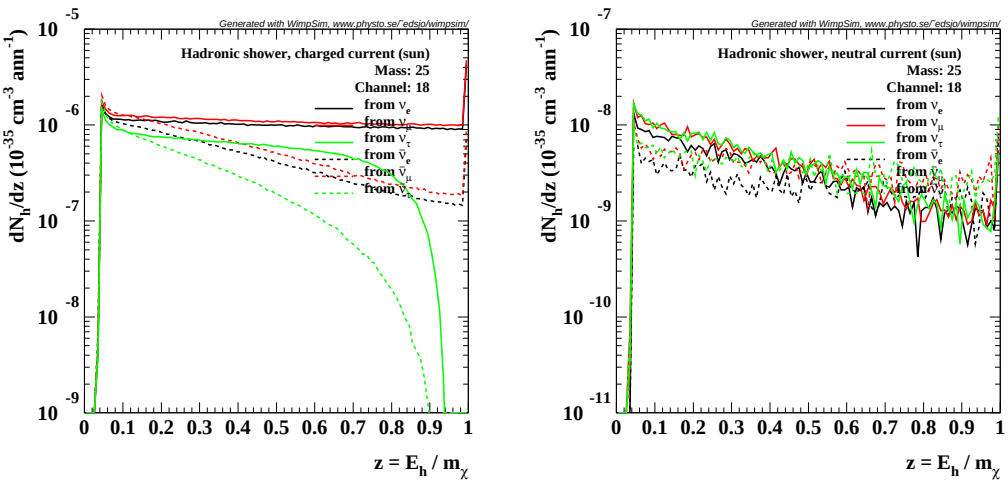
2.7.1 Neutrino fluxes at detector (Sun)



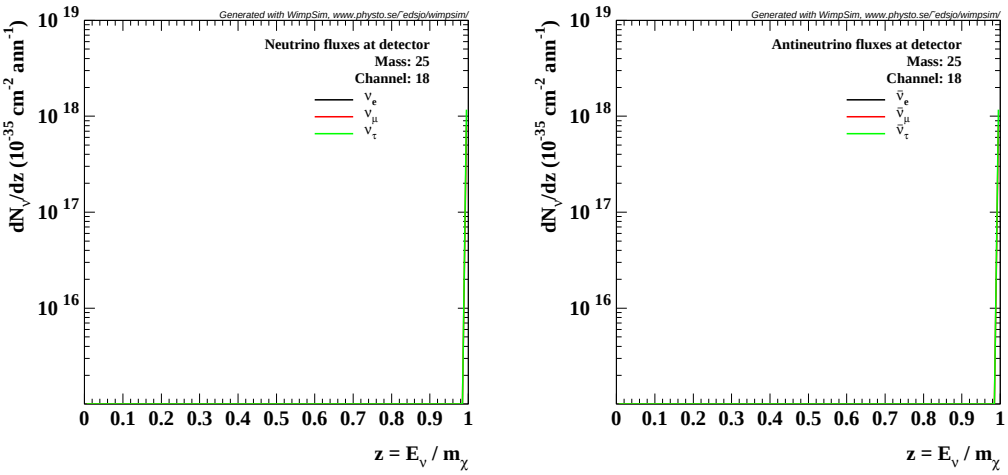
2.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



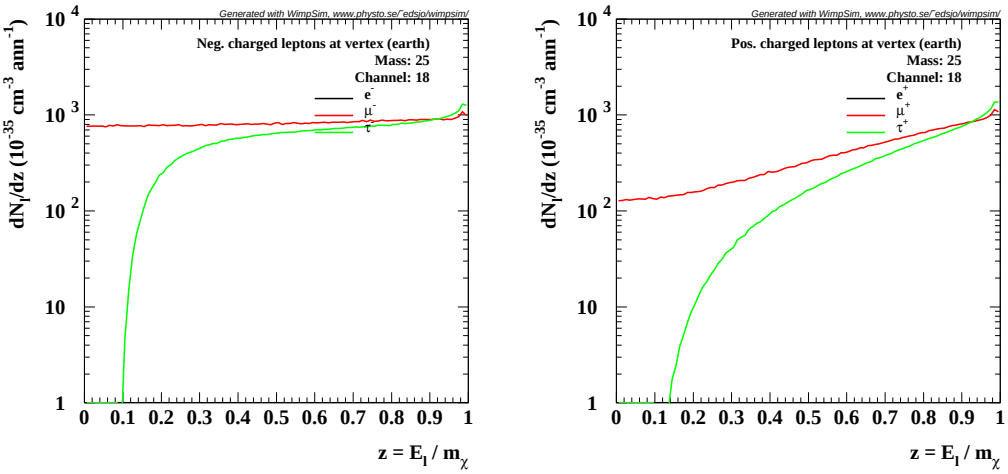
2.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



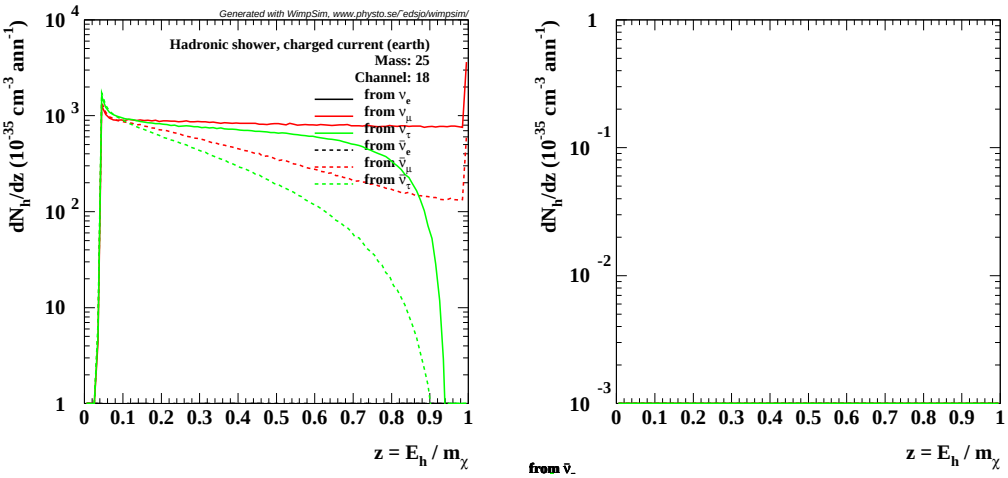
2.7.4 Neutrino fluxes at detector (Earth)



2.7.5 Charged leptons at neutrino-nucleon vertex (Earth)

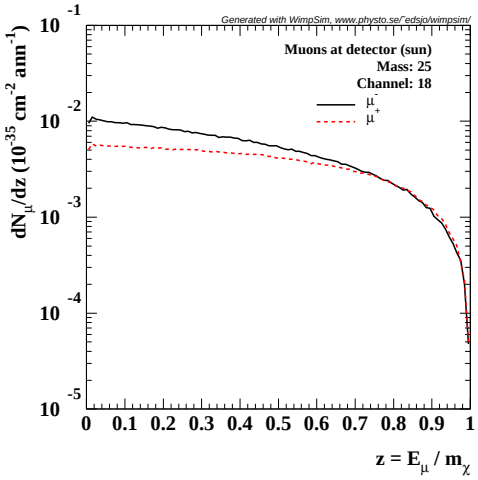


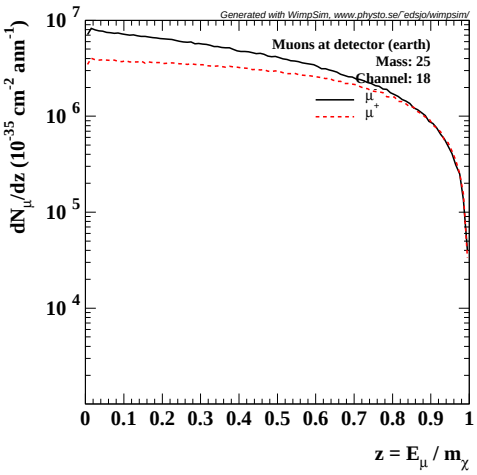
2.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

2.7.7 Muons at detector (Sun/Earth)

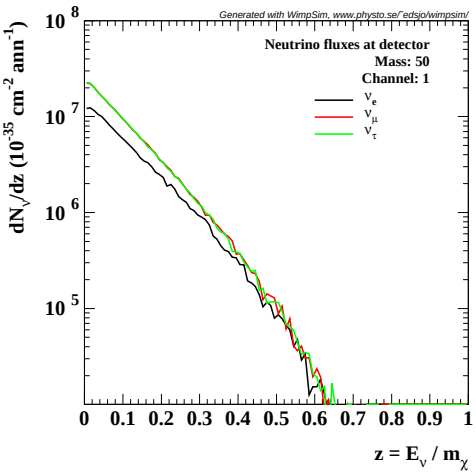


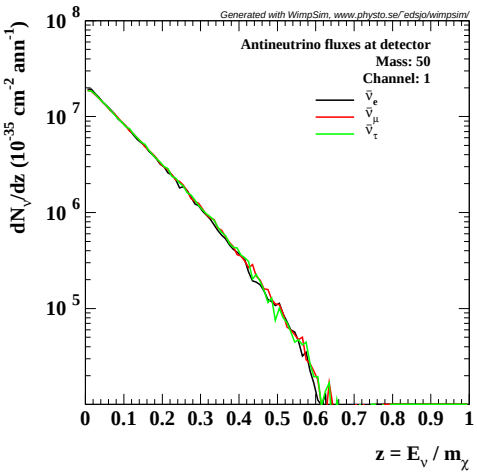


3 Mass 50

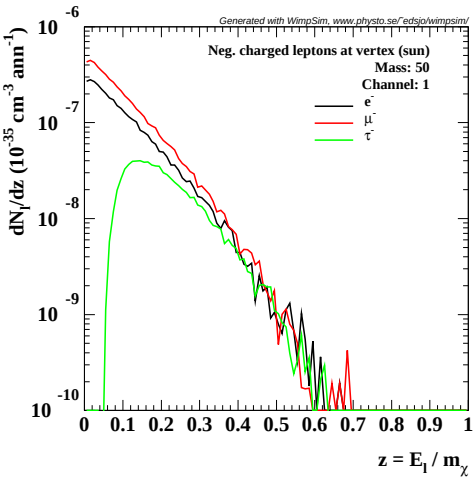
3.1 Channel 1 – $c\bar{c}$

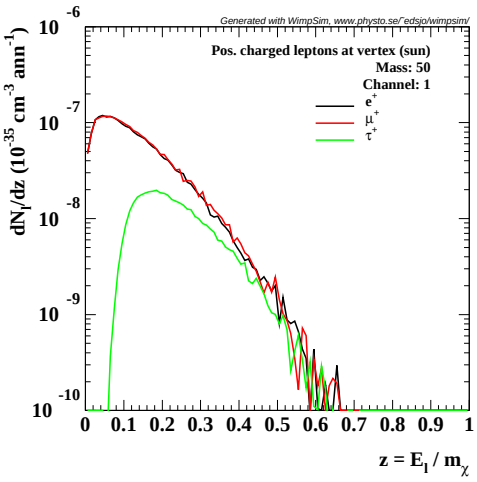
3.1.1 Neutrino fluxes at detector (Sun)



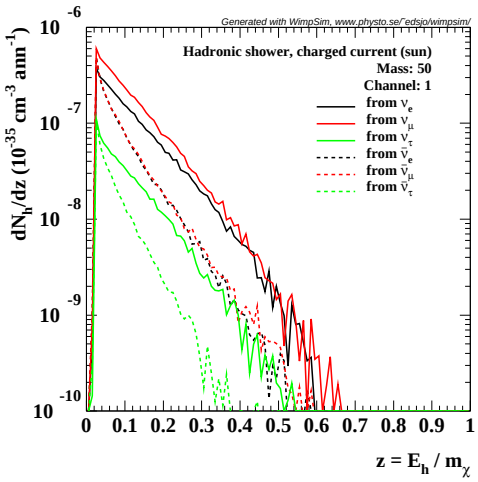


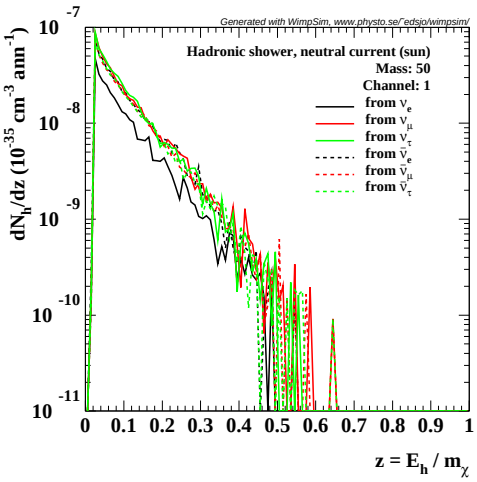
3.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



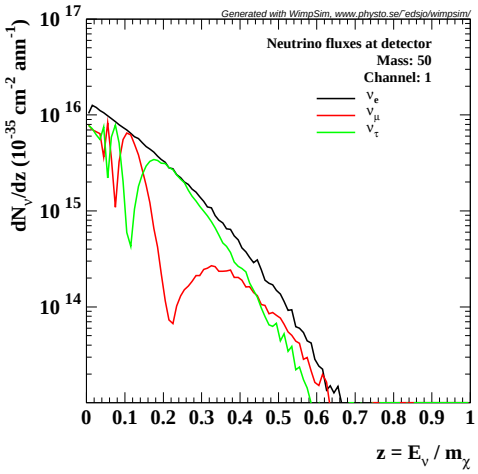


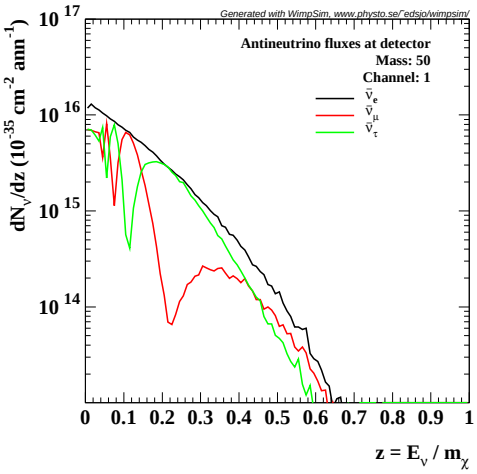
3.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



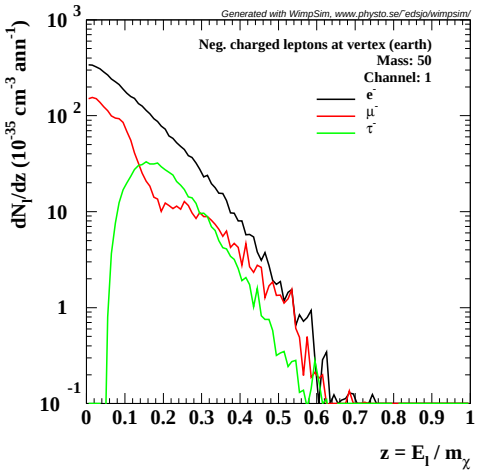


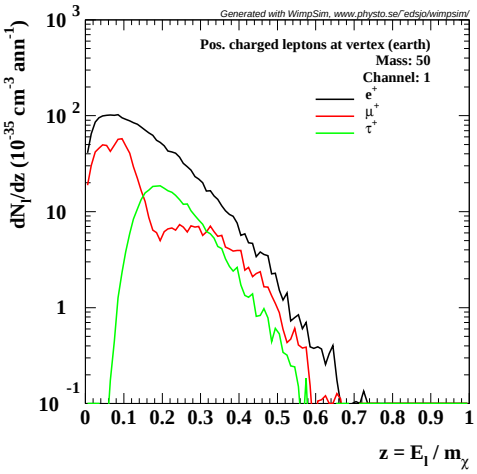
3.1.4 Neutrino fluxes at detector (Earth)



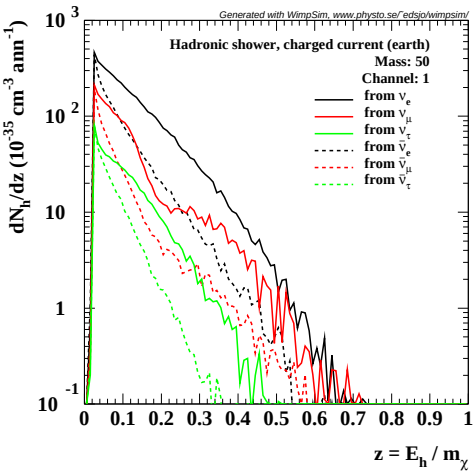


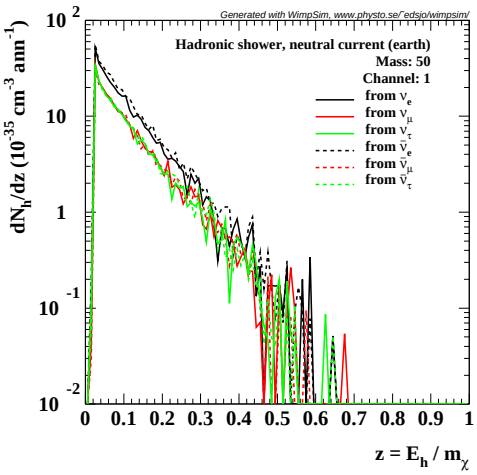
3.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



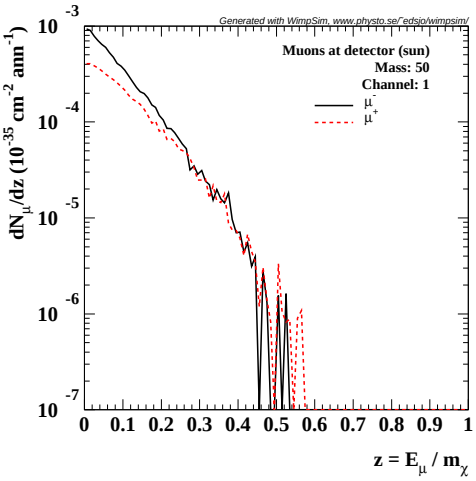


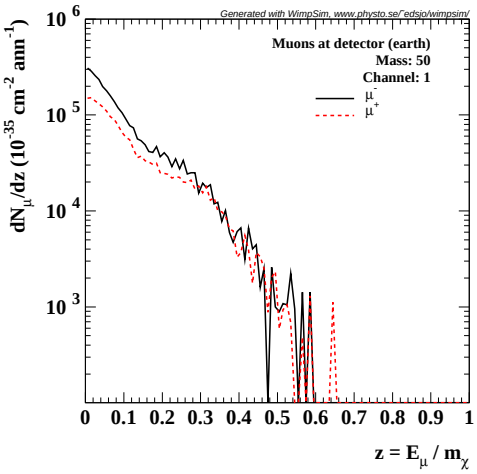
3.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





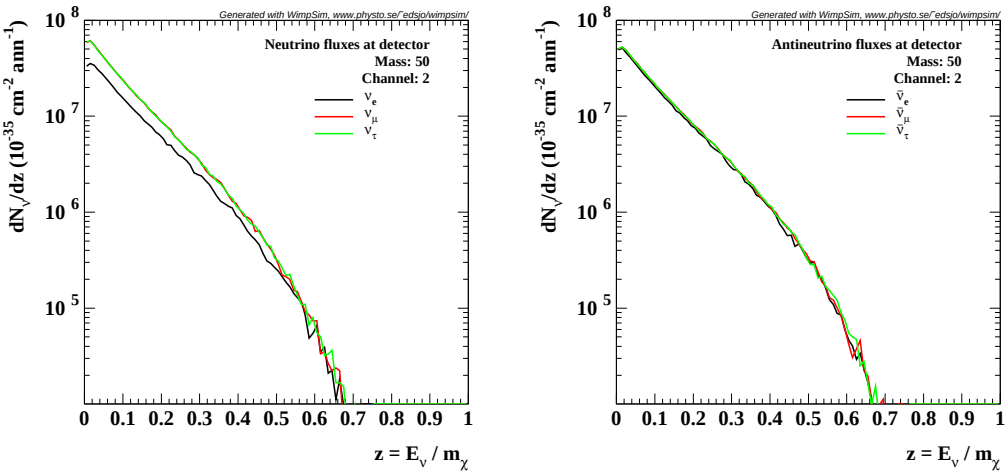
3.1.7 Muons at detector (Sun/Earth)



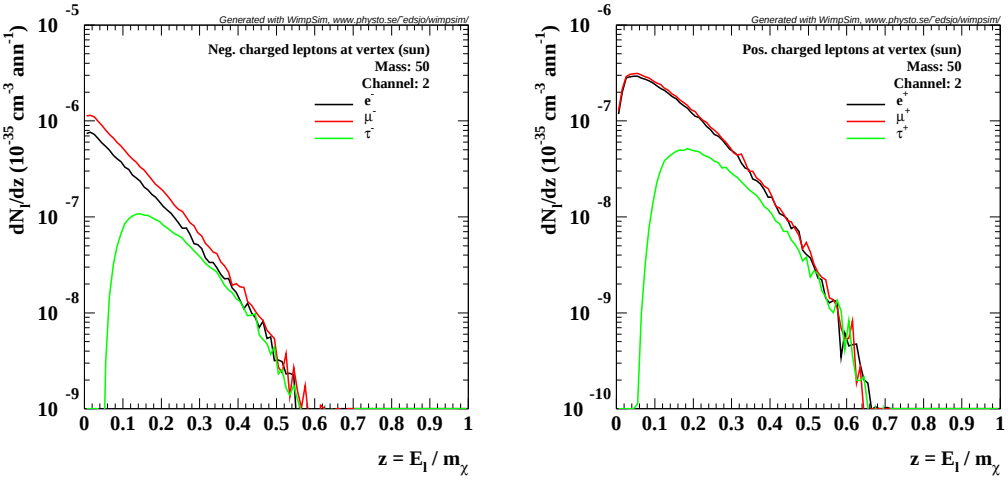


3.2 Channel 2 – $b\bar{b}$

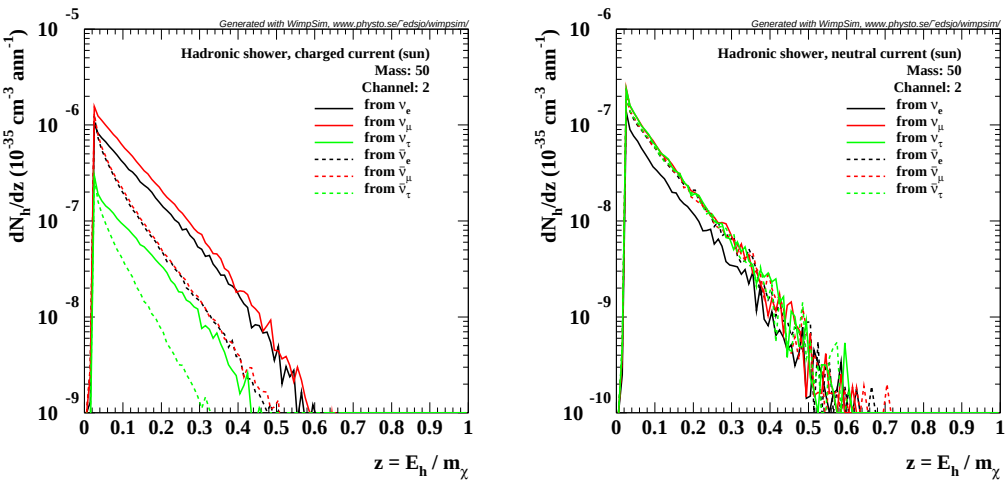
3.2.1 Neutrino fluxes at detector (Sun)



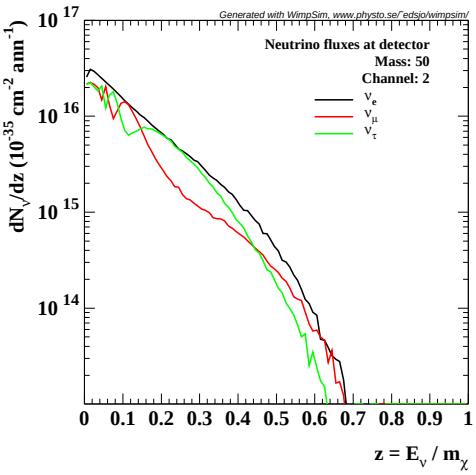
3.2.2 Charged leptons at neutrino-nucleon vertex (Sun)

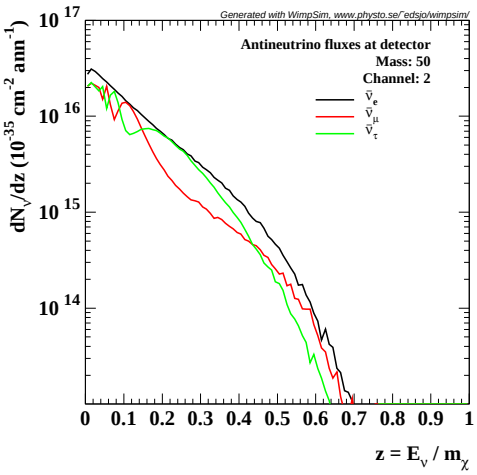


3.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)

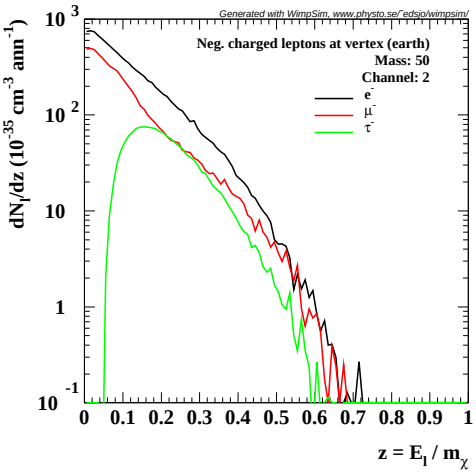


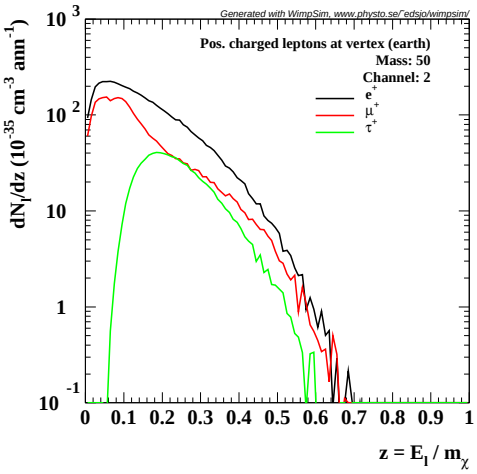
3.2.4 Neutrino fluxes at detector (Earth)



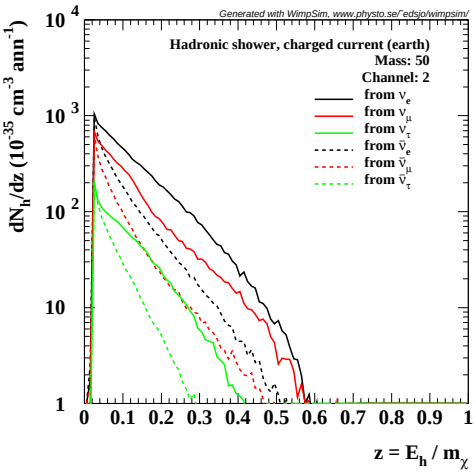


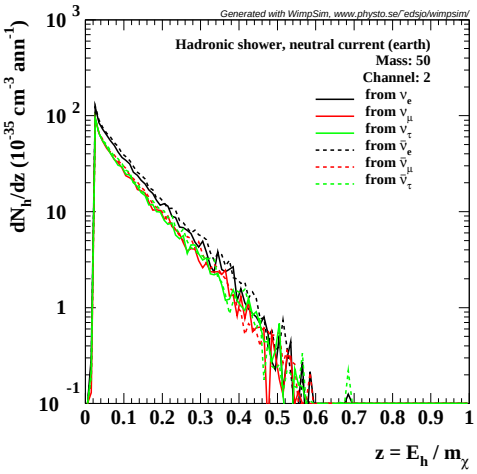
3.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



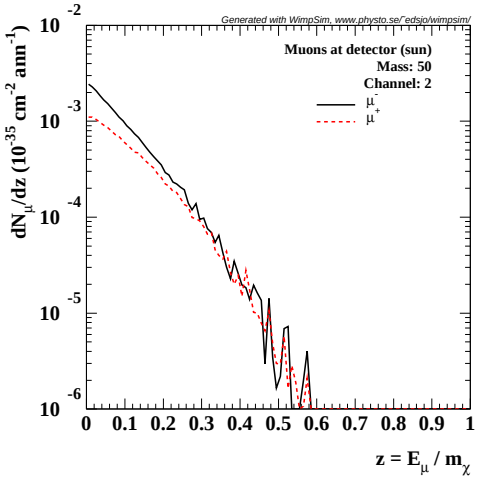


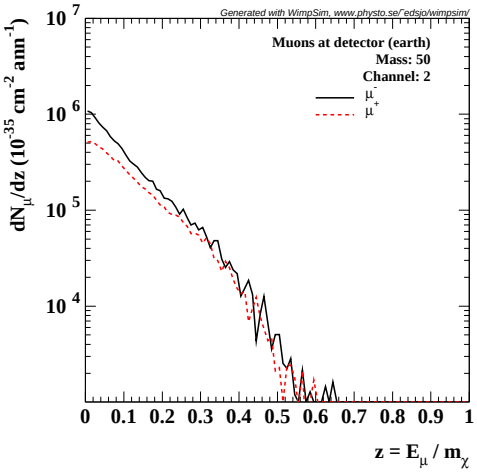
3.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





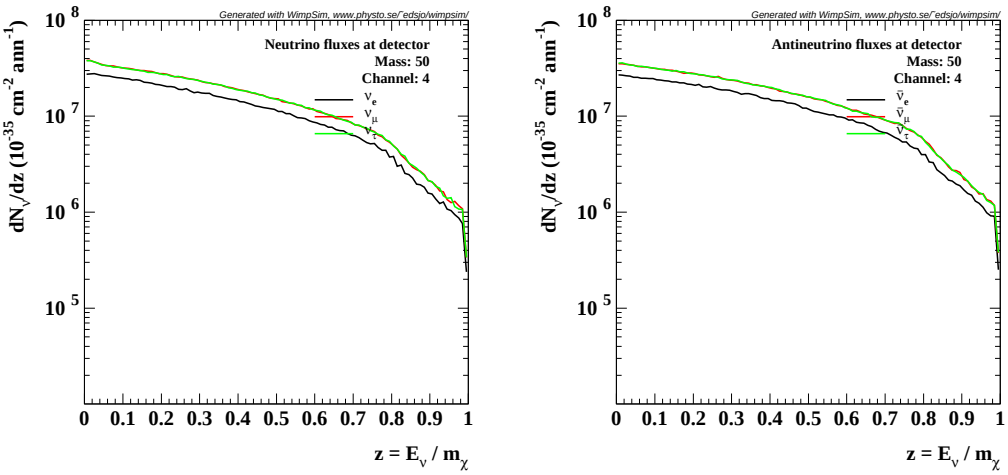
3.2.7 Muons at detector (Sun/Earth)



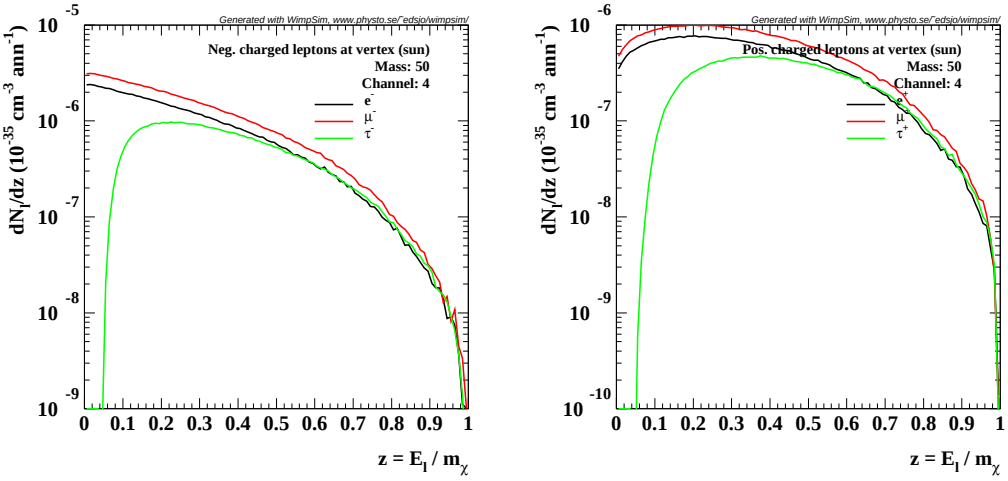


3.3 Channel 4 – $\tau^-\tau^+$

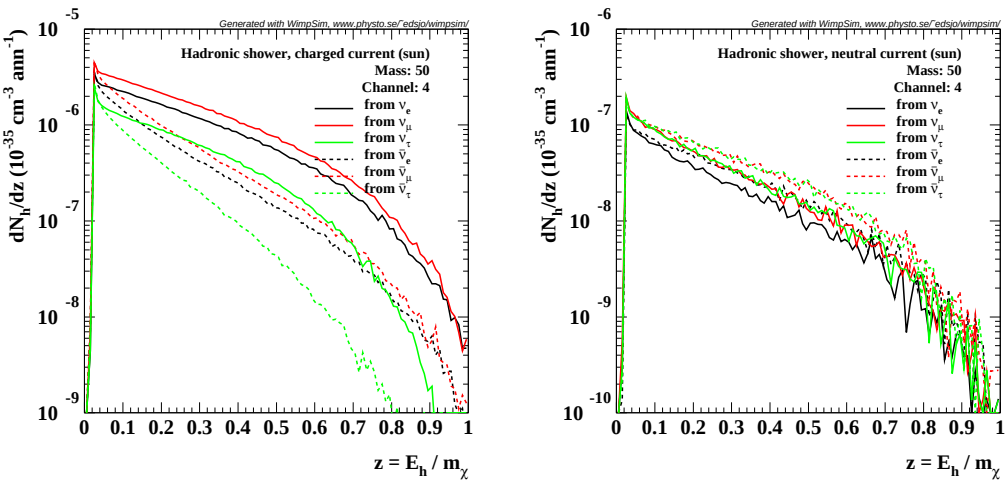
3.3.1 Neutrino fluxes at detector (Sun)



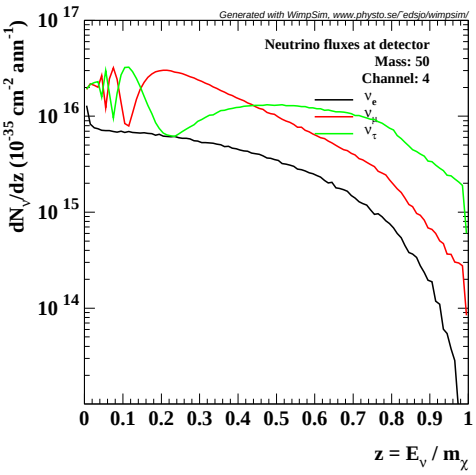
3.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

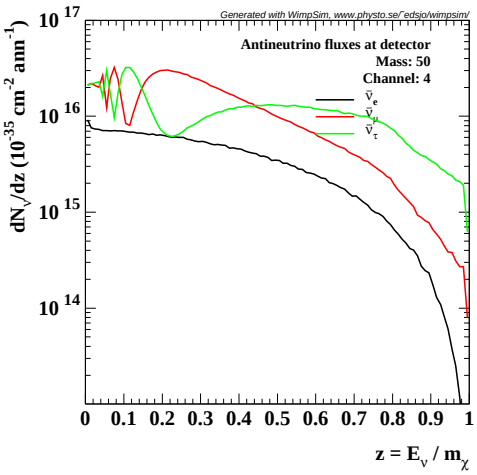


3.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

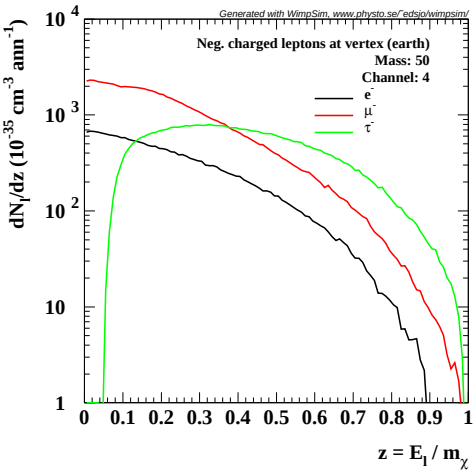


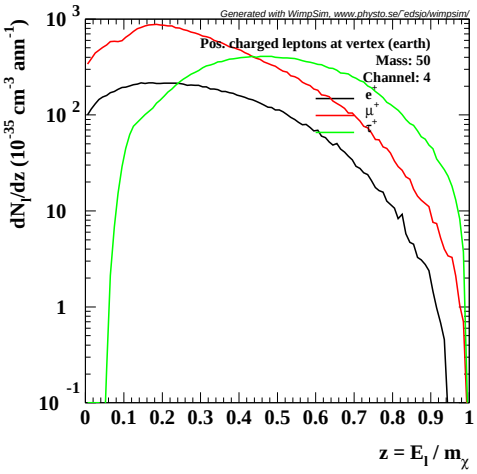
3.3.4 Neutrino fluxes at detector (Earth)



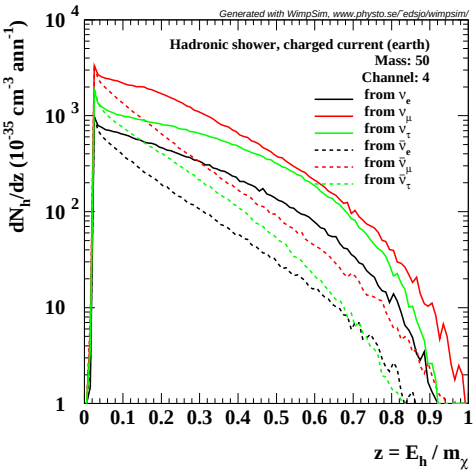


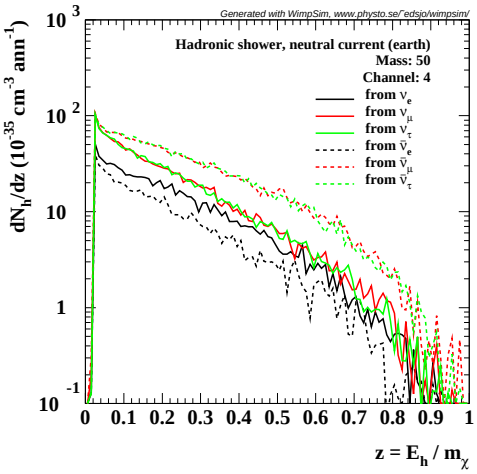
3.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



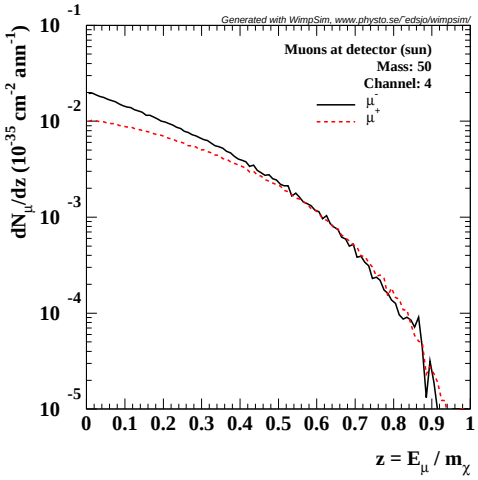


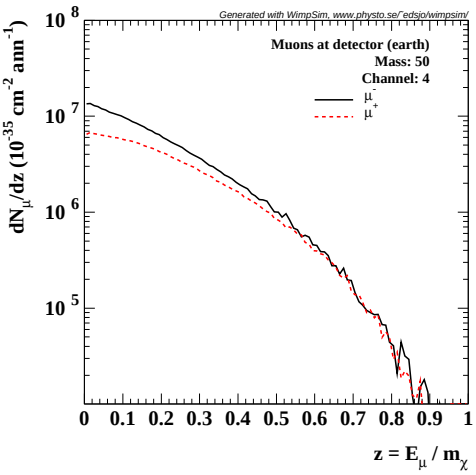
3.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





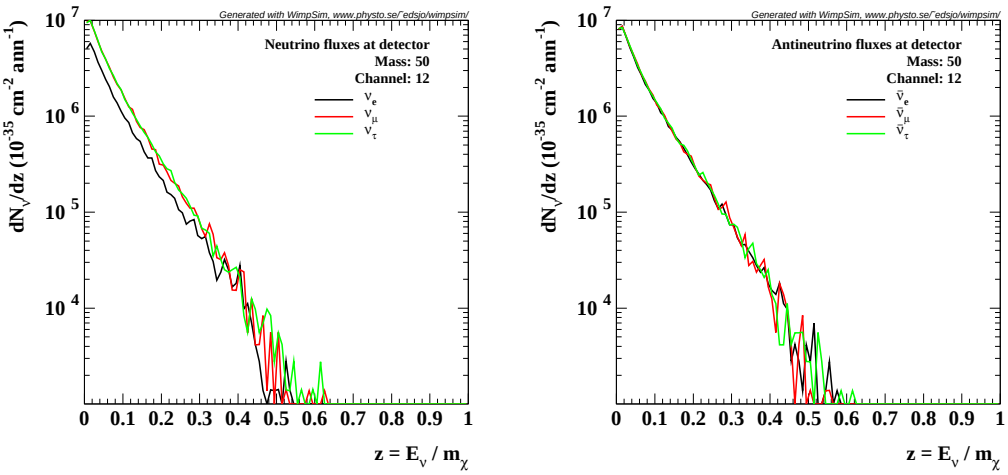
3.3.7 Muons at detector (Sun/Earth)



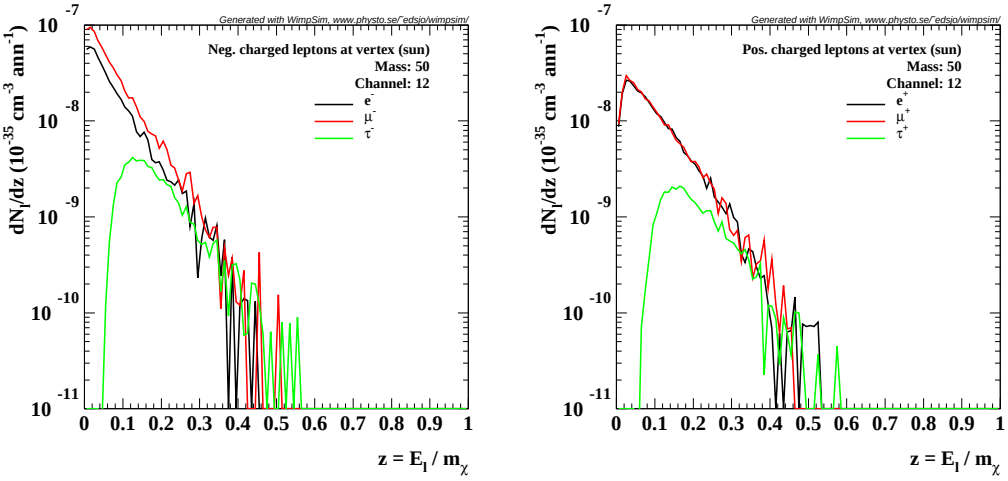


3.4 Channel 12 – gg

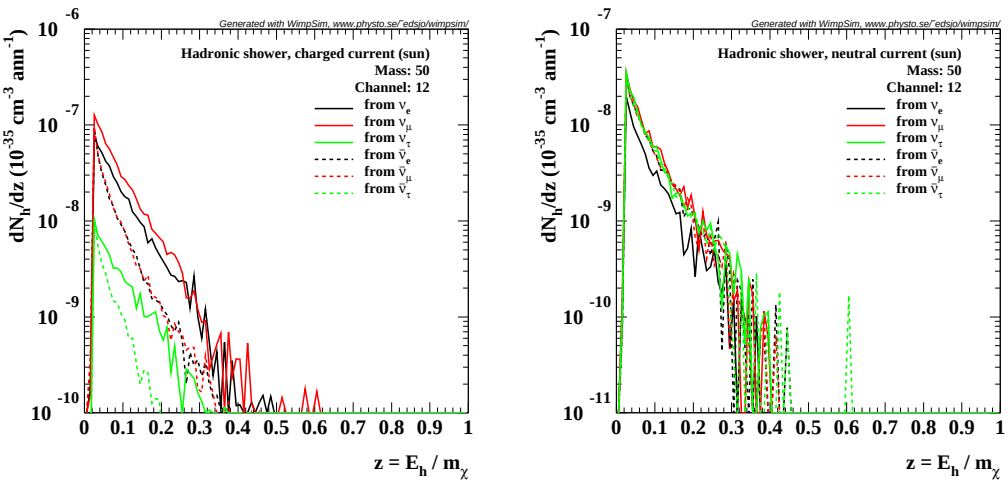
3.4.1 Neutrino fluxes at detector (Sun)



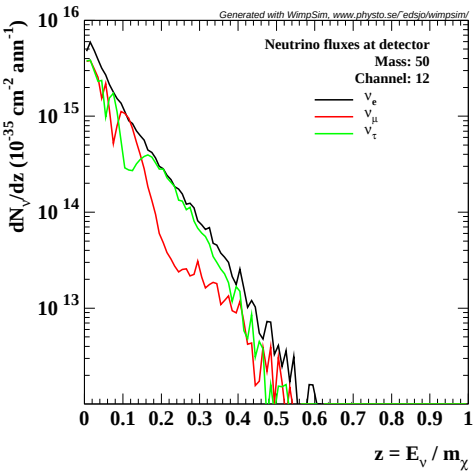
3.4.2 Charged leptons at neutrino-nucleon vertex (Sun)

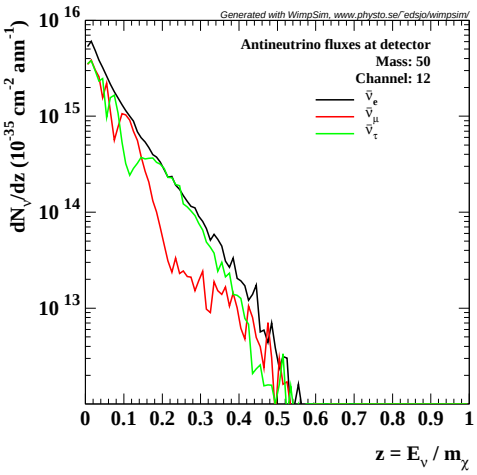


3.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)

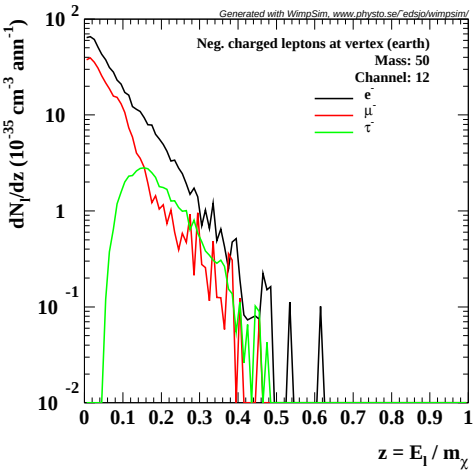


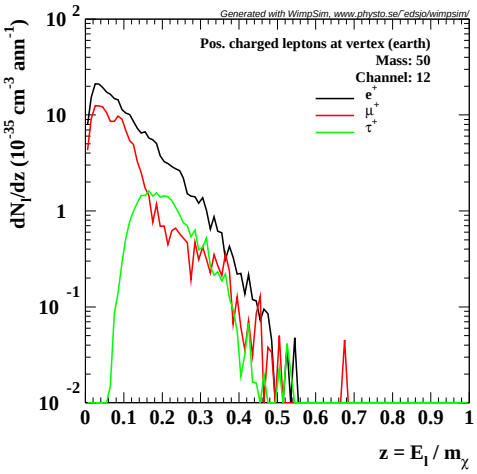
3.4.4 Neutrino fluxes at detector (Earth)



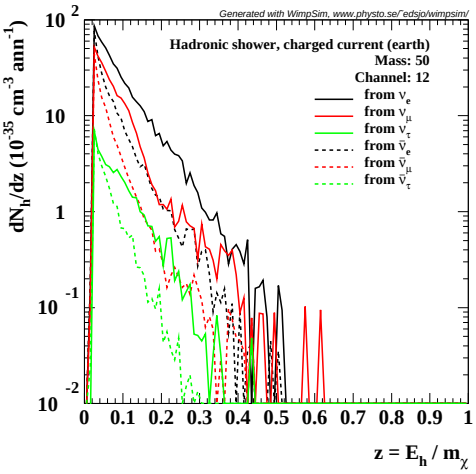


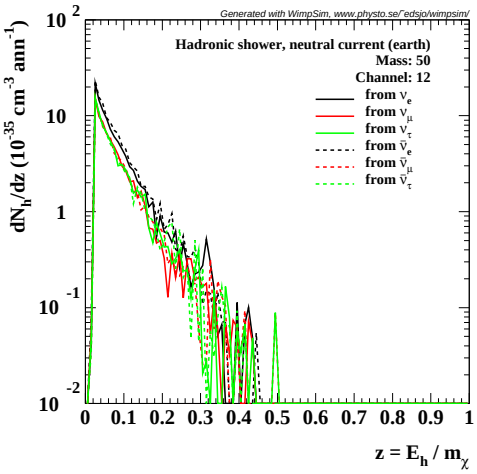
3.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



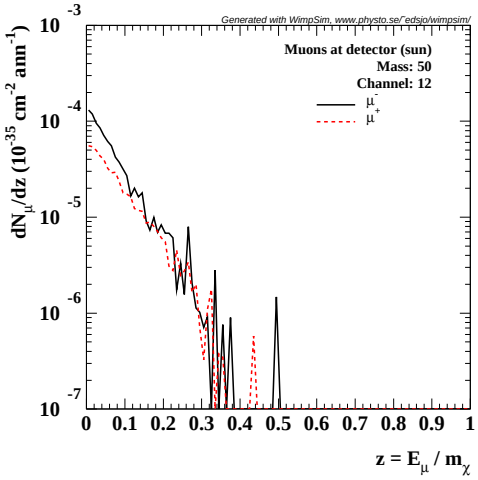


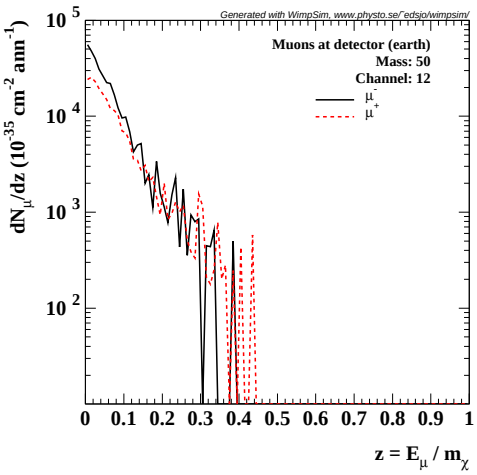
3.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





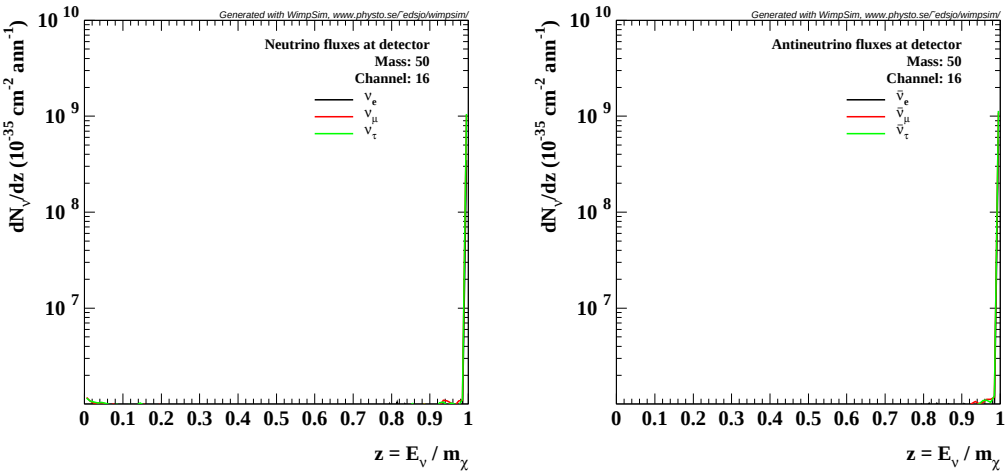
3.4.7 Muons at detector (Sun/Earth)



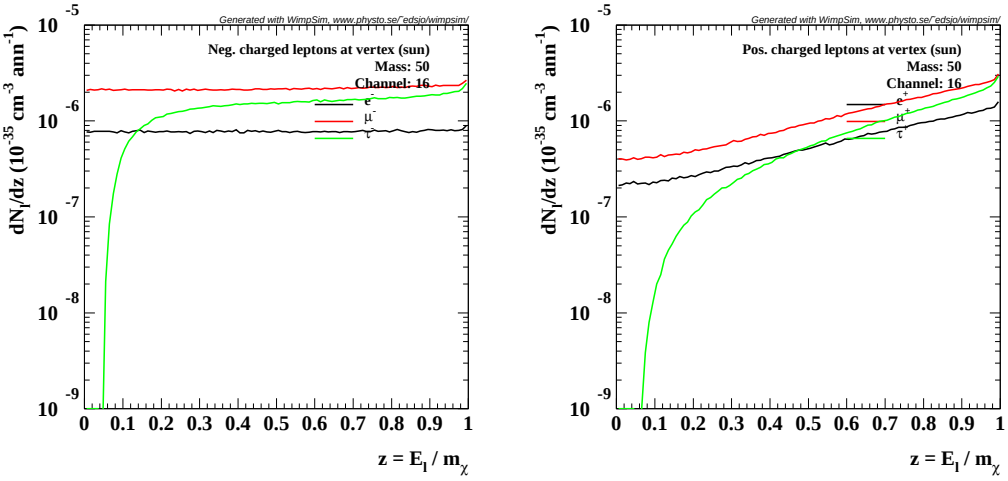


3.5 Channel 16 – $\nu_e\bar{\nu}_e$

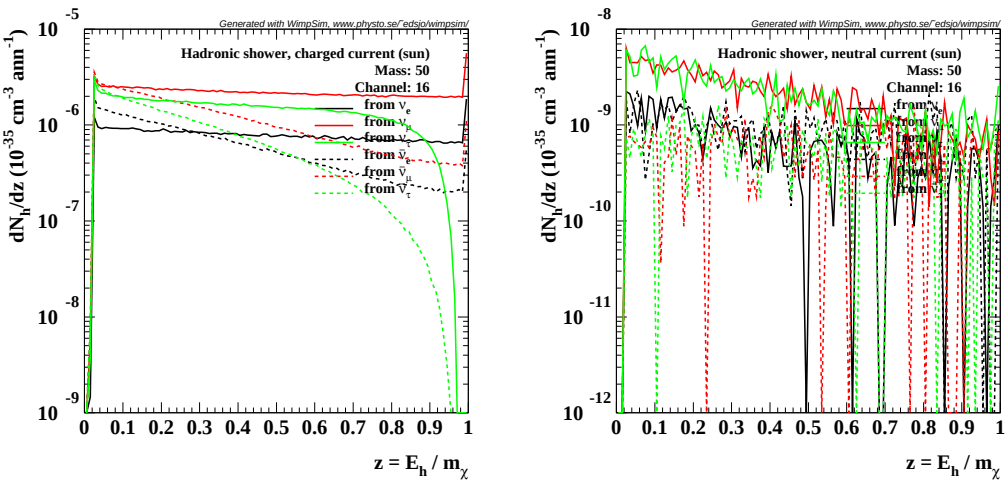
3.5.1 Neutrino fluxes at detector (Sun)



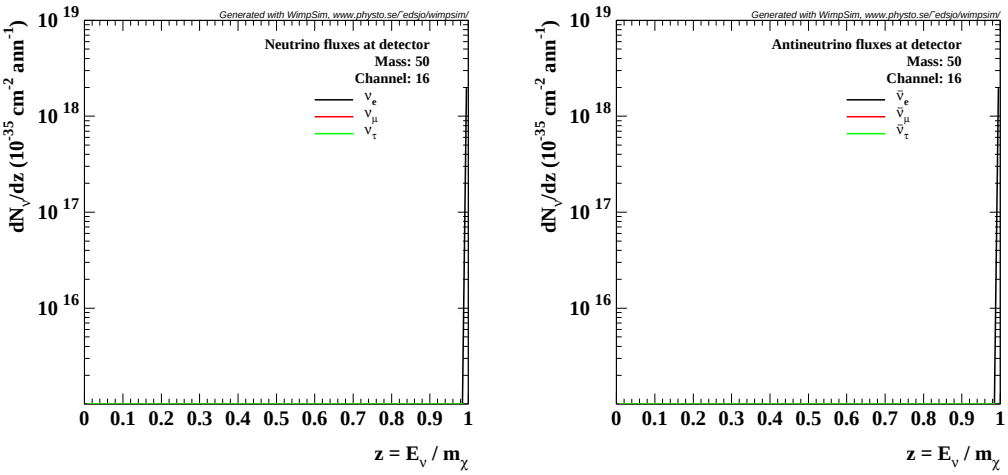
3.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



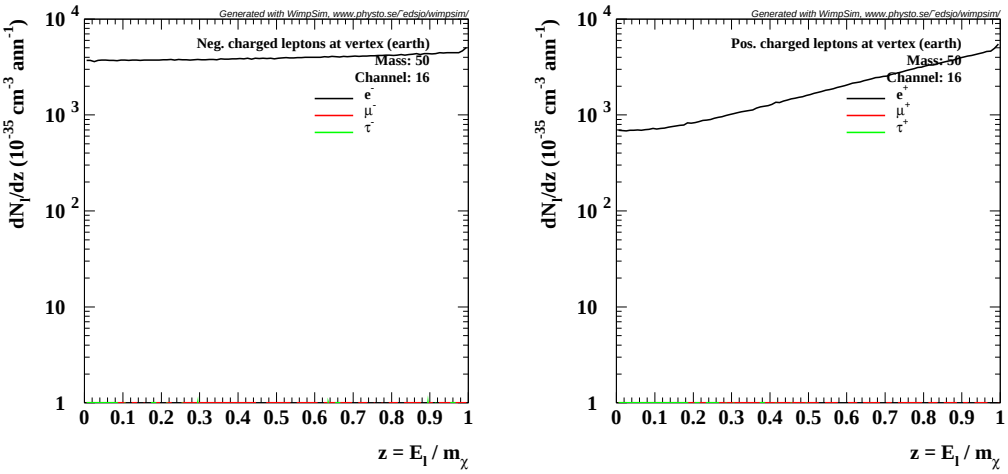
3.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



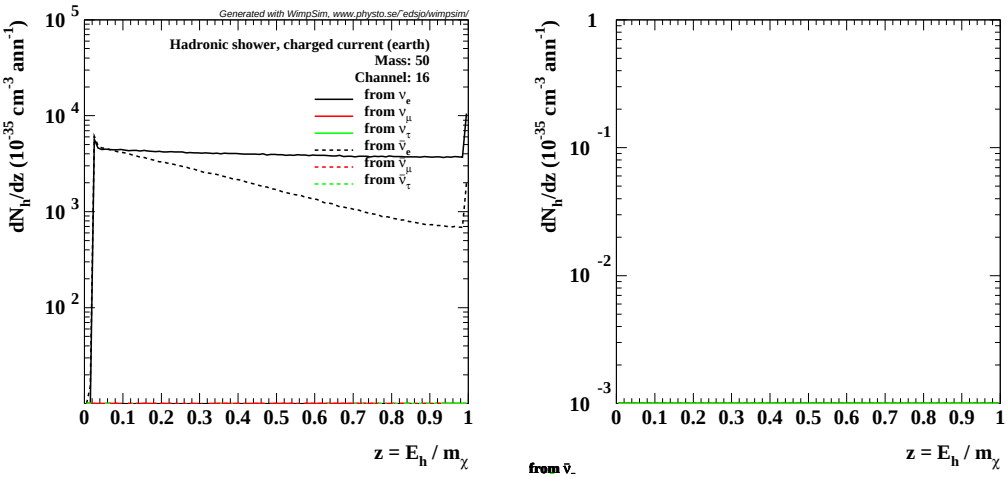
3.5.4 Neutrino fluxes at detector (Earth)



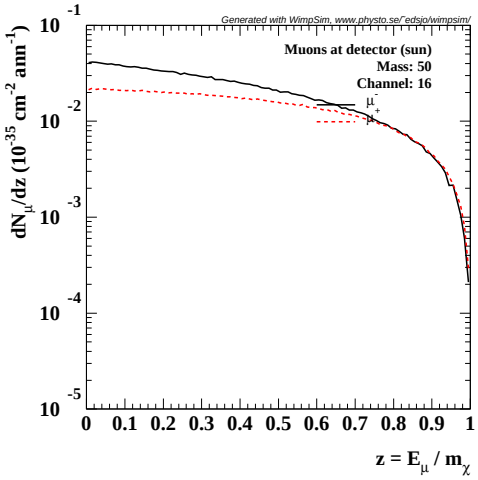
3.5.5 Charged leptons at neutrino-nucleon vertex (Earth)

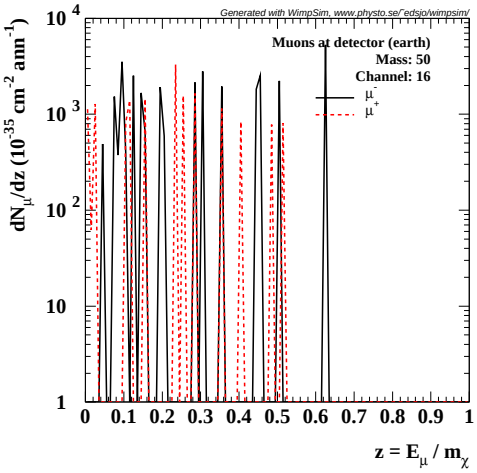


3.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)



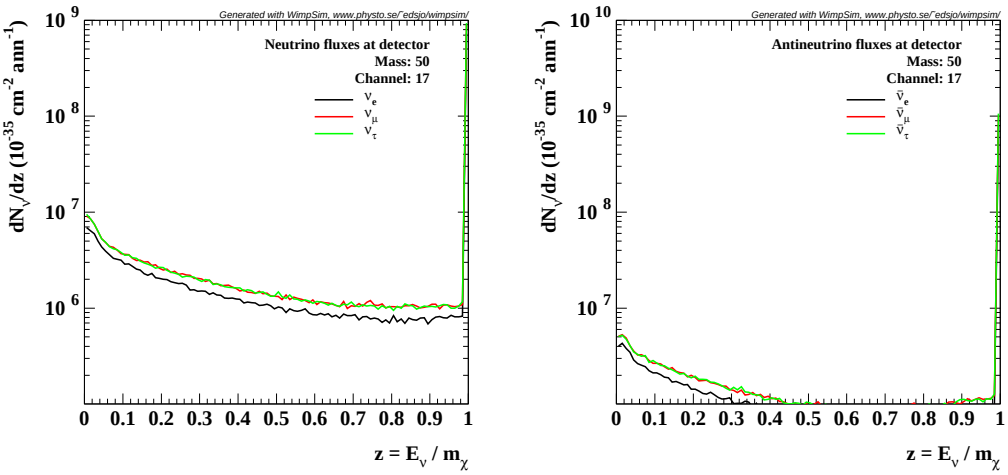
3.5.7 Muons at detector (Sun/Earth)



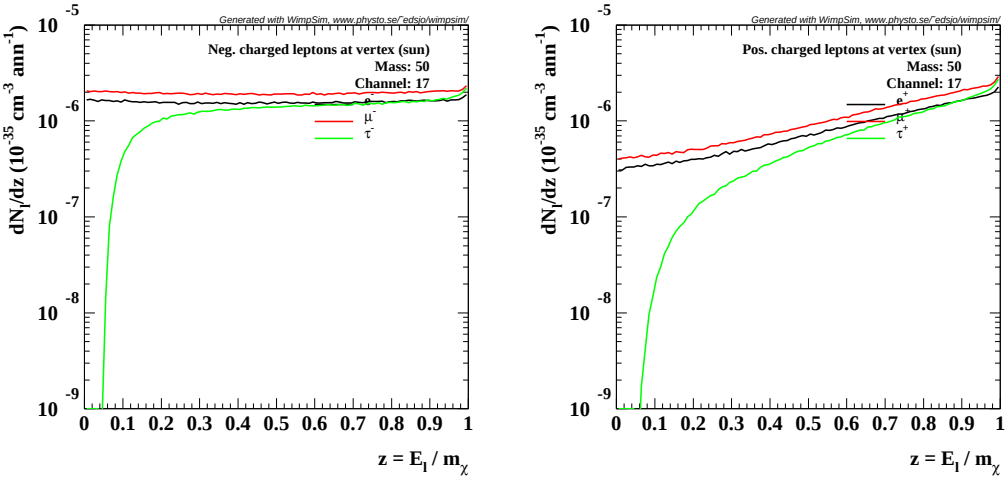


3.6 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

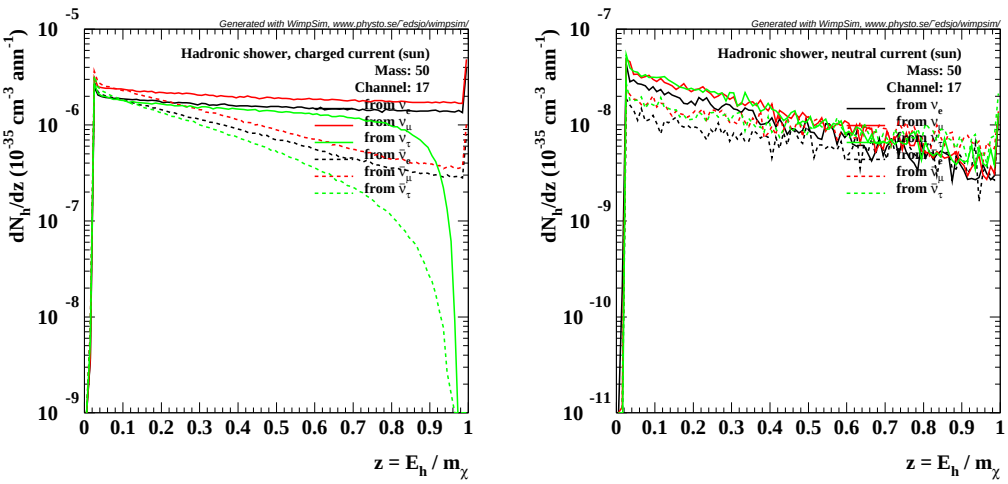
3.6.1 Neutrino fluxes at detector (Sun)



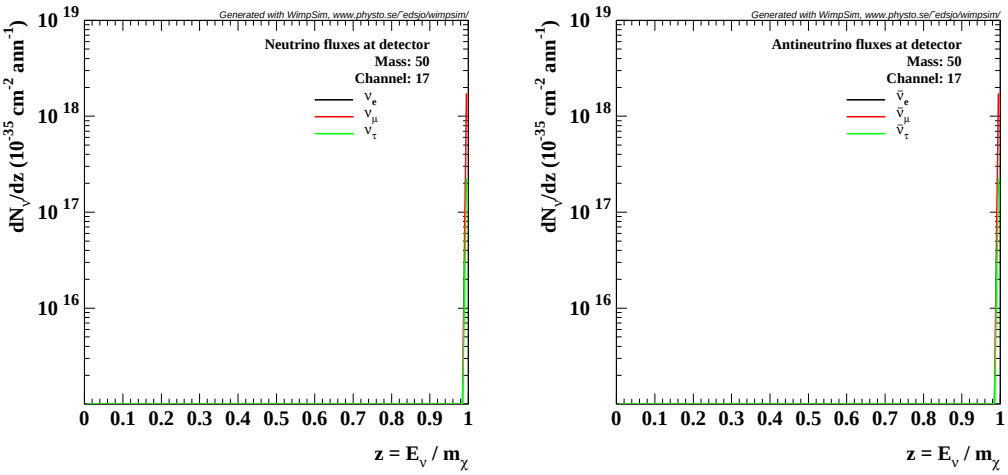
3.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



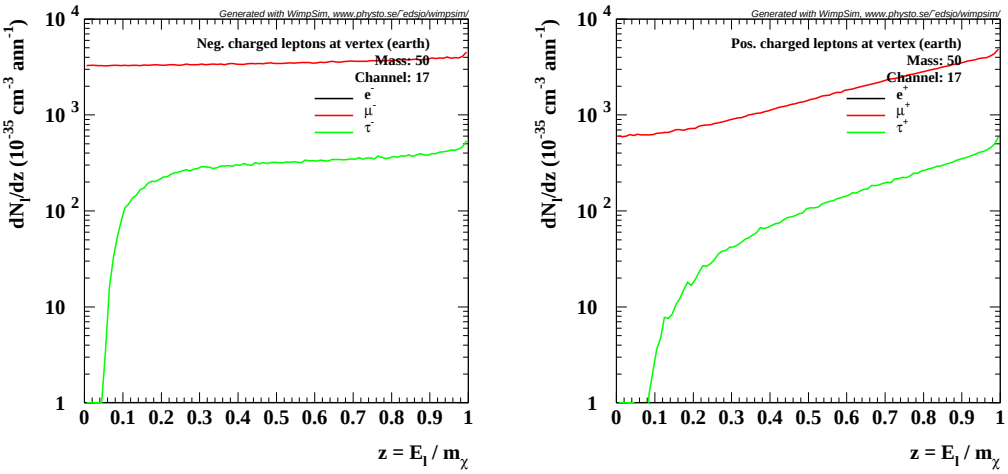
3.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



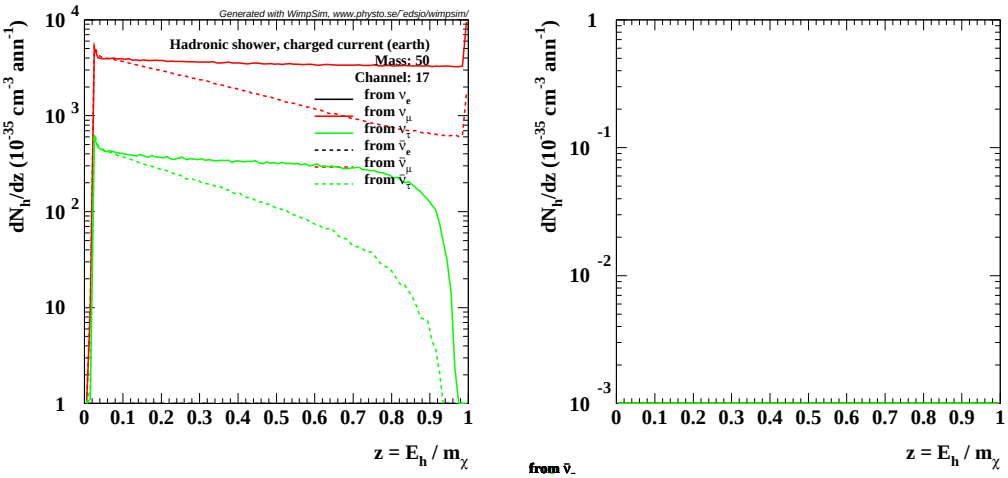
3.6.4 Neutrino fluxes at detector (Earth)



3.6.5 Charged leptons at neutrino-nucleon vertex (Earth)

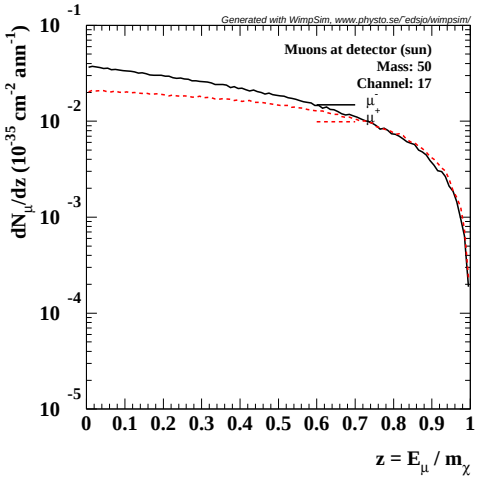


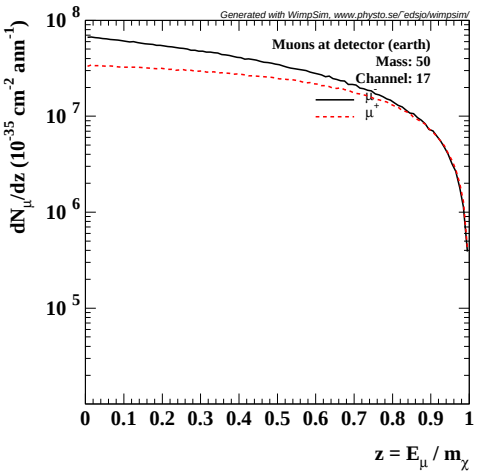
3.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

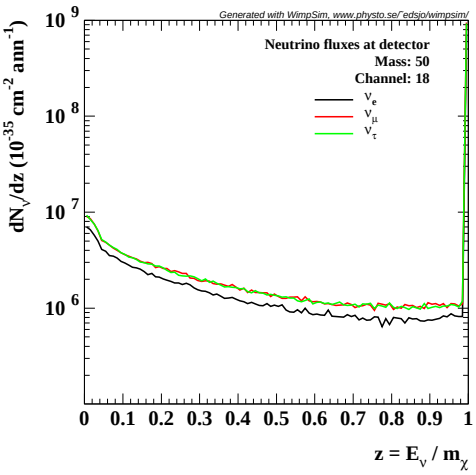
3.6.7 Muons at detector (Sun/Earth)

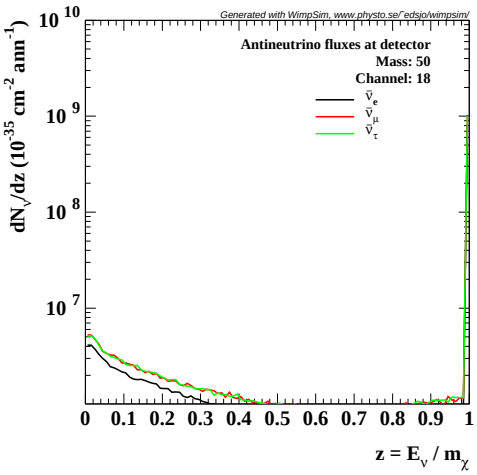




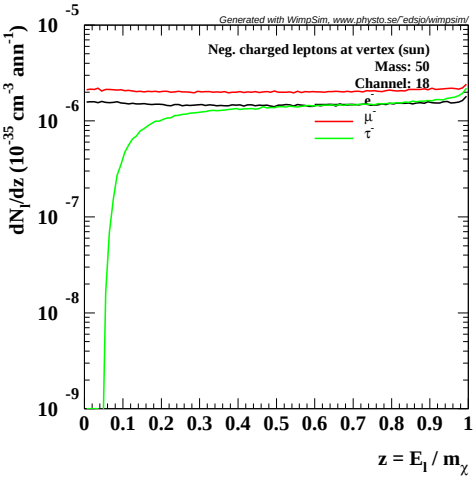
3.7 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

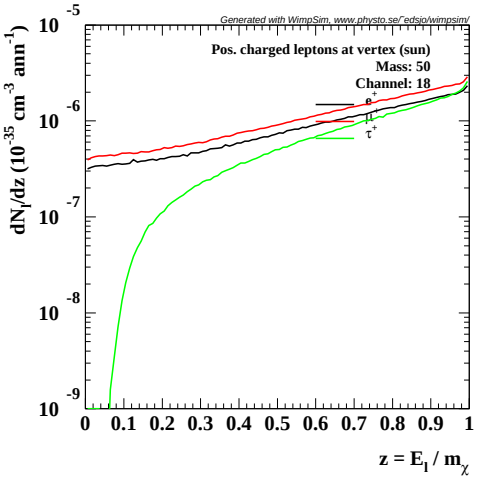
3.7.1 Neutrino fluxes at detector (Sun)



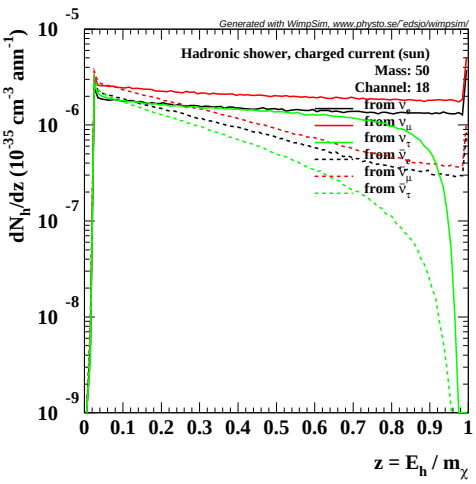


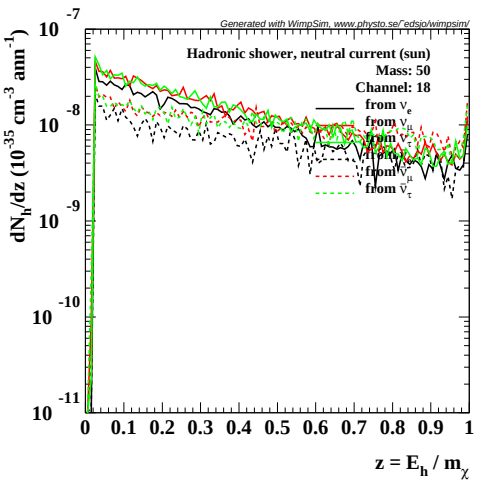
3.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



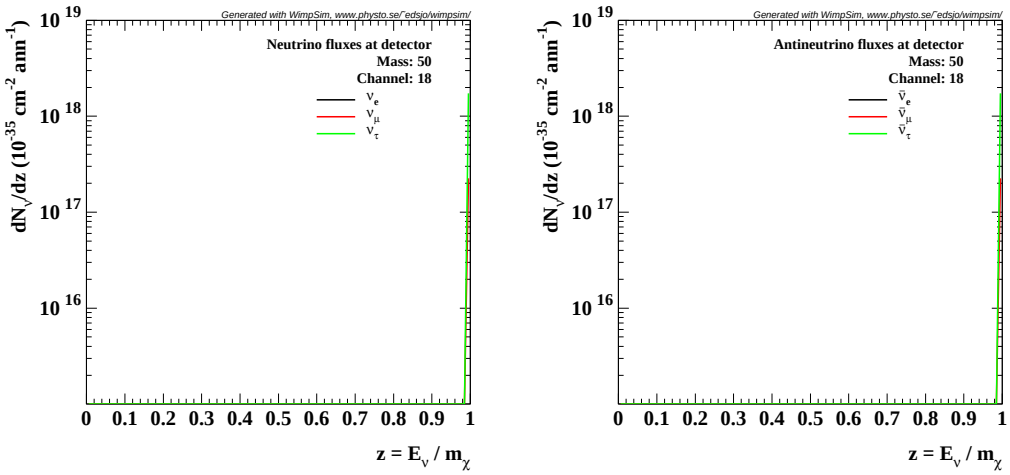


3.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

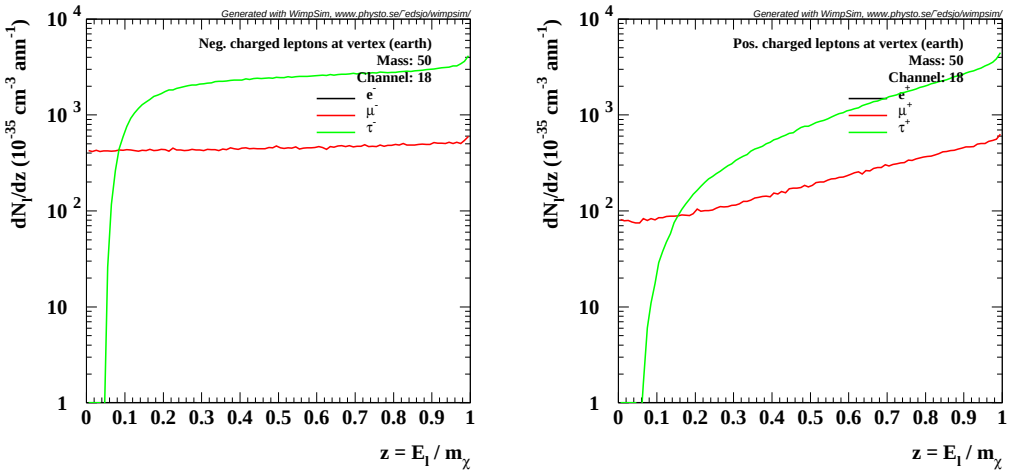




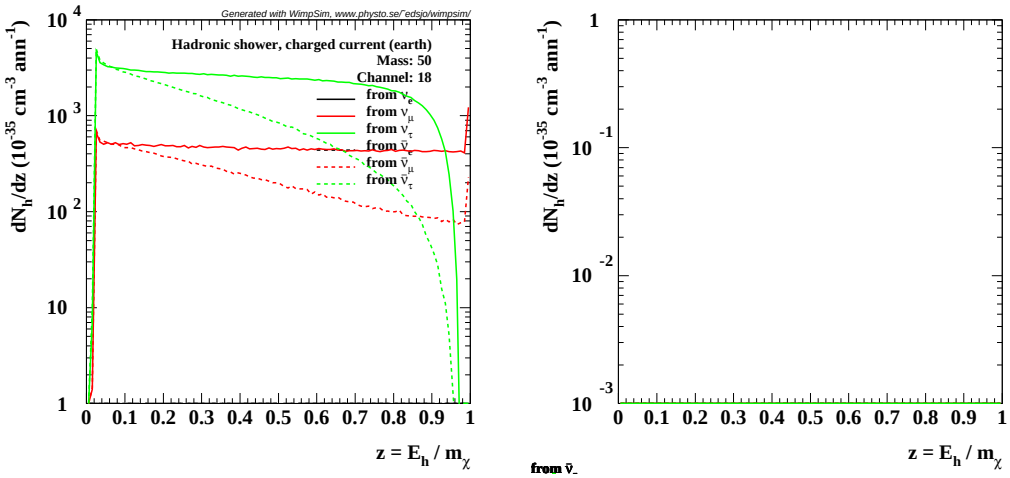
3.7.4 Neutrino fluxes at detector (Earth)



3.7.5 Charged leptons at neutrino-nucleon vertex (Earth)

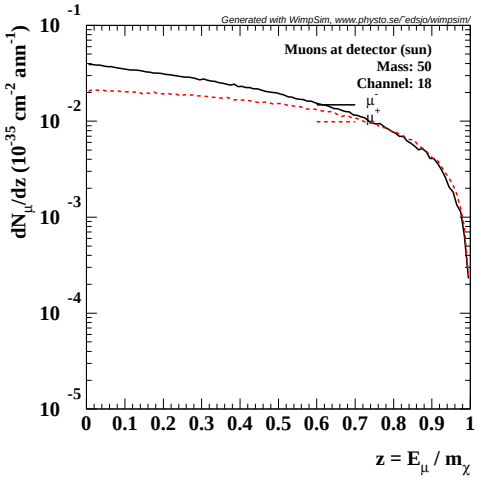


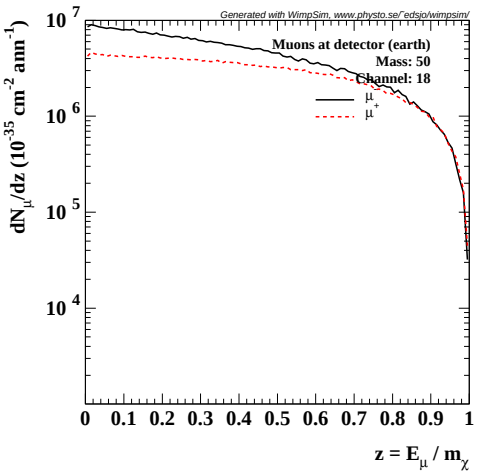
3.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

3.7.7 Muons at detector (Sun/Earth)

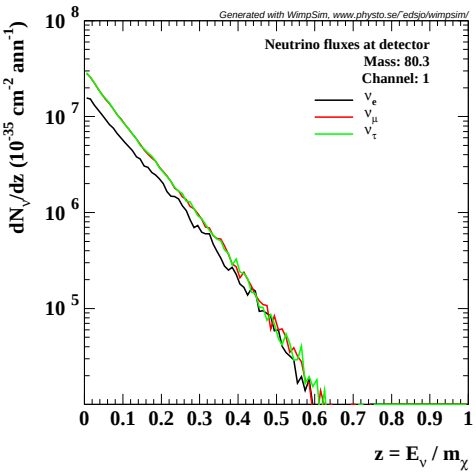


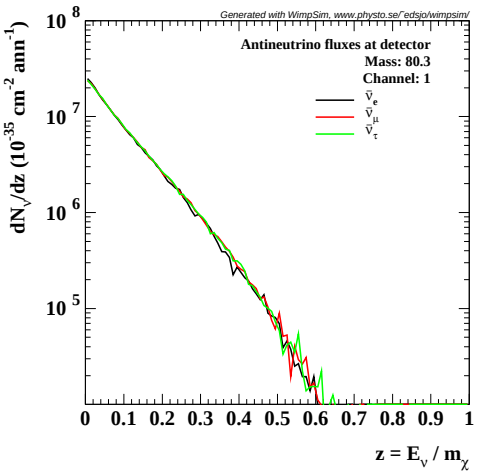


4 Mass 80.3

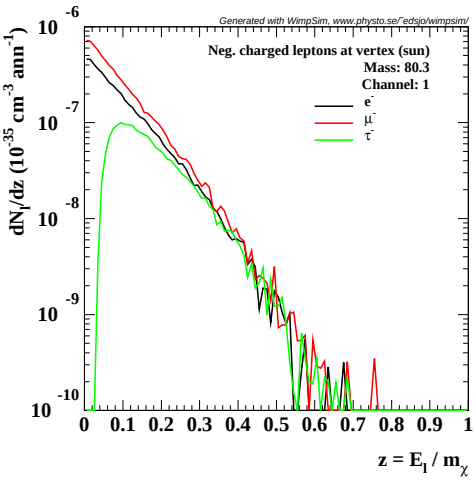
4.1 Channel 1 – $c\bar{c}$

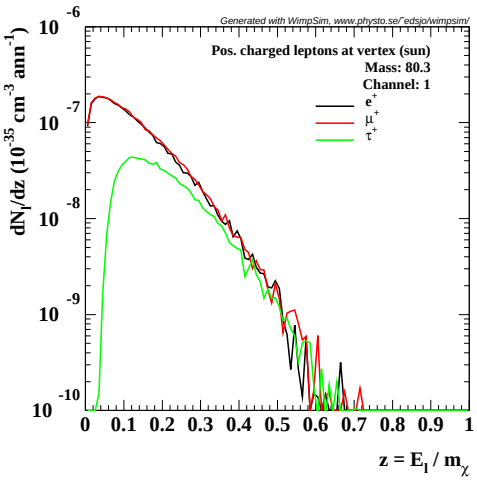
4.1.1 Neutrino fluxes at detector (Sun)



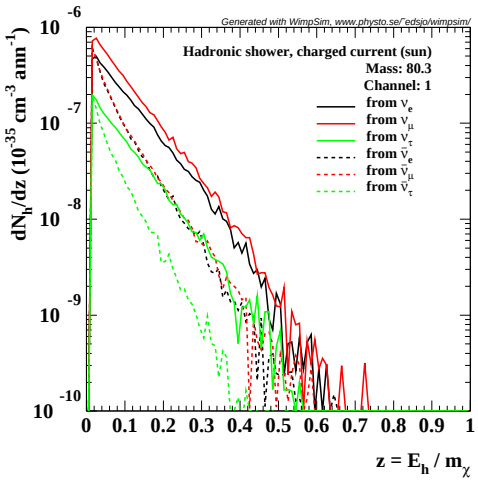


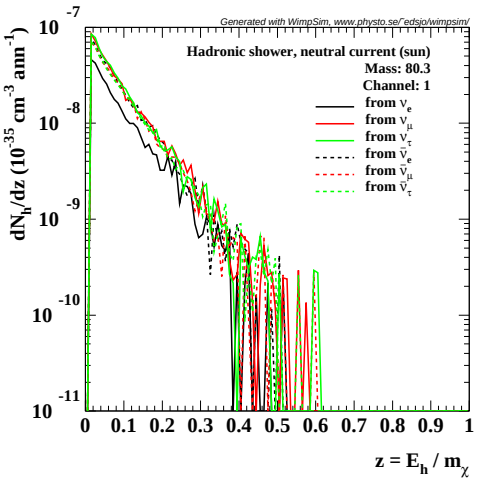
4.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



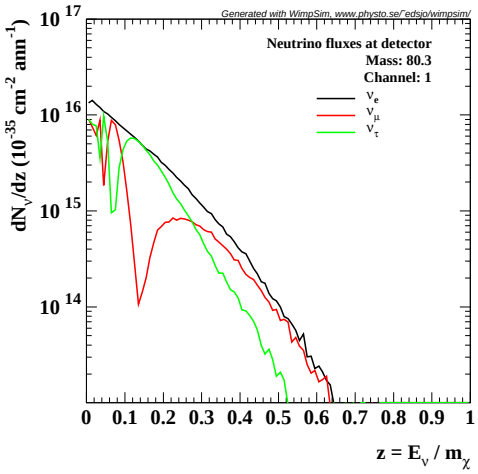


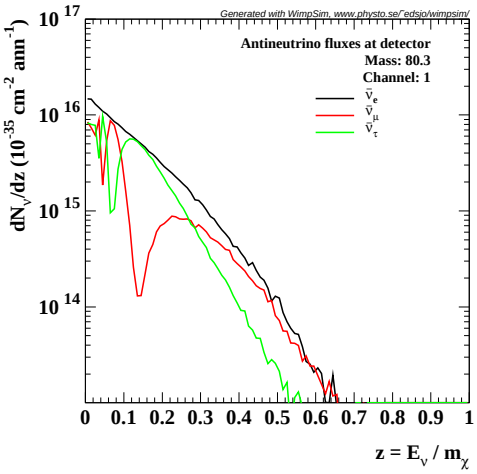
4.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



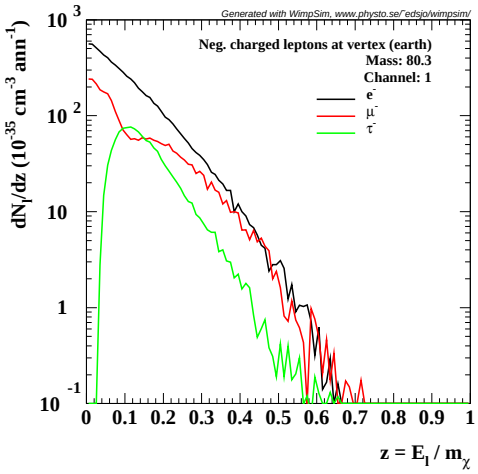


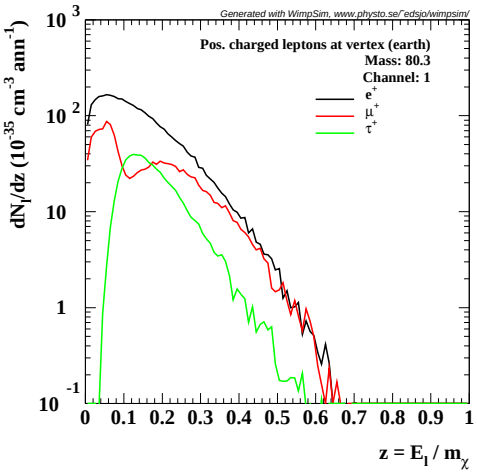
4.1.4 Neutrino fluxes at detector (Earth)



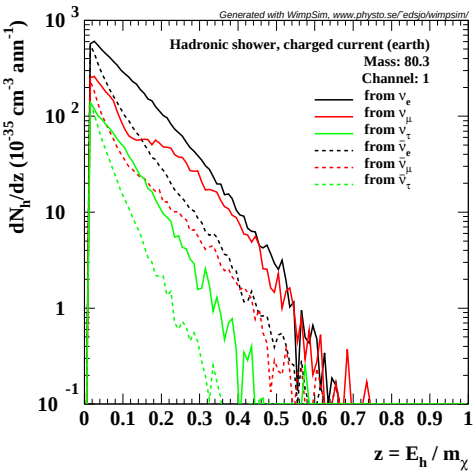


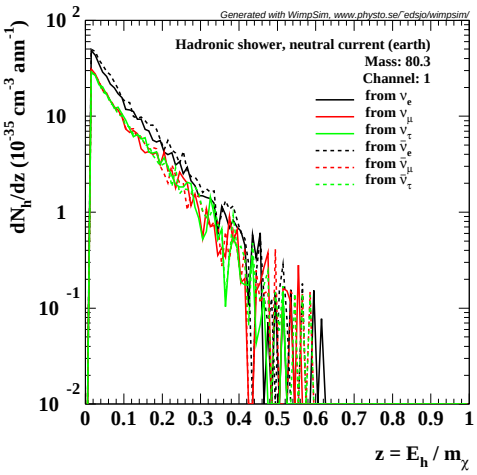
4.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



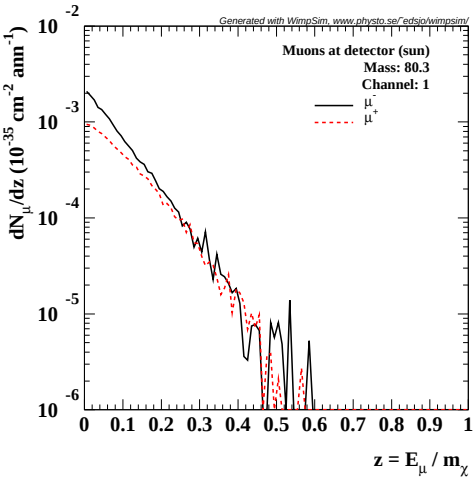


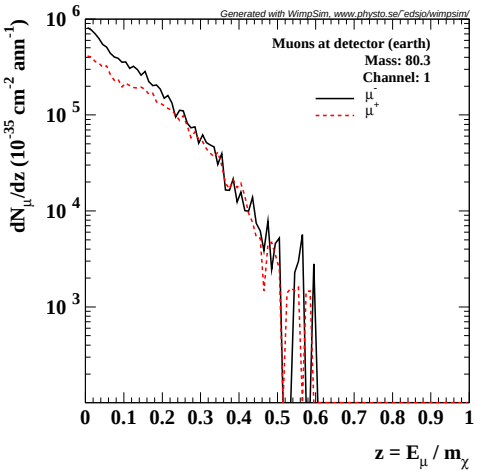
4.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





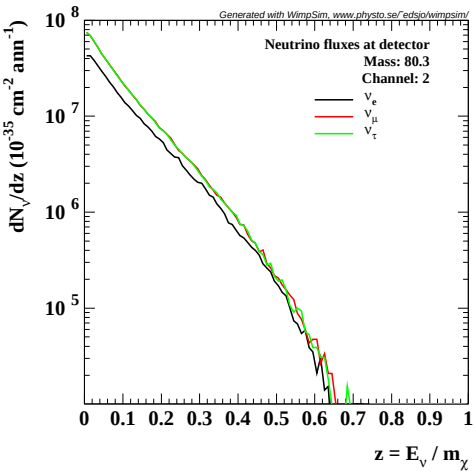
4.1.7 Muons at detector (Sun/Earth)

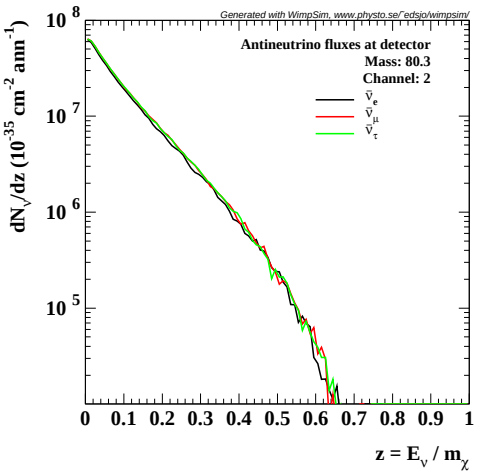




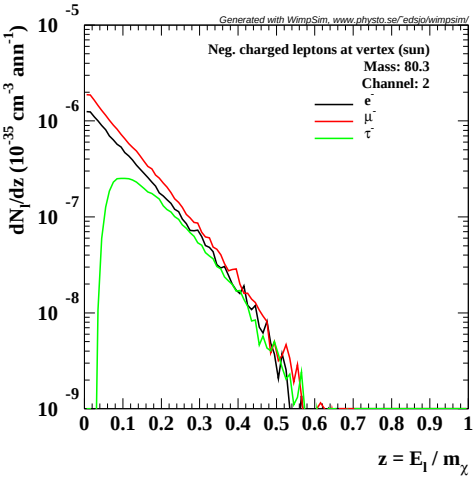
4.2 Channel 2 – $b\bar{b}$

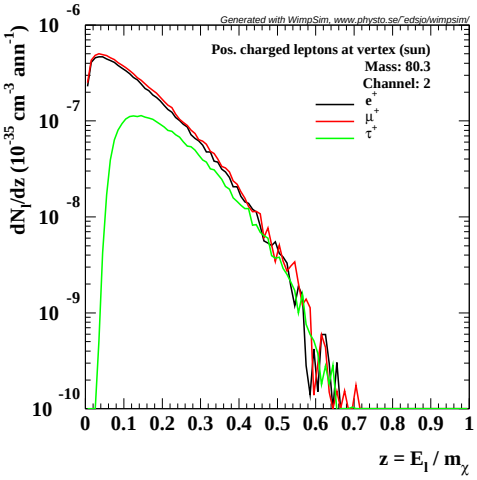
4.2.1 Neutrino fluxes at detector (Sun)



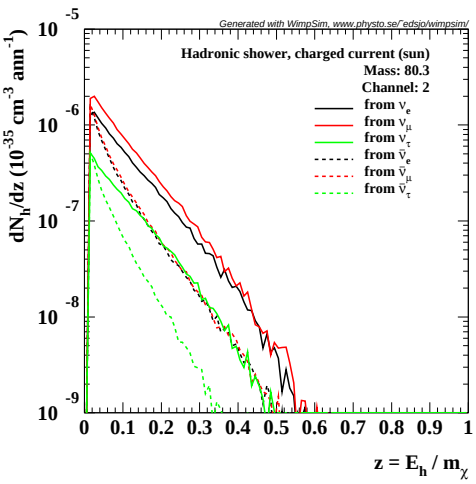


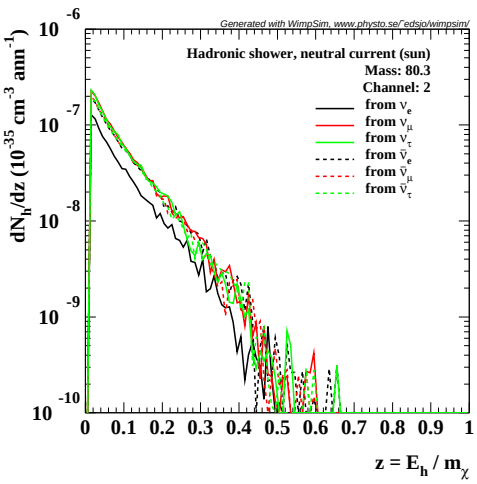
4.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



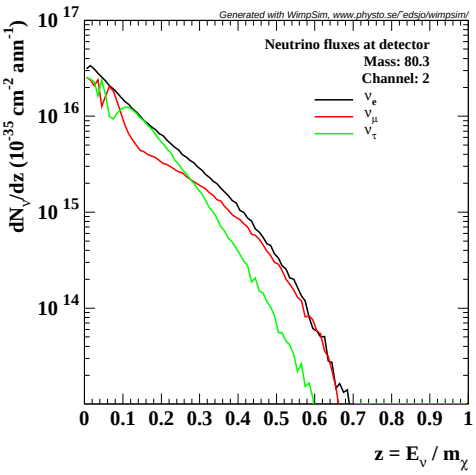


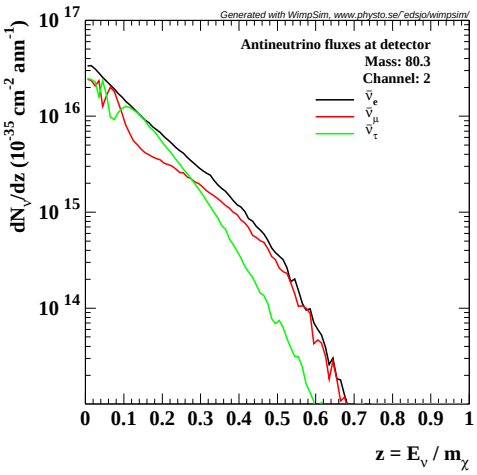
4.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



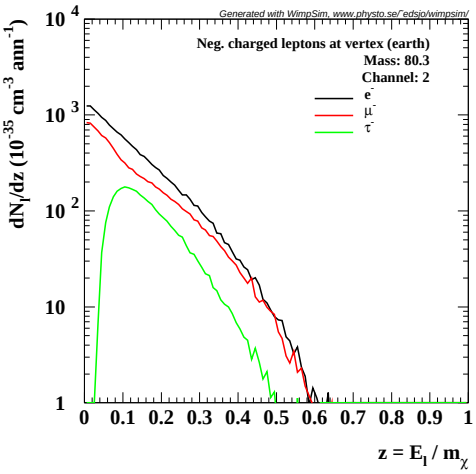


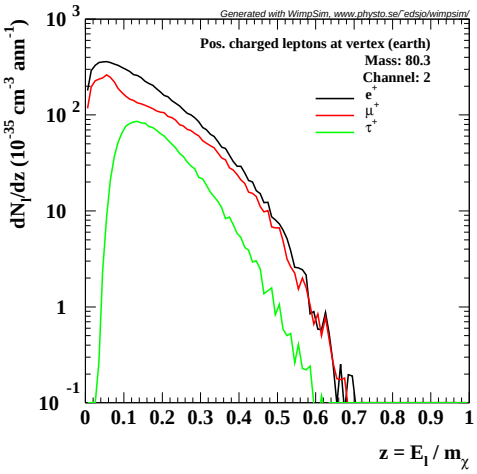
4.2.4 Neutrino fluxes at detector (Earth)



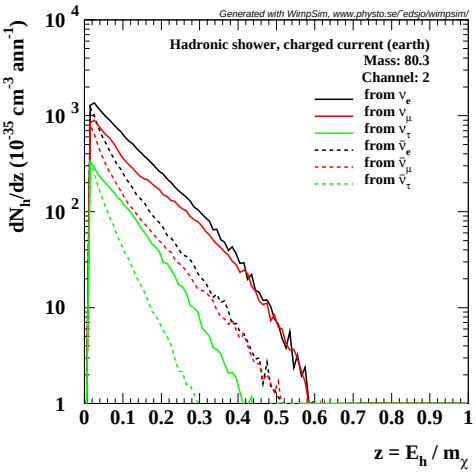


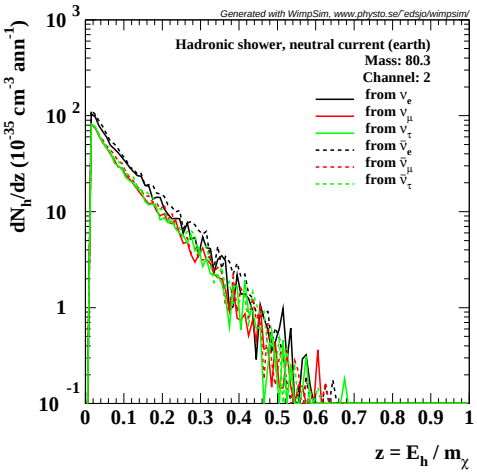
4.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



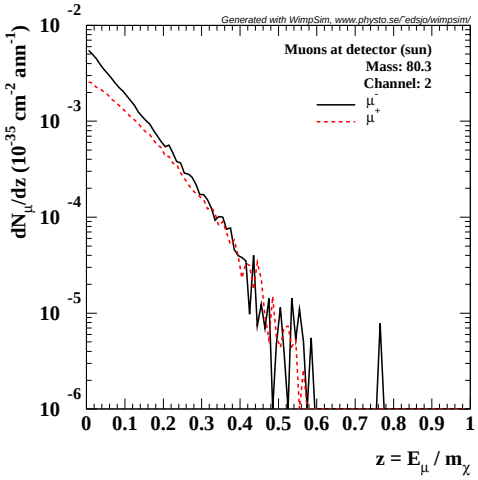


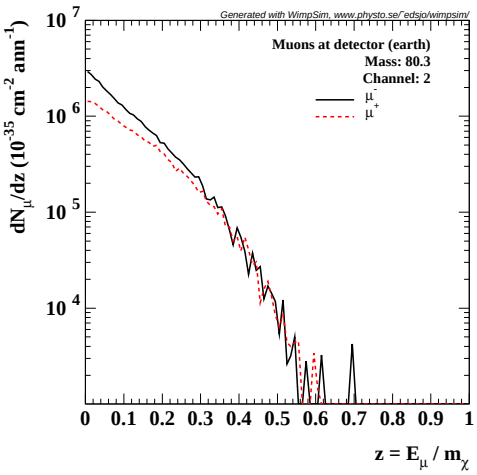
4.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





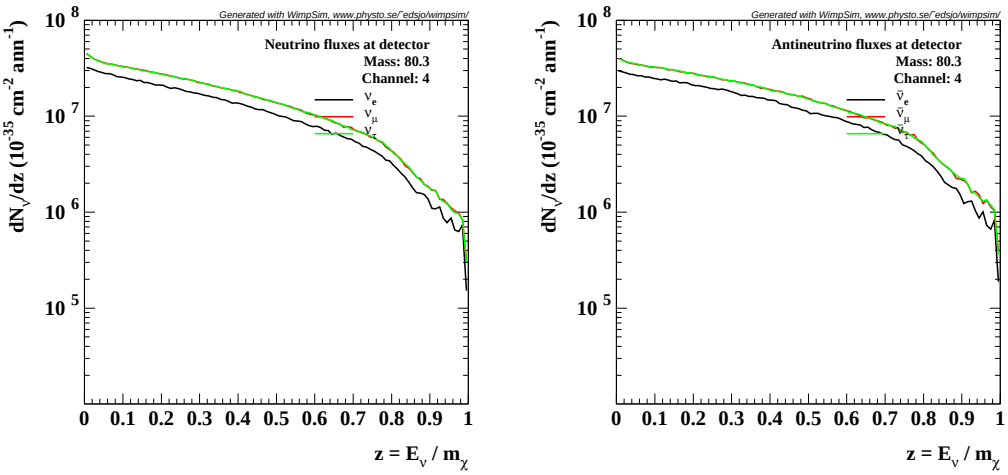
4.2.7 Muons at detector (Sun/Earth)



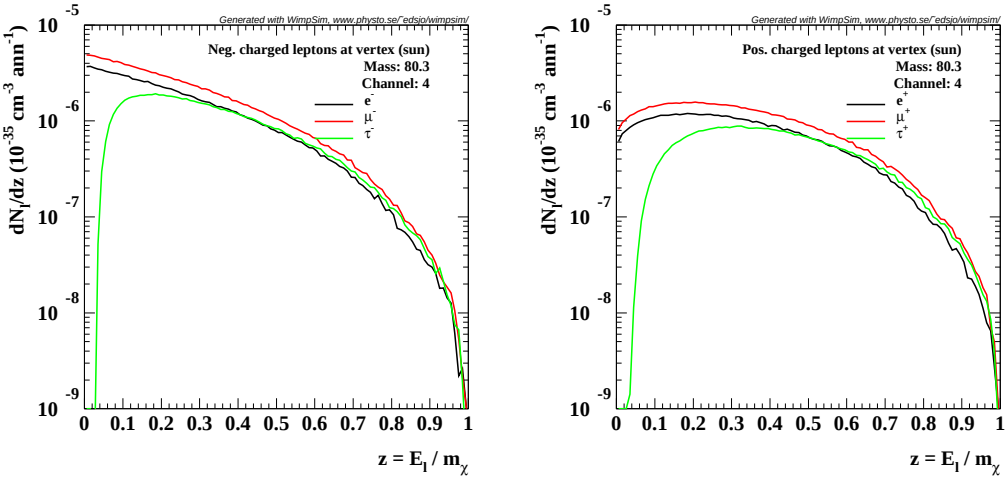


4.3 Channel 4 – $\tau^-\tau^+$

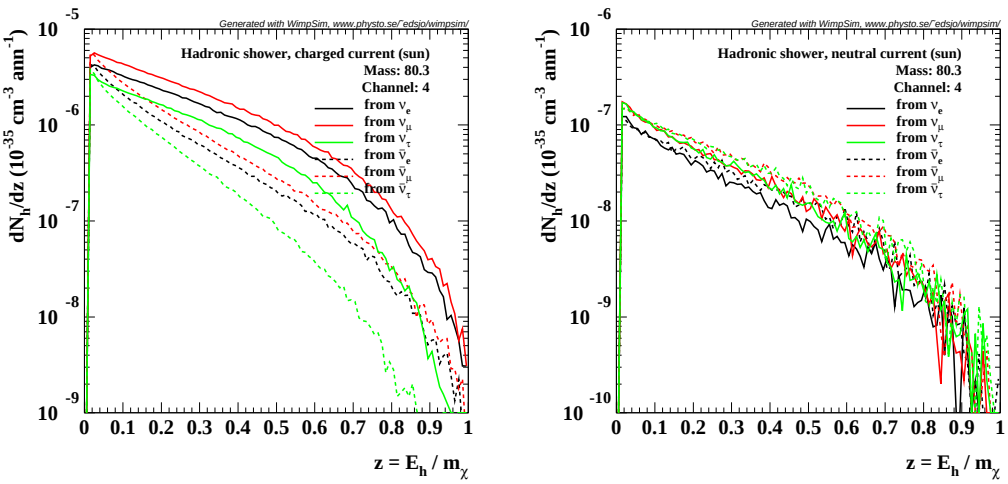
4.3.1 Neutrino fluxes at detector (Sun)



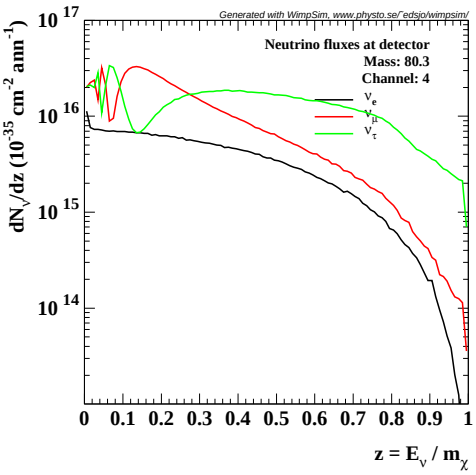
4.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

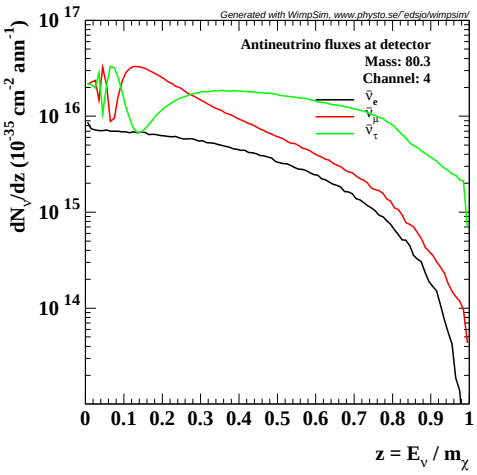


4.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

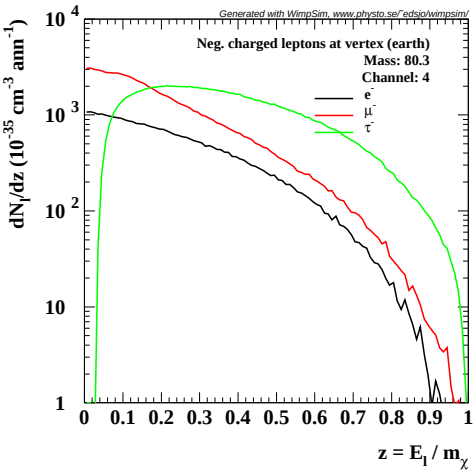


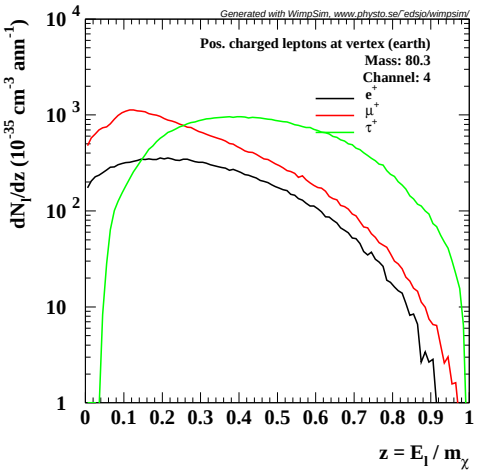
4.3.4 Neutrino fluxes at detector (Earth)



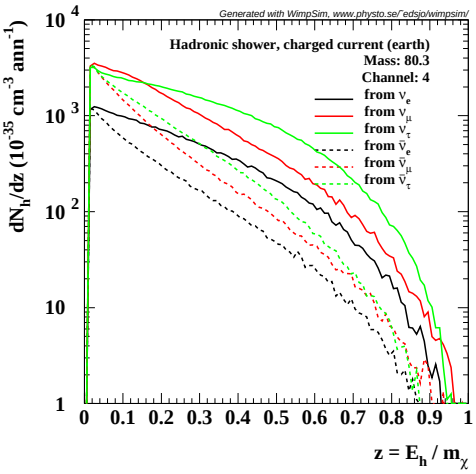


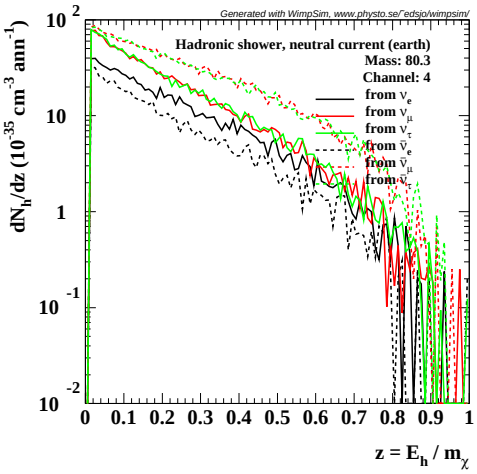
4.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



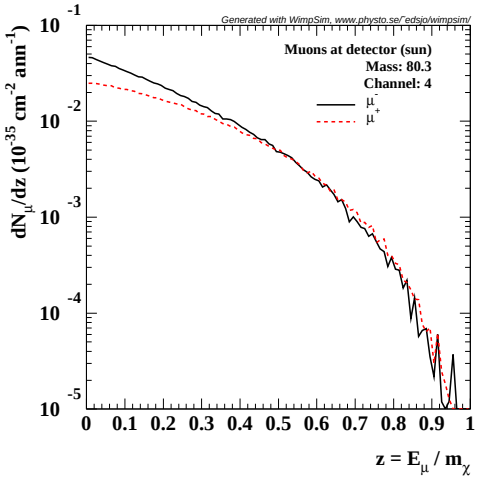


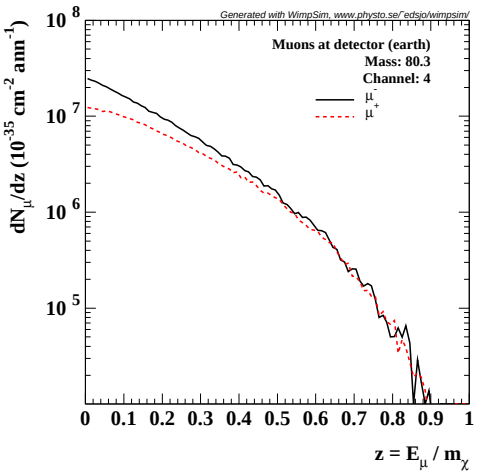
4.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





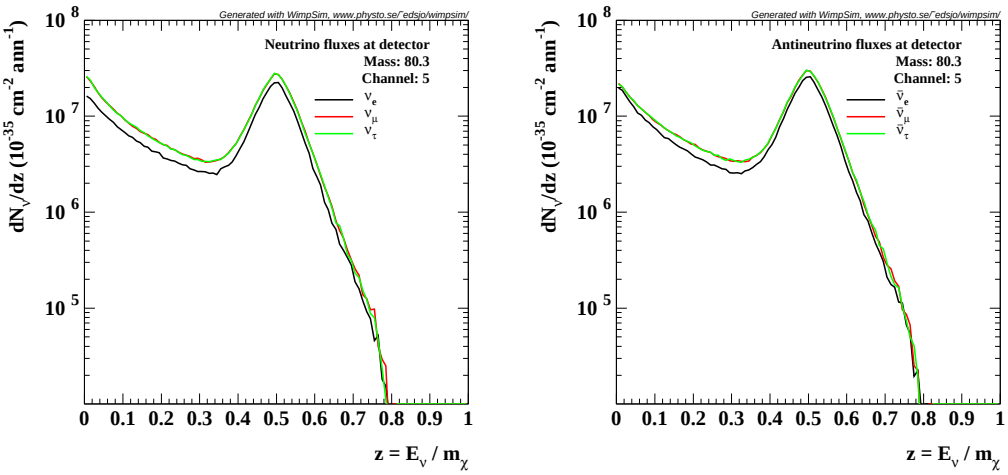
4.3.7 Muons at detector (Sun/Earth)



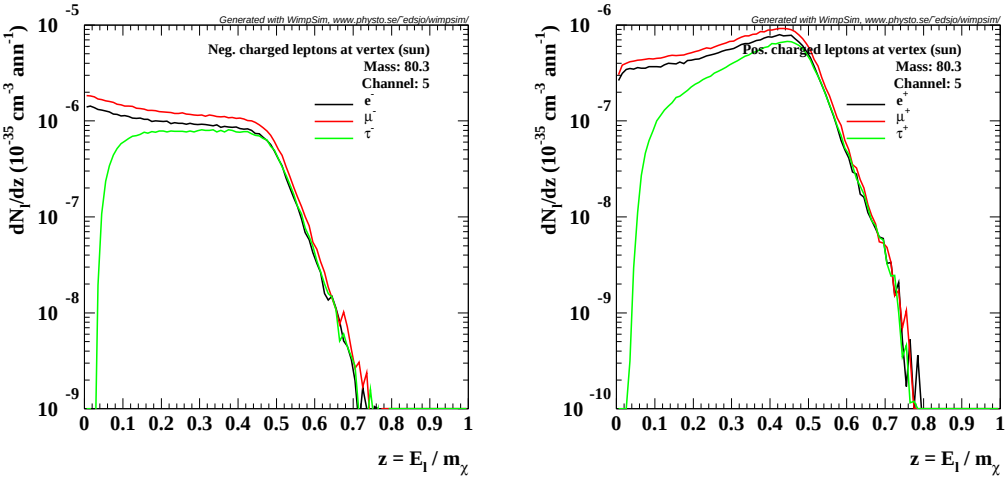


4.4 Channel 5 – W^-W^+

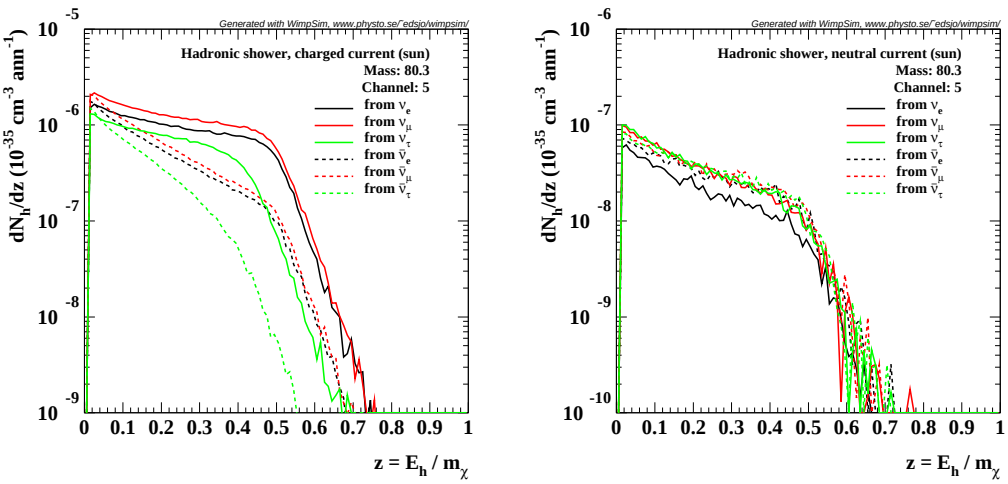
4.4.1 Neutrino fluxes at detector (Sun)



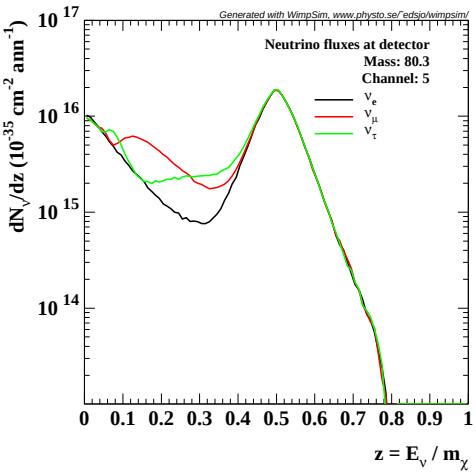
4.4.2 Charged leptons at neutrino-nucleon vertex (Sun)

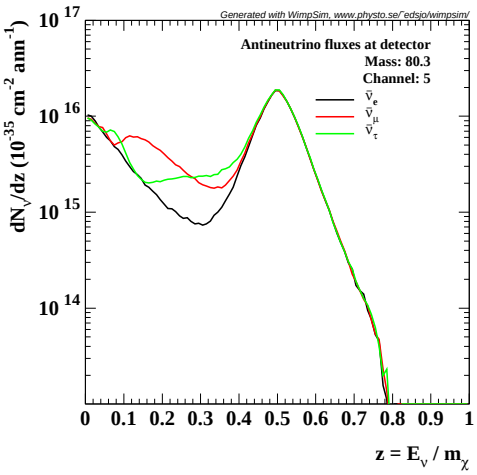


4.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)

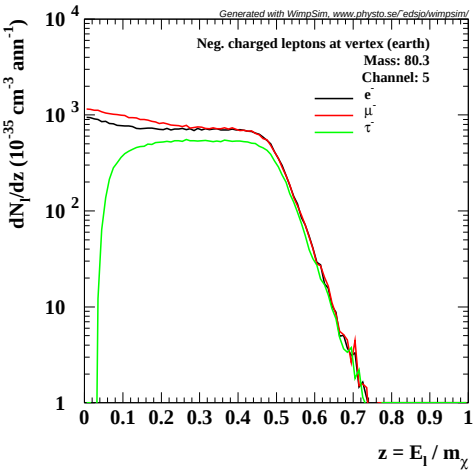


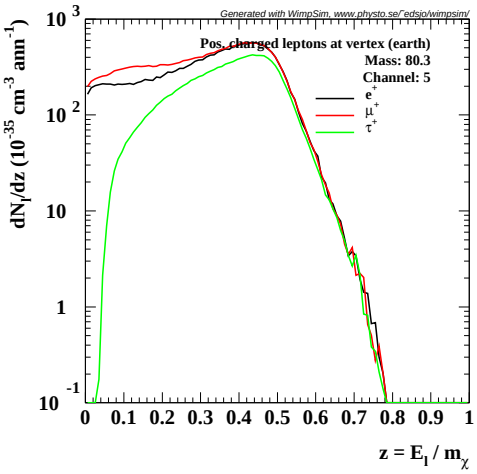
4.4.4 Neutrino fluxes at detector (Earth)



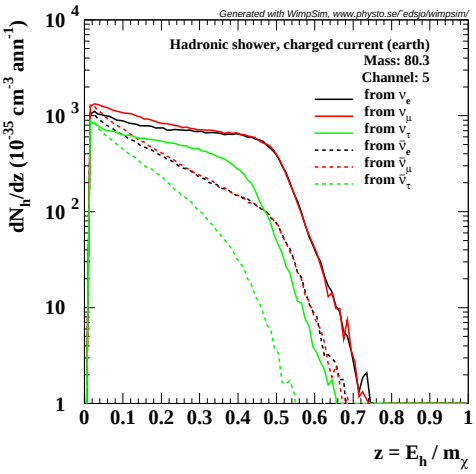


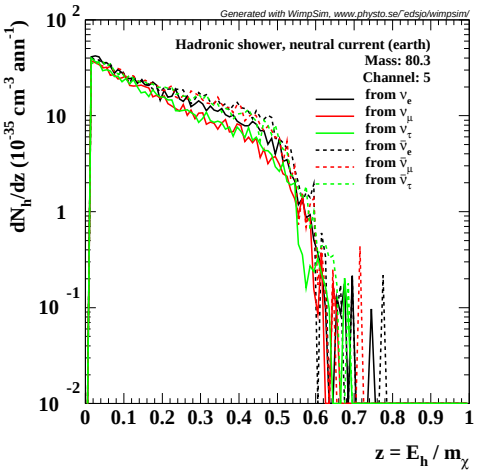
4.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



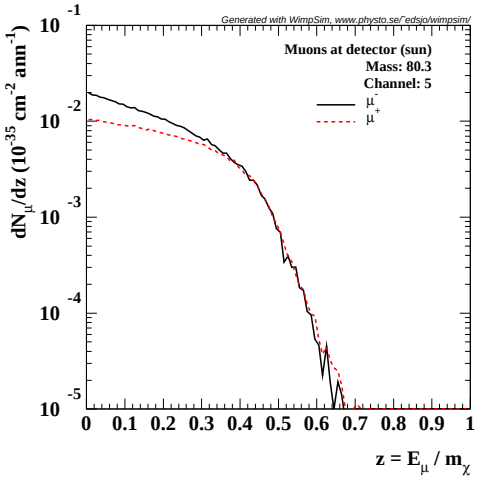


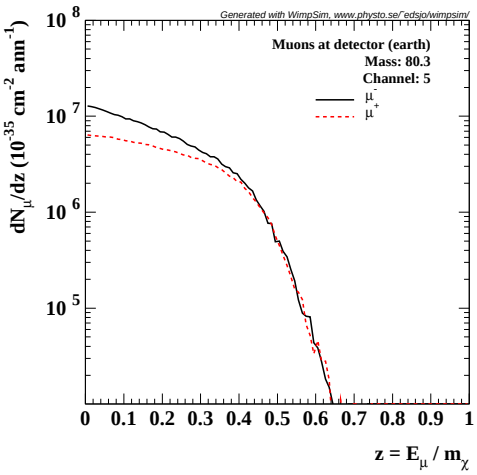
4.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





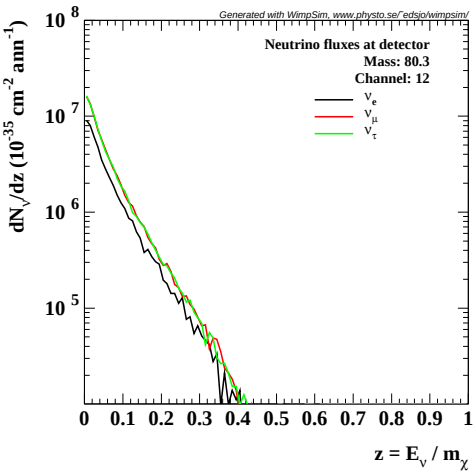
4.4.7 Muons at detector (Sun/Earth)

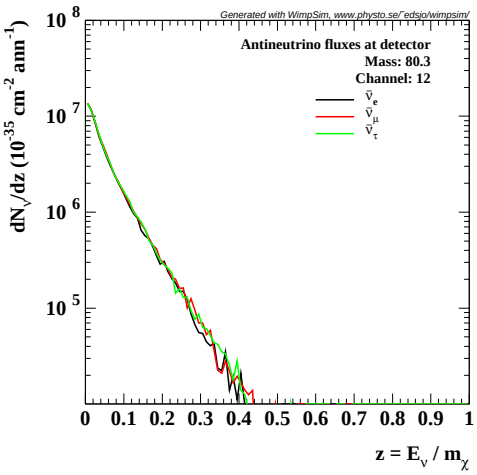




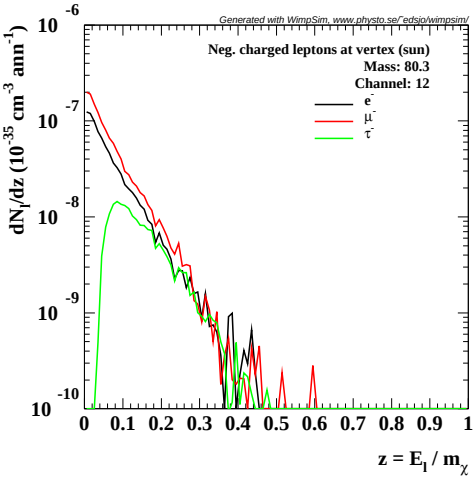
4.5 Channel 12 – gg

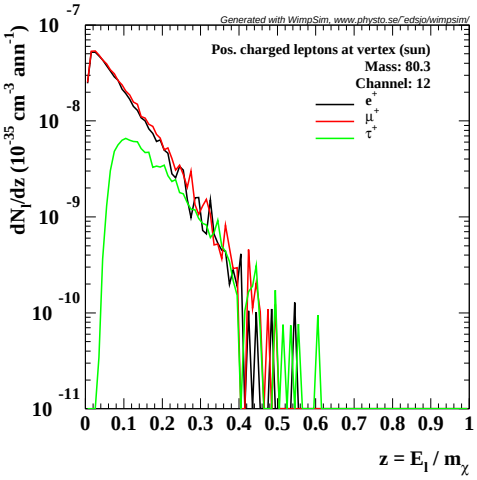
4.5.1 Neutrino fluxes at detector (Sun)



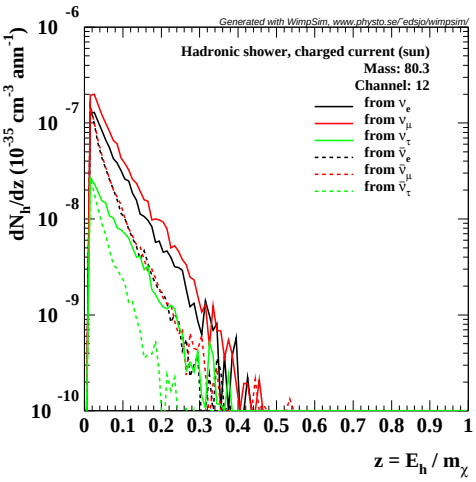


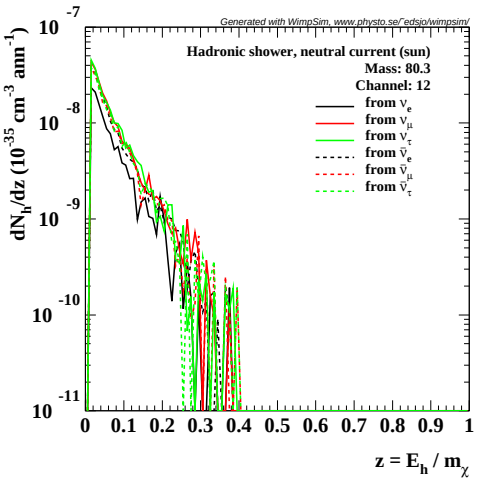
4.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



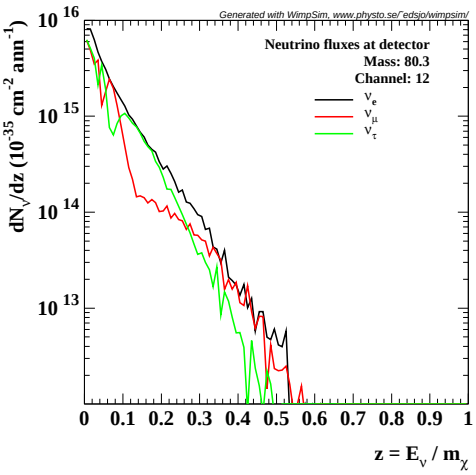


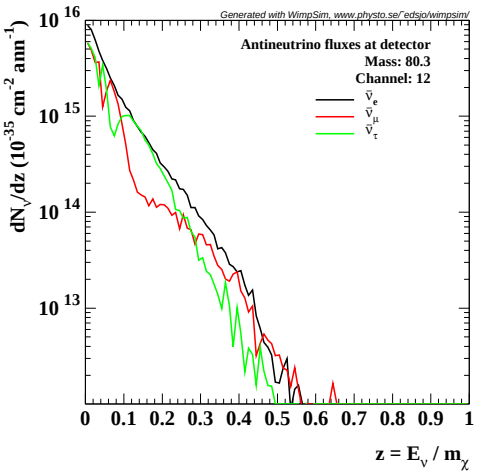
4.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



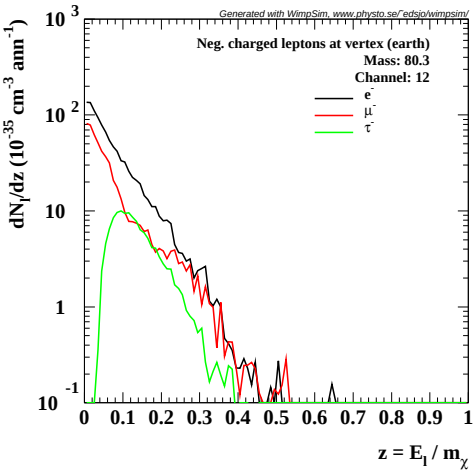


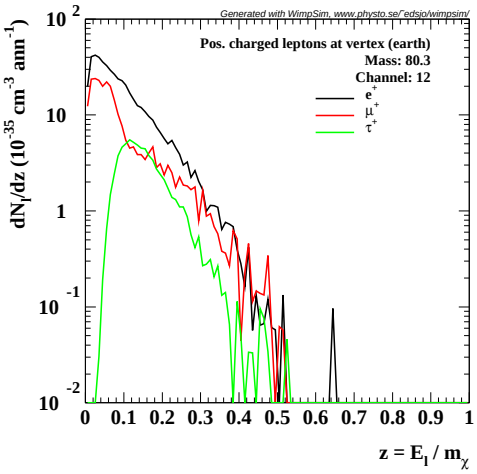
4.5.4 Neutrino fluxes at detector (Earth)



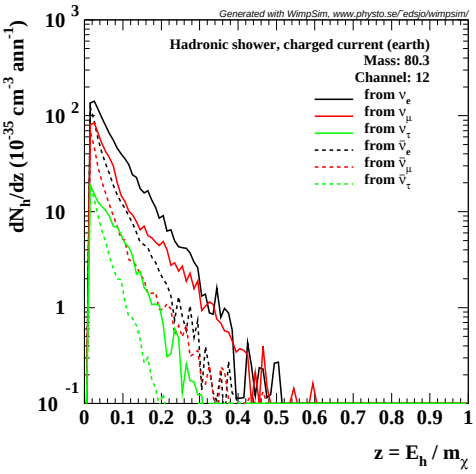


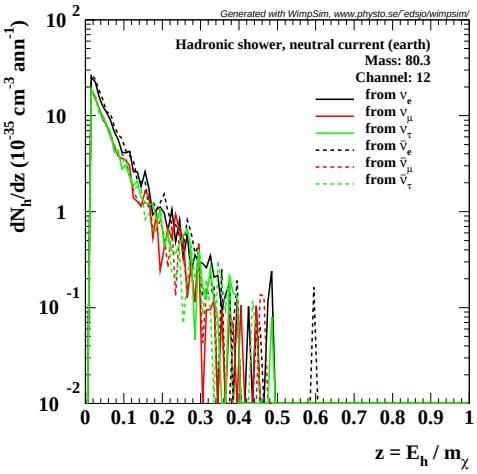
4.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



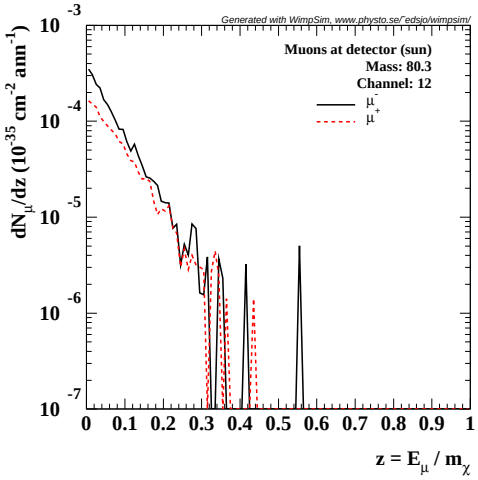


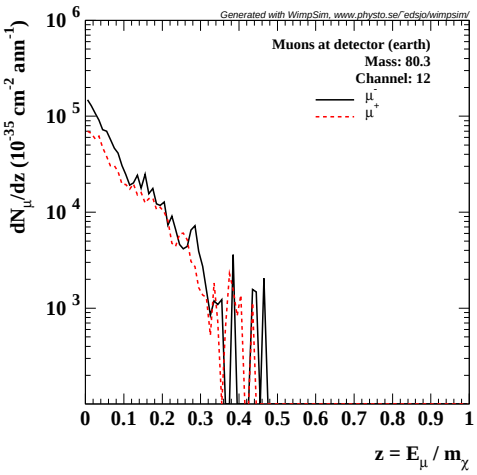
4.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





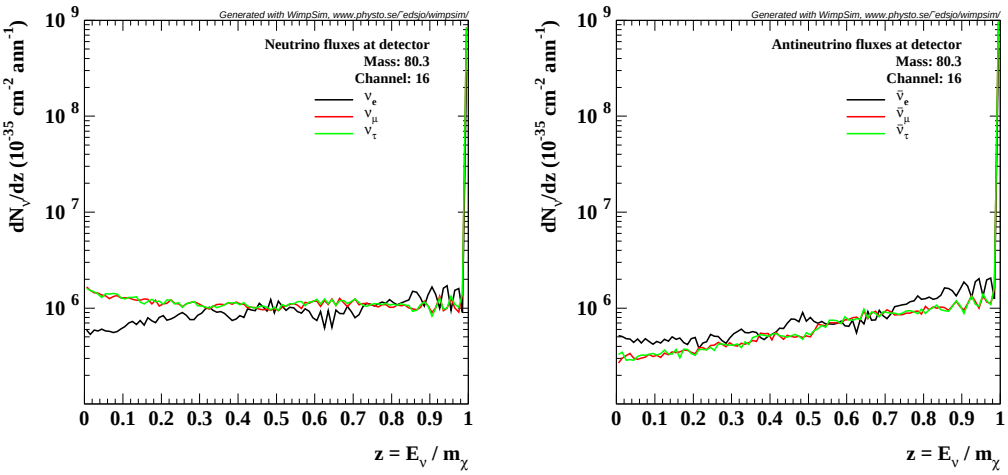
4.5.7 Muons at detector (Sun/Earth)



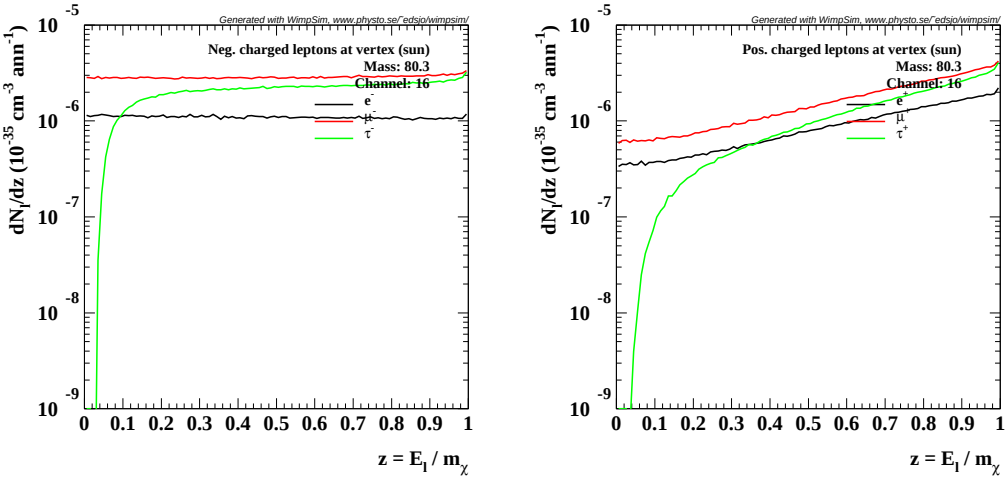


4.6 Channel 16 – $\nu_e\bar{\nu}_e$

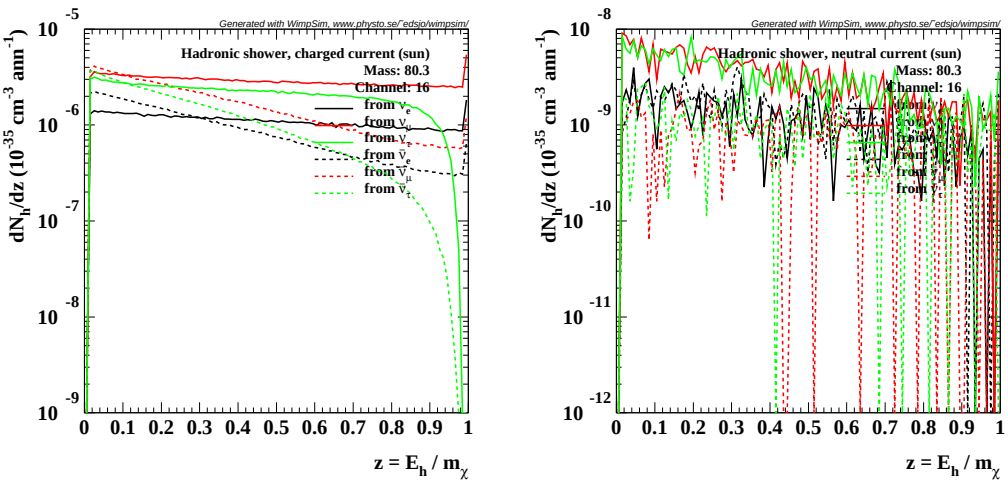
4.6.1 Neutrino fluxes at detector (Sun)



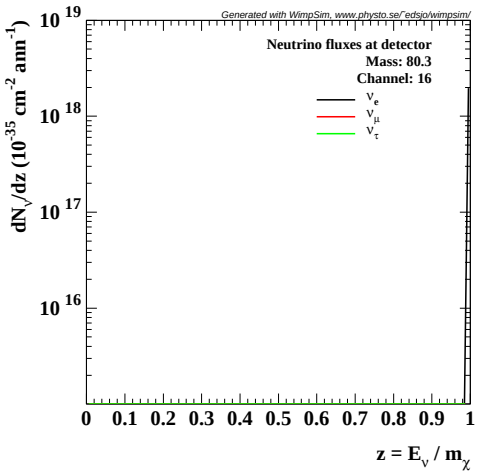
4.6.2 Charged leptons at neutrino-nucleon vertex (Sun)

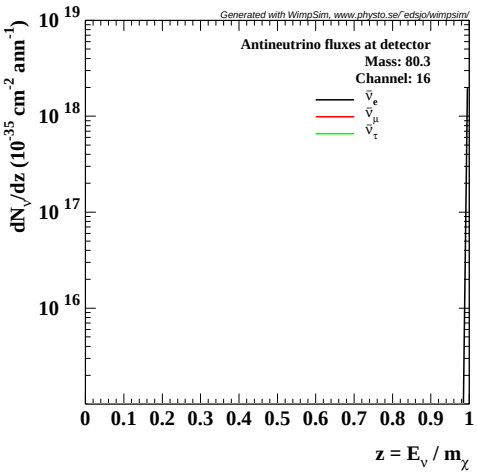


4.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)

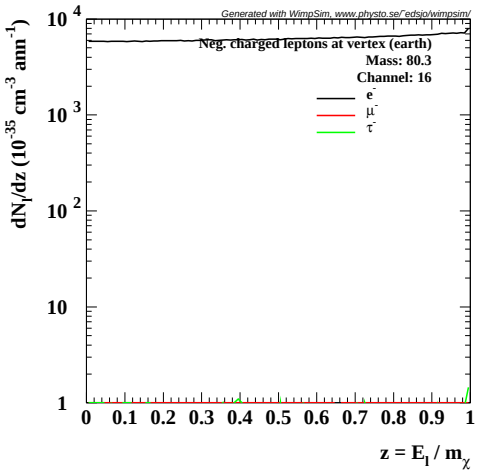


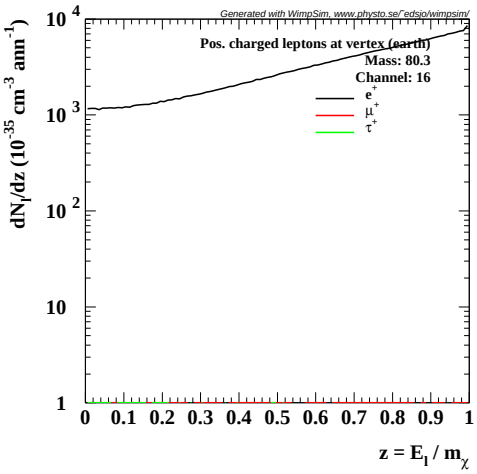
4.6.4 Neutrino fluxes at detector (Earth)



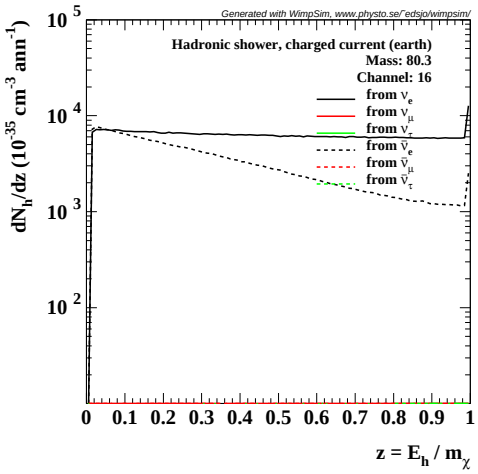


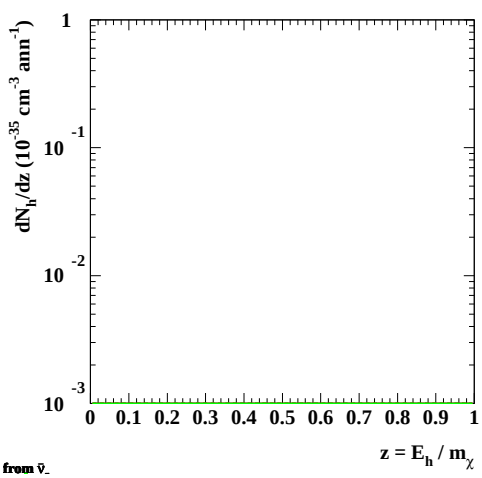
4.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



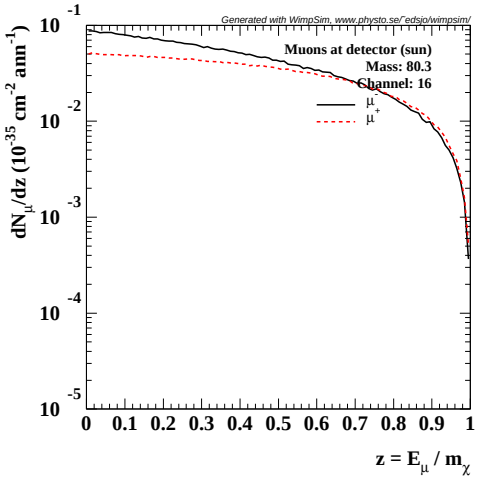


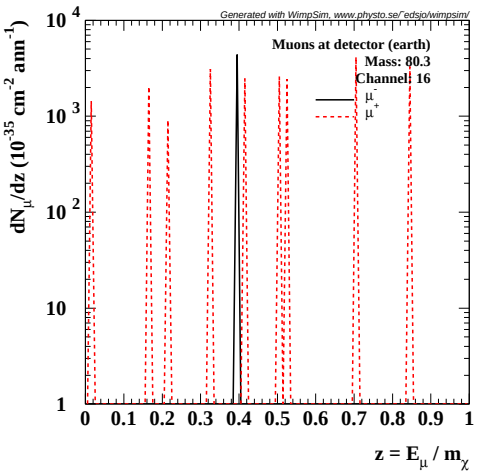
4.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





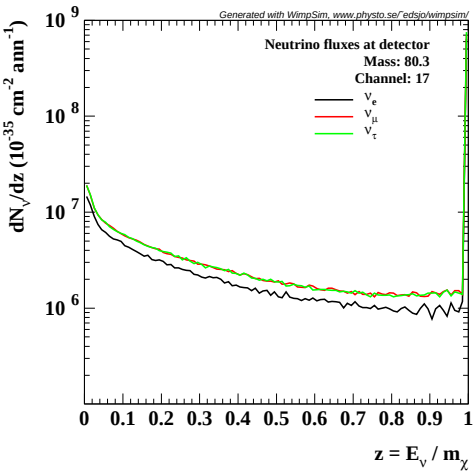
4.6.7 Muons at detector (Sun/Earth)

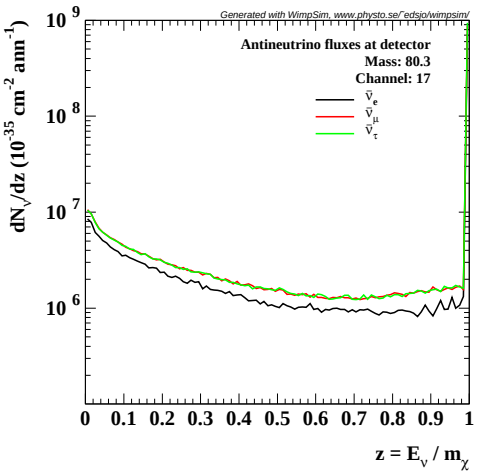




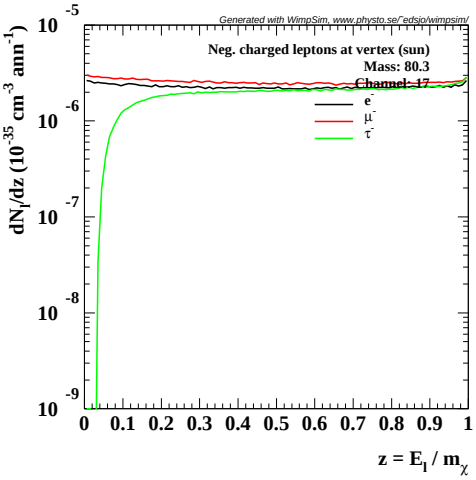
4.7 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

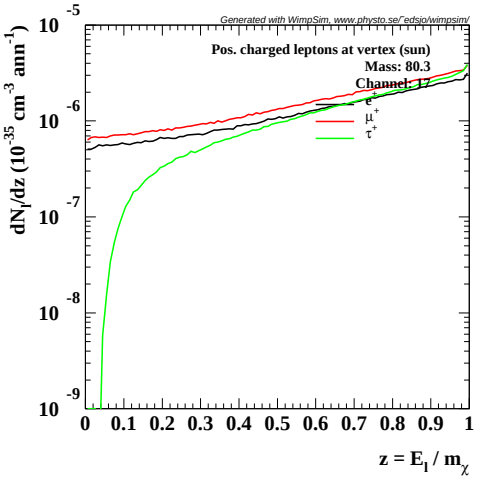
4.7.1 Neutrino fluxes at detector (Sun)



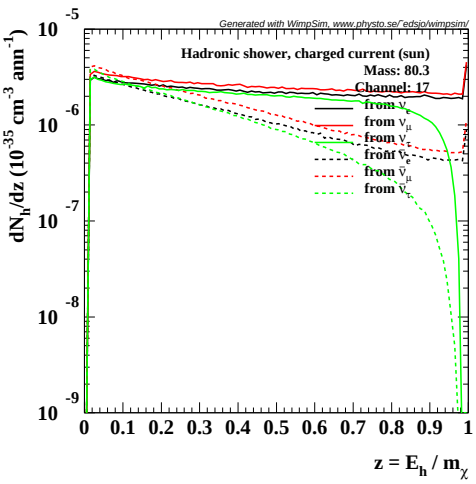


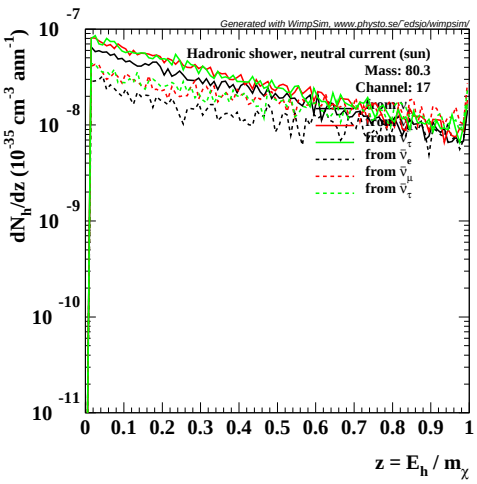
4.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



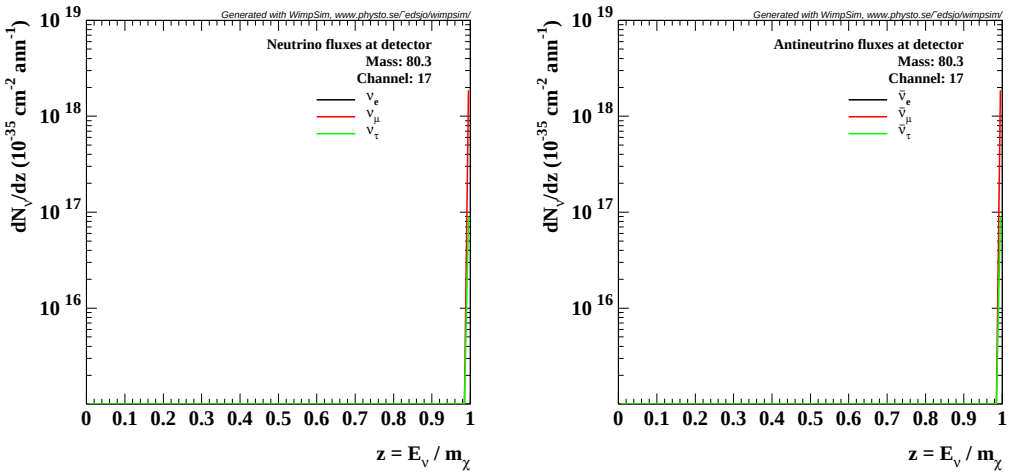


4.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

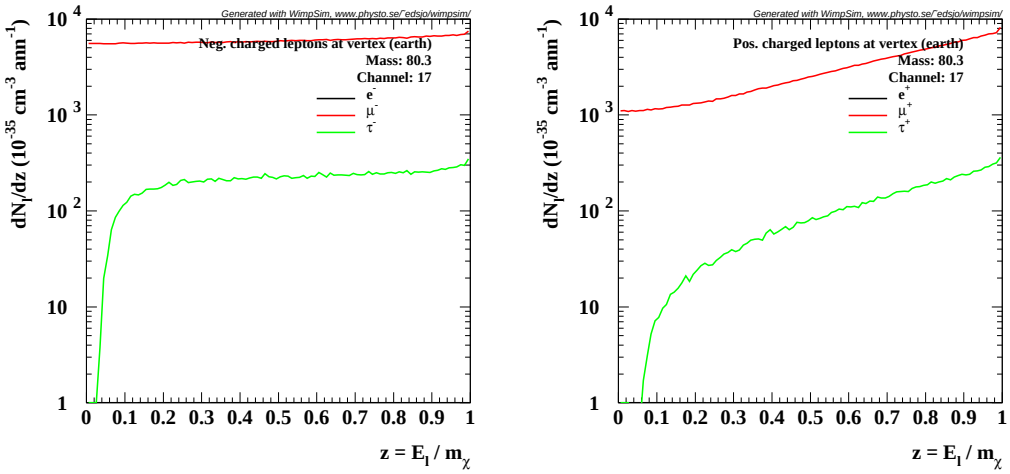




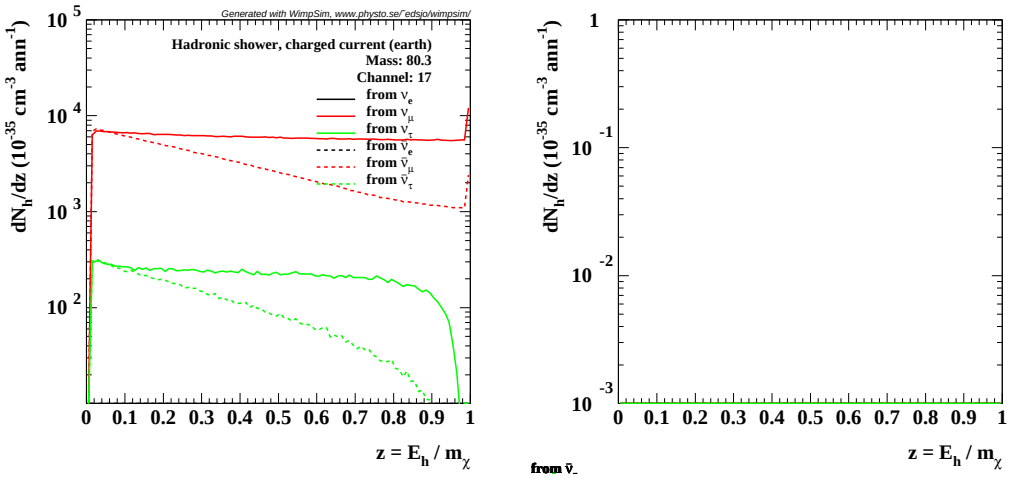
4.7.4 Neutrino fluxes at detector (Earth)



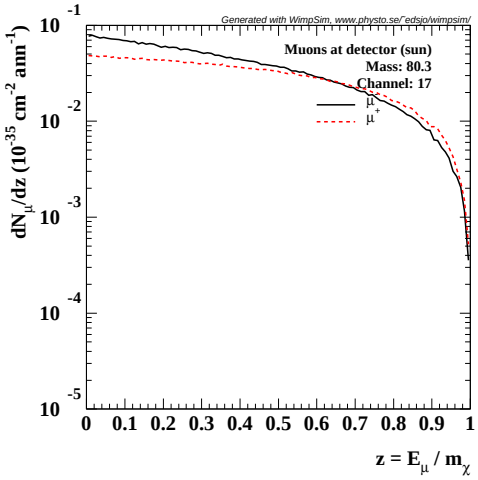
4.7.5 Charged leptons at neutrino-nucleon vertex (Earth)

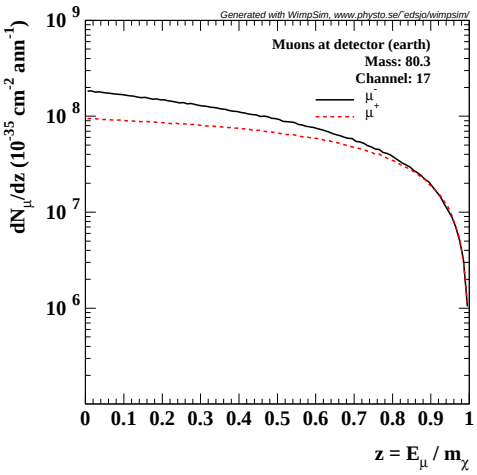


4.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)



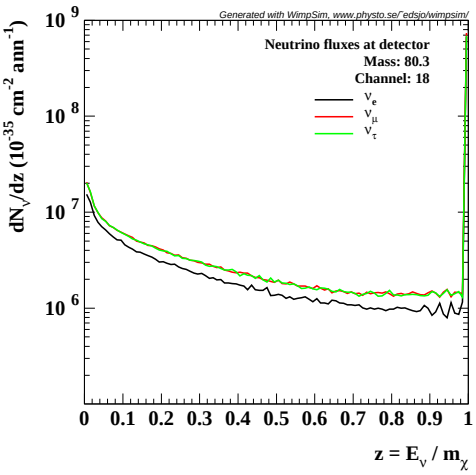
4.7.7 Muons at detector (Sun/Earth)

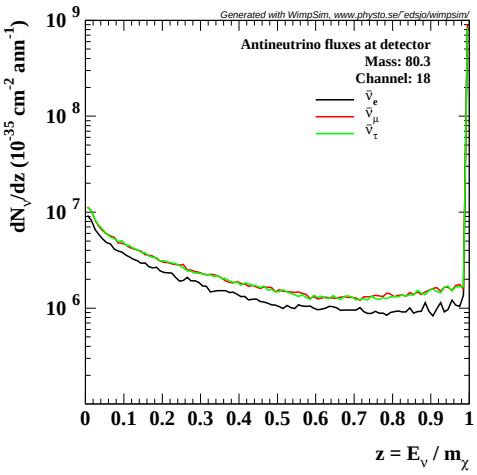




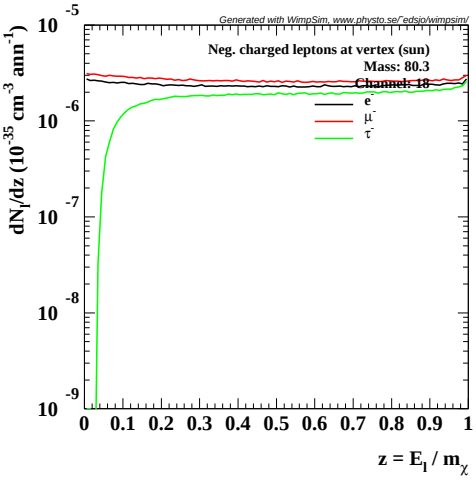
4.8 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

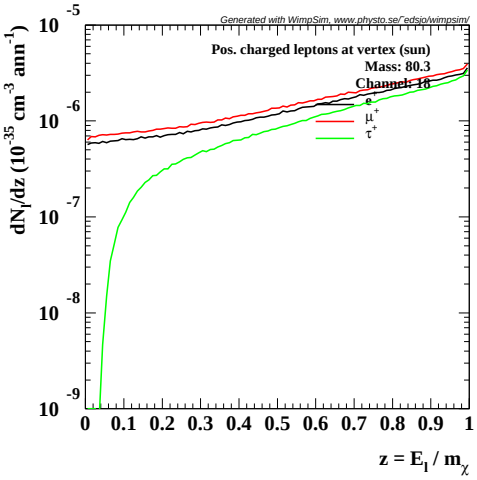
4.8.1 Neutrino fluxes at detector (Sun)



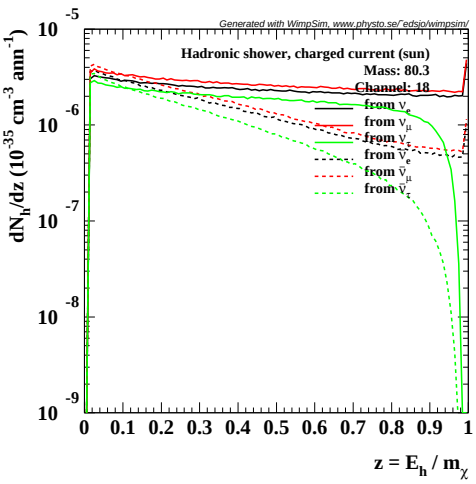


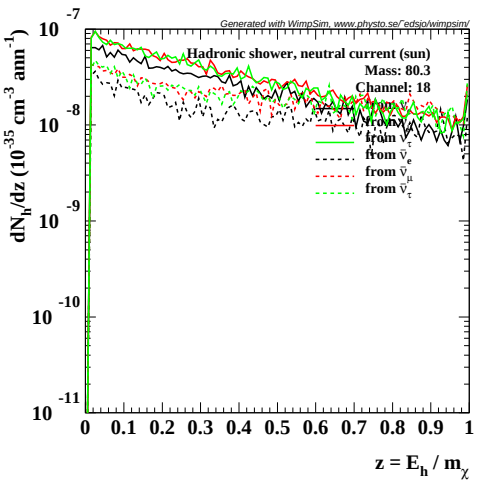
4.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



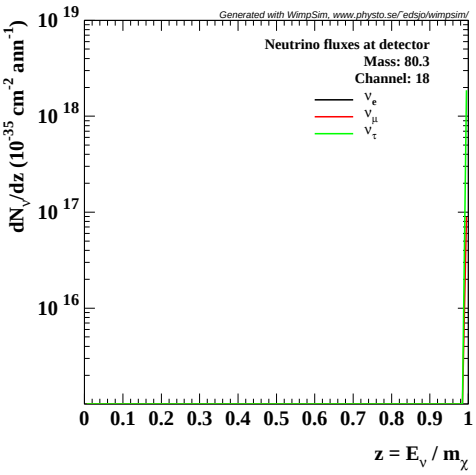


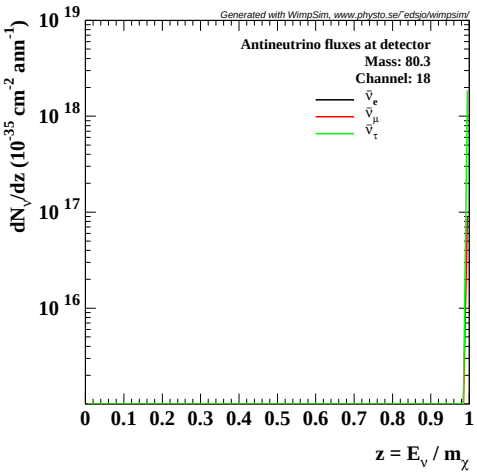
4.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



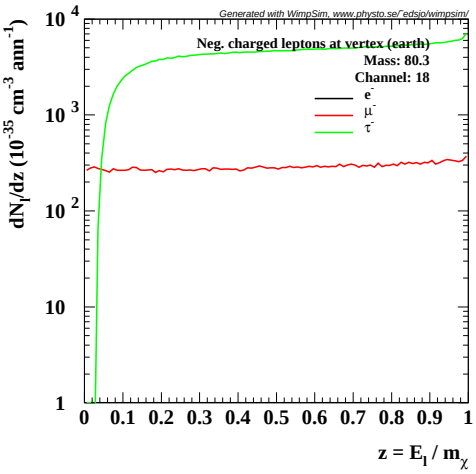


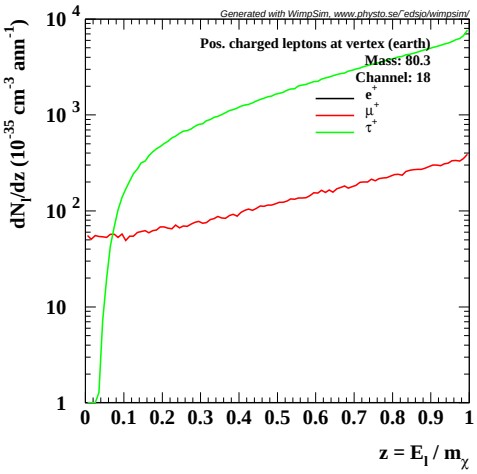
4.8.4 Neutrino fluxes at detector (Earth)



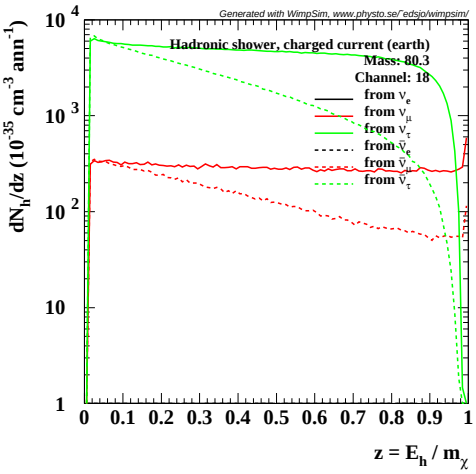


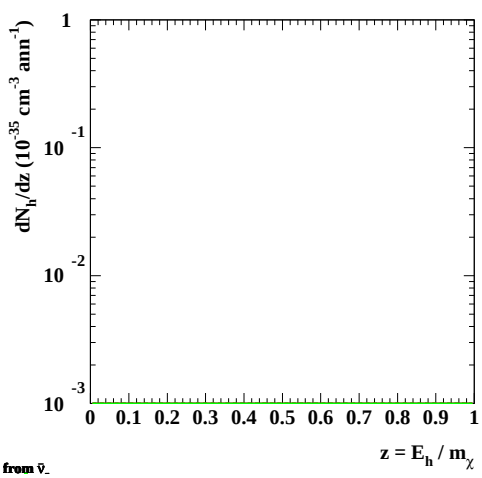
4.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





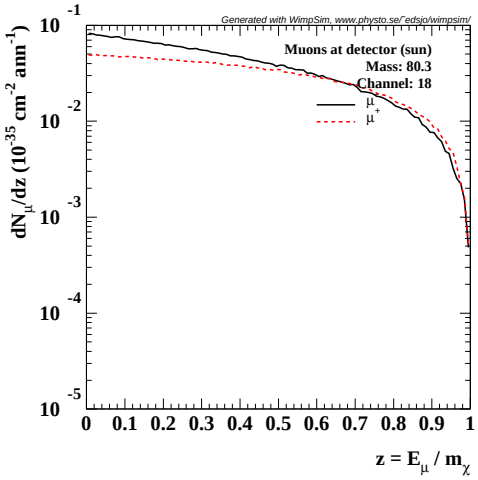
4.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

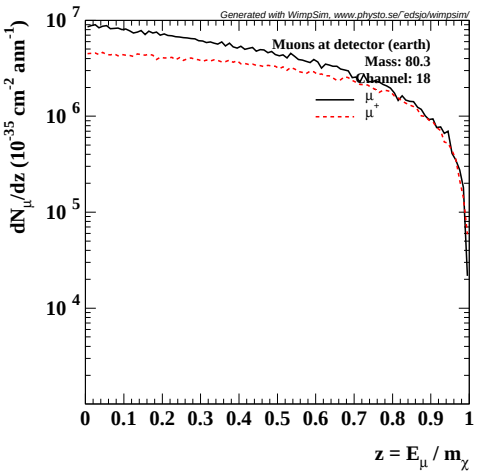




from $\bar{\nu}_\tau$

4.8.7 Muons at detector (Sun/Earth)

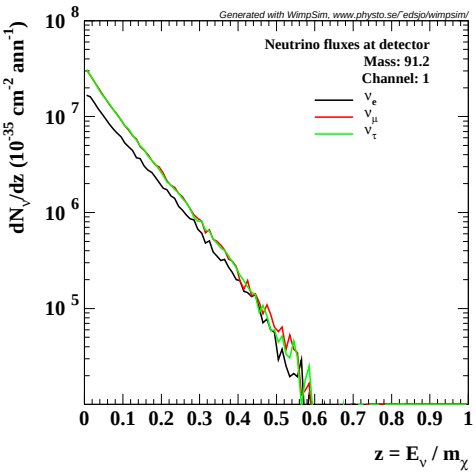


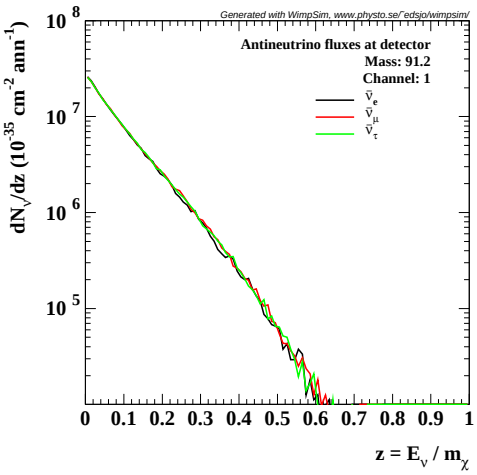


5 Mass 91.2

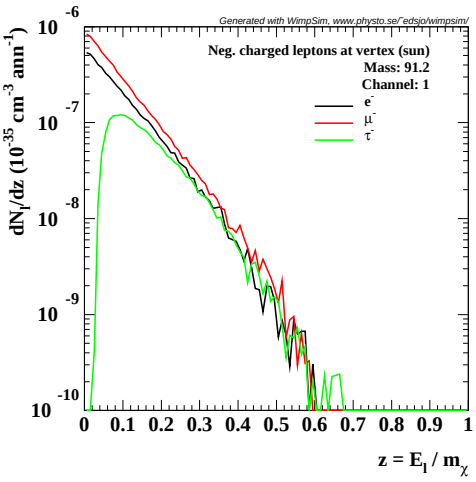
5.1 Channel 1 – $c\bar{c}$

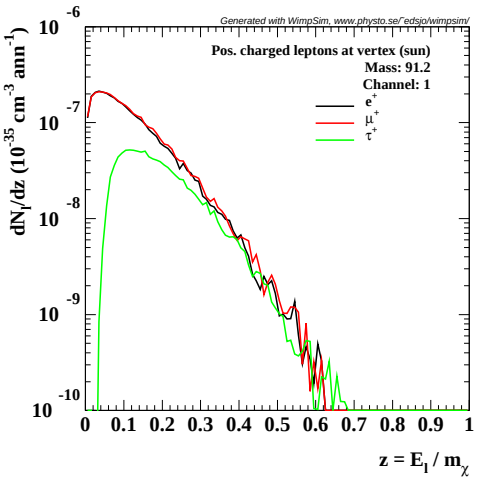
5.1.1 Neutrino fluxes at detector (Sun)



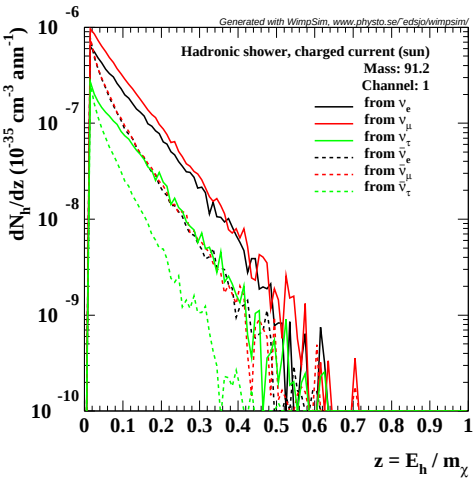


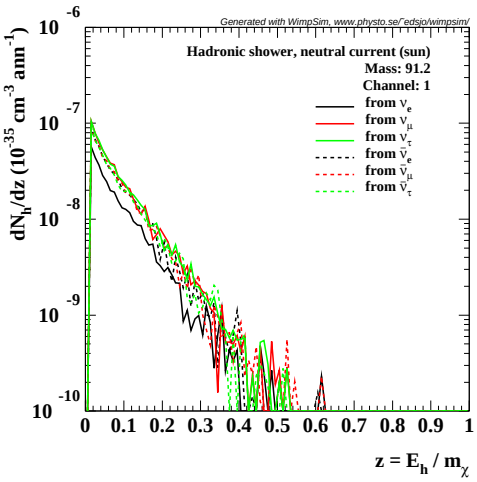
5.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



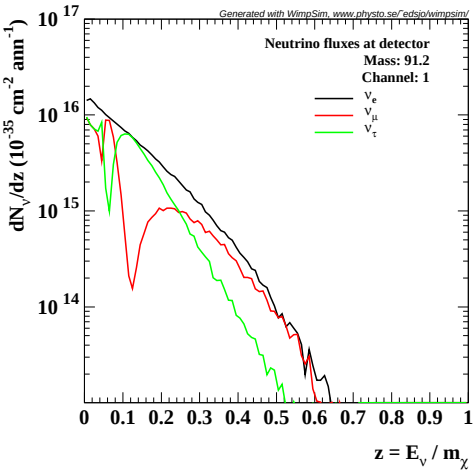


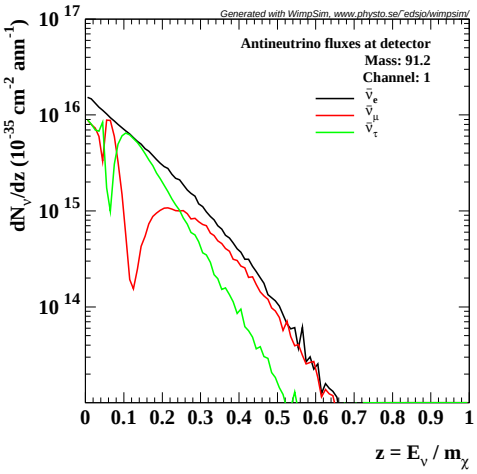
5.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



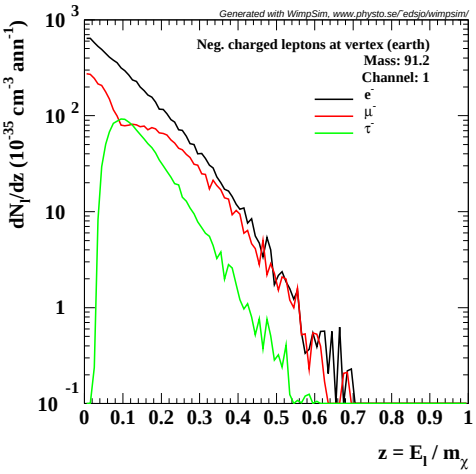


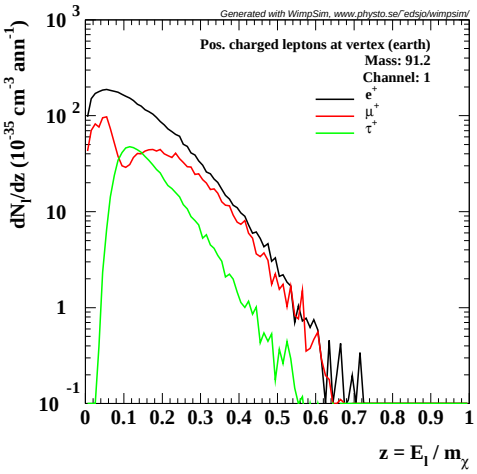
5.1.4 Neutrino fluxes at detector (Earth)



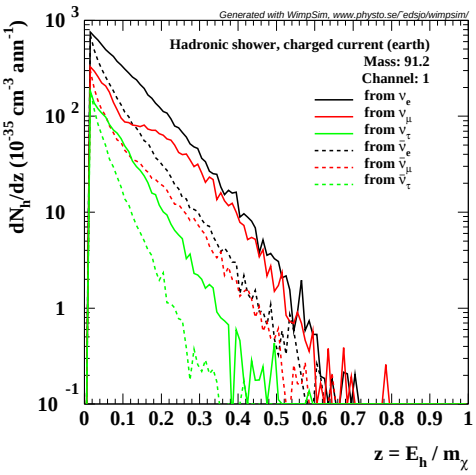


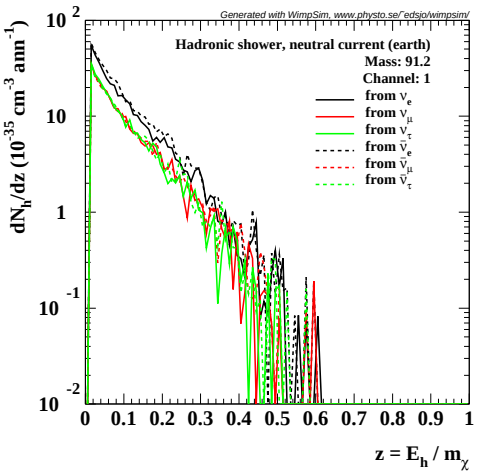
5.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



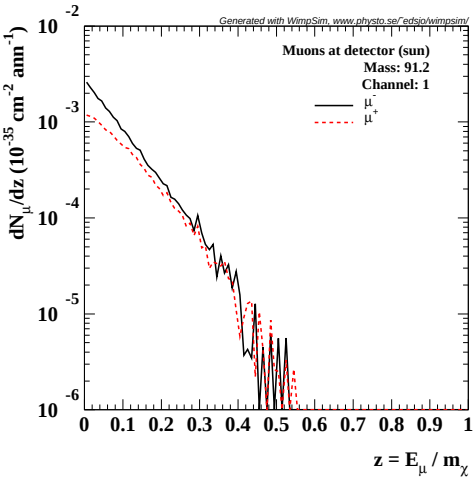


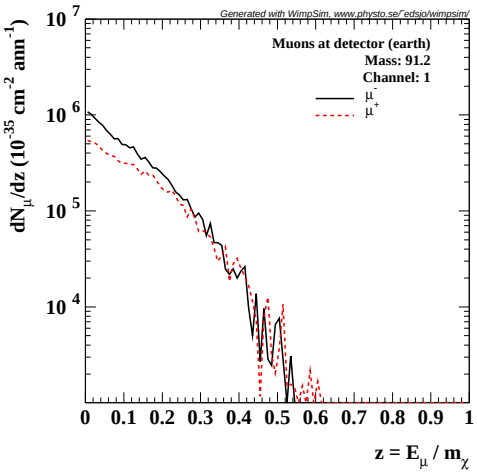
5.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





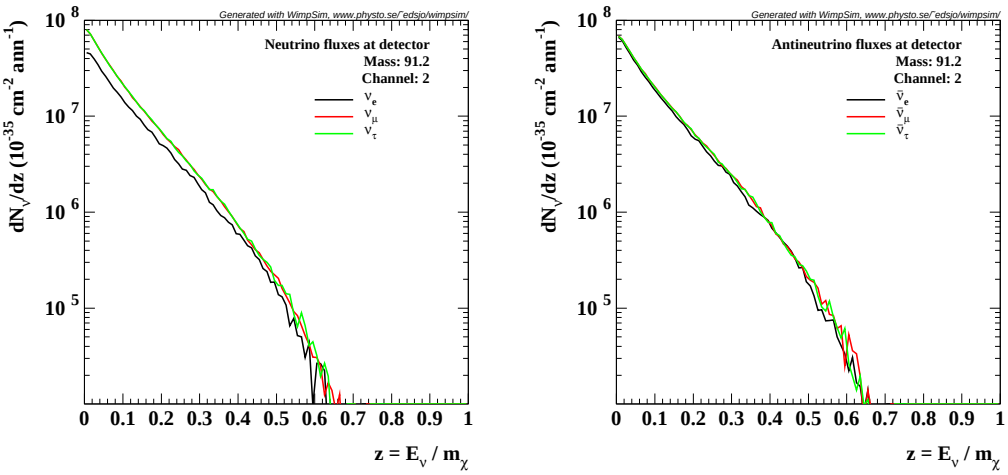
5.1.7 Muons at detector (Sun/Earth)



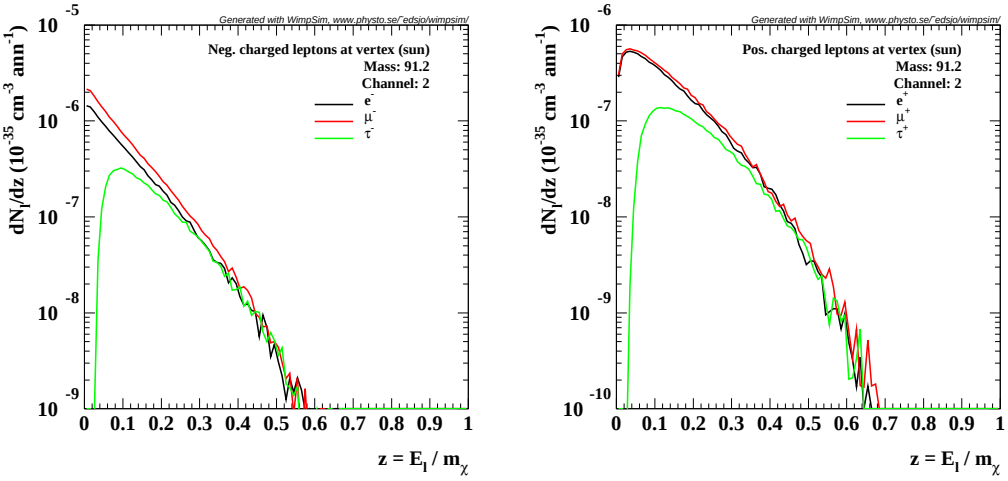


5.2 Channel 2 – $b\bar{b}$

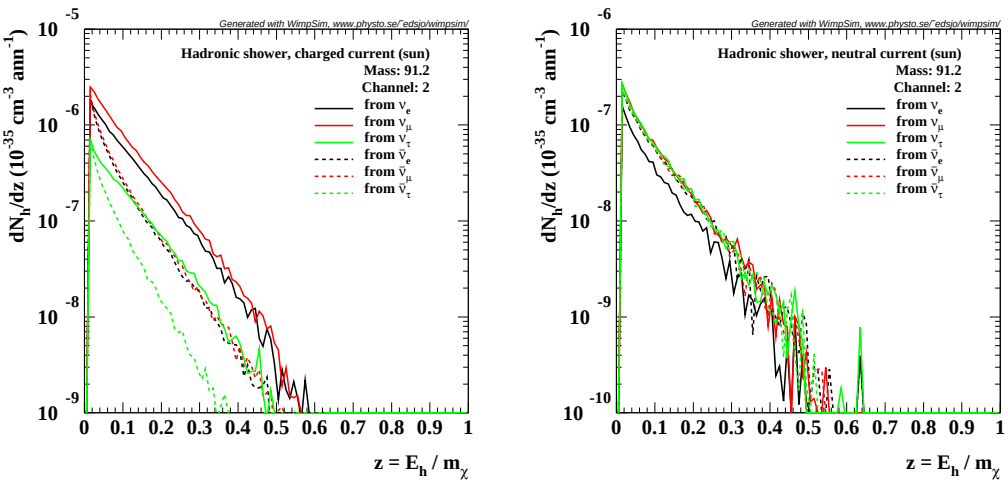
5.2.1 Neutrino fluxes at detector (Sun)



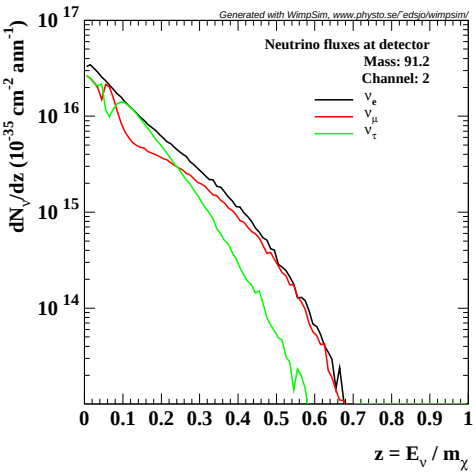
5.2.2 Charged leptons at neutrino-nucleon vertex (Sun)

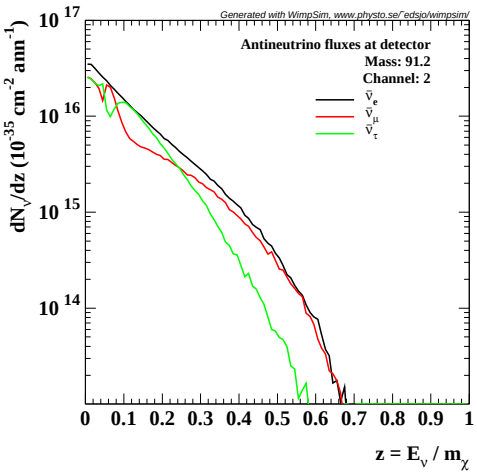


5.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)

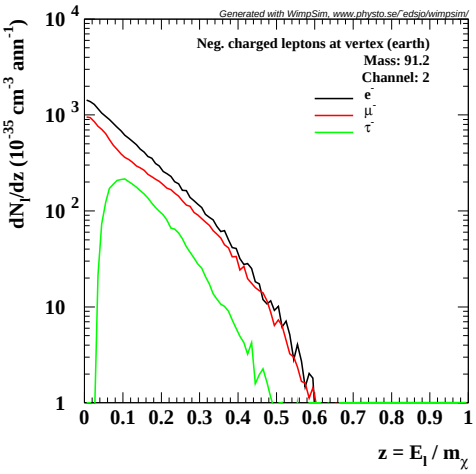


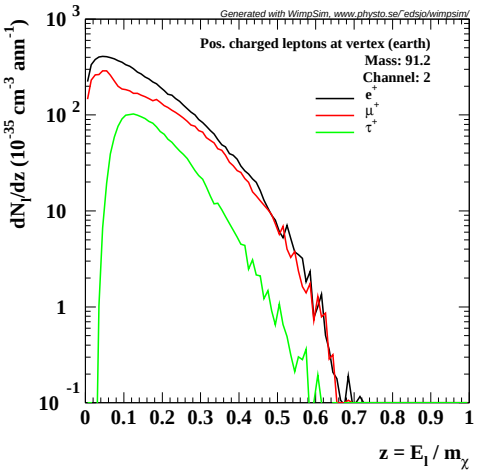
5.2.4 Neutrino fluxes at detector (Earth)



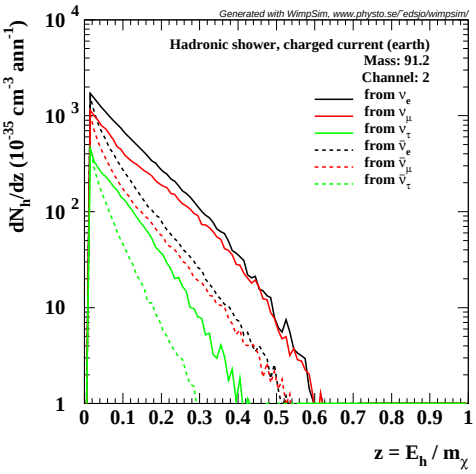


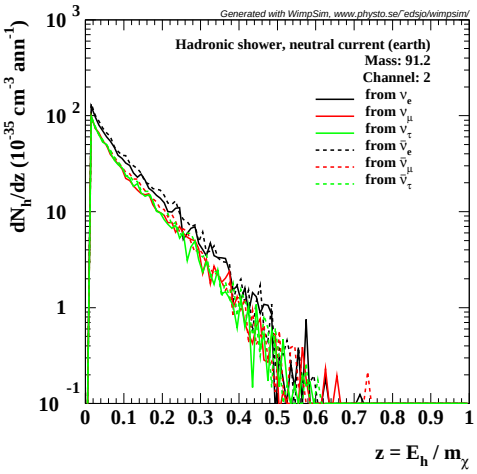
5.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



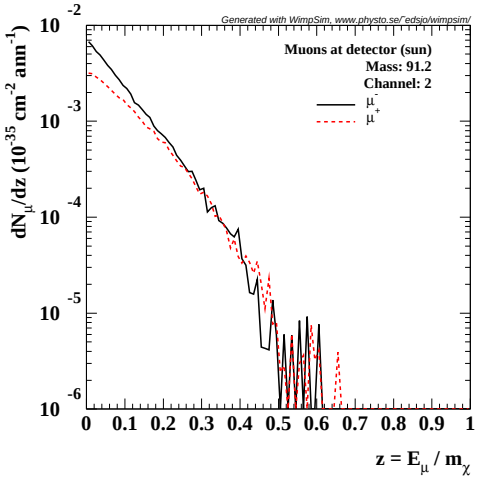


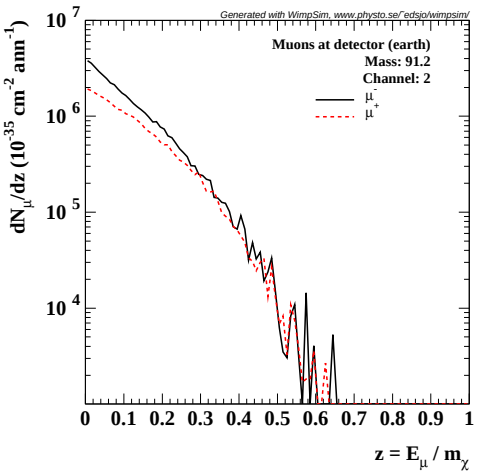
5.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





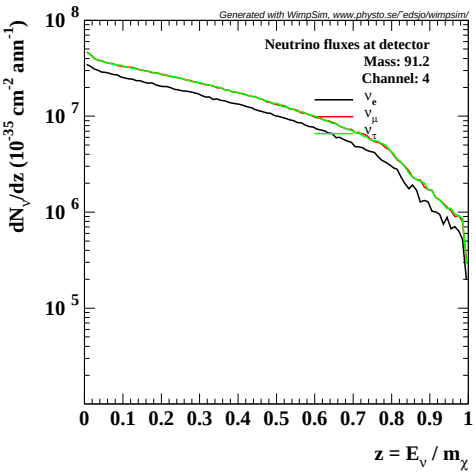
5.2.7 Muons at detector (Sun/Earth)

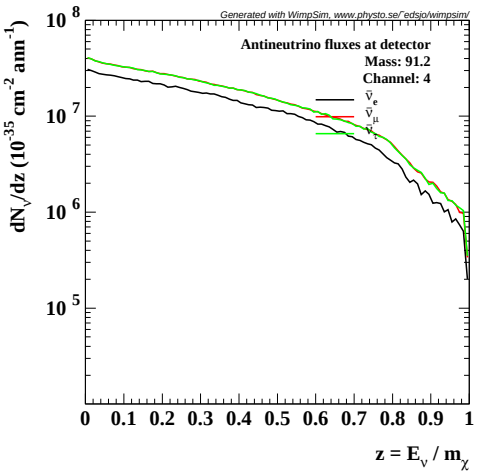




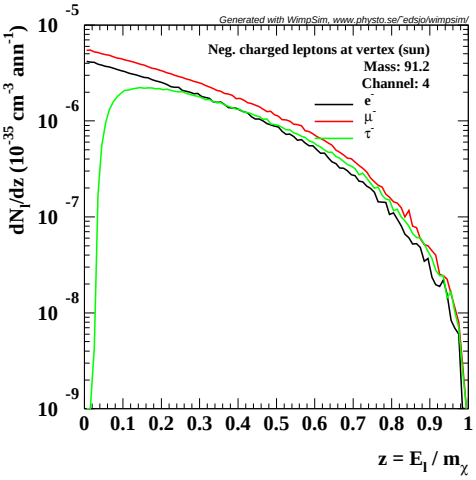
5.3 Channel 4 – $\tau^-\tau^+$

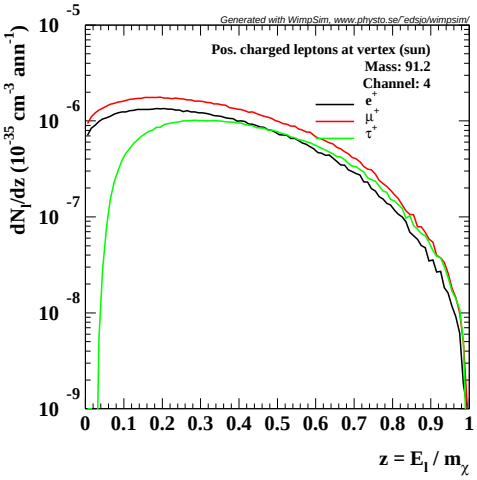
5.3.1 Neutrino fluxes at detector (Sun)



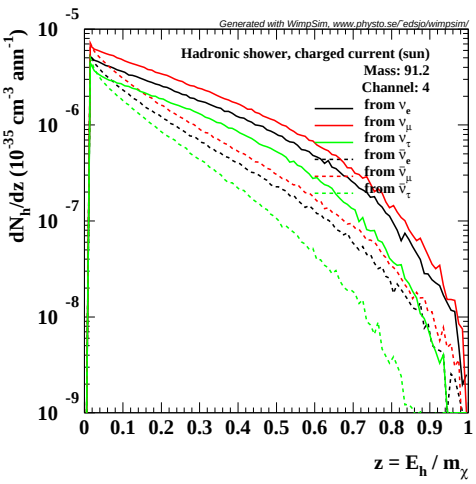


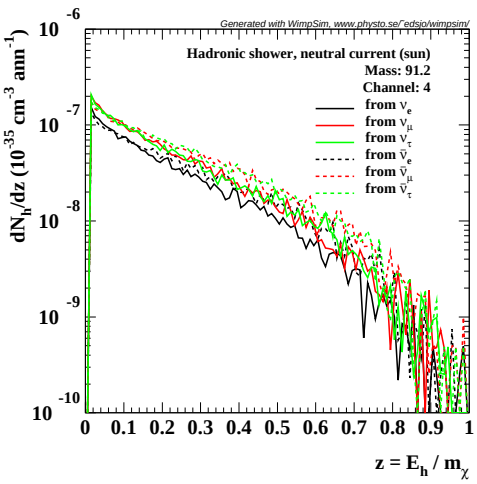
5.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



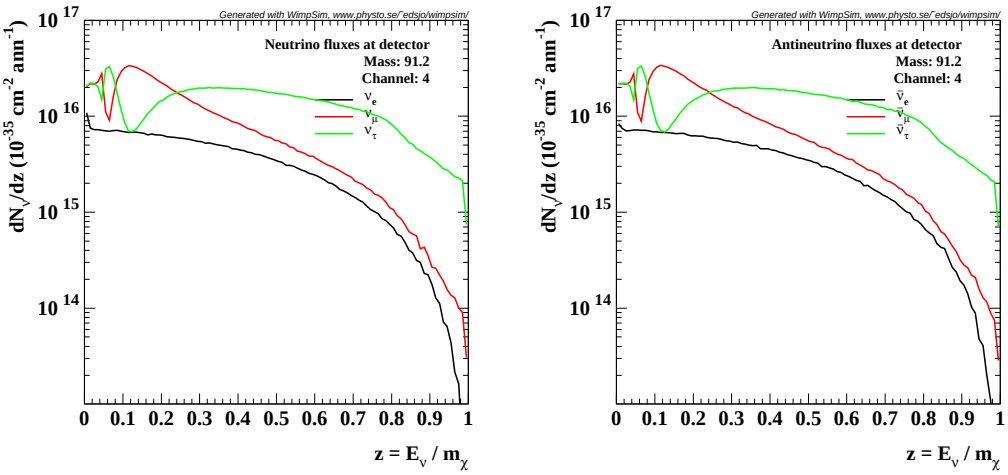


5.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

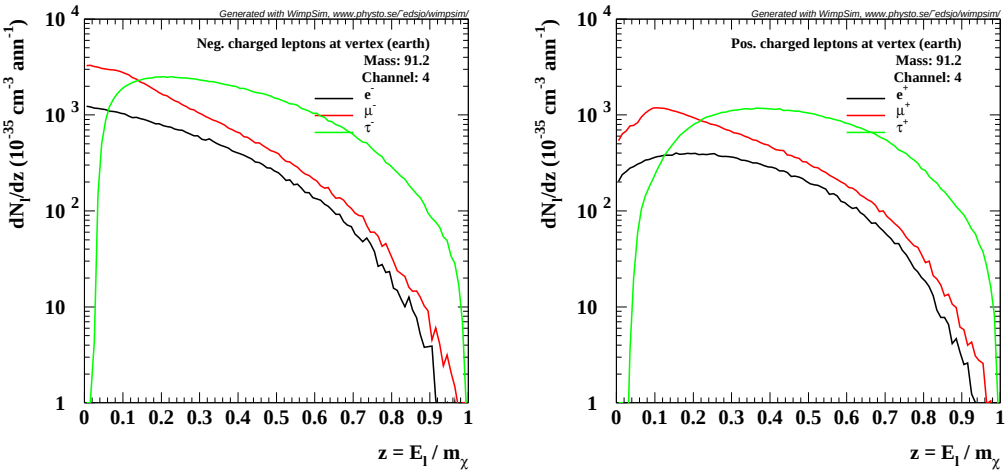




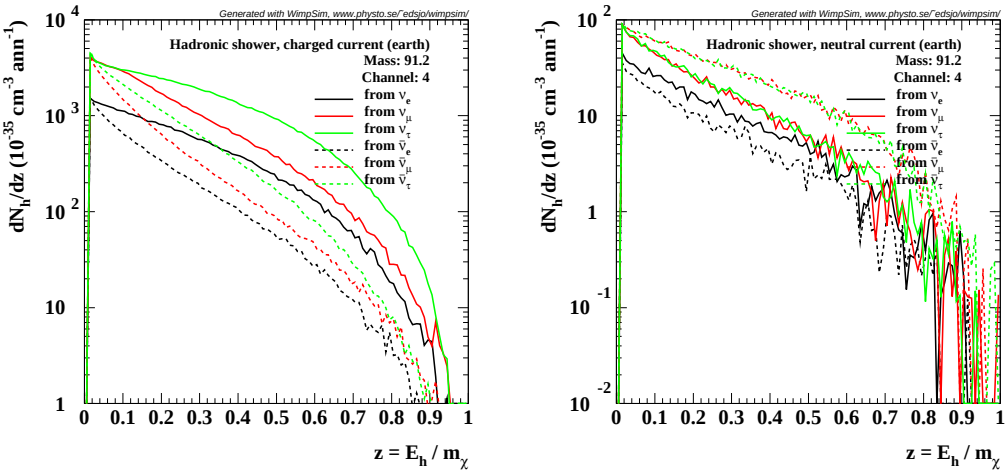
5.3.4 Neutrino fluxes at detector (Earth)



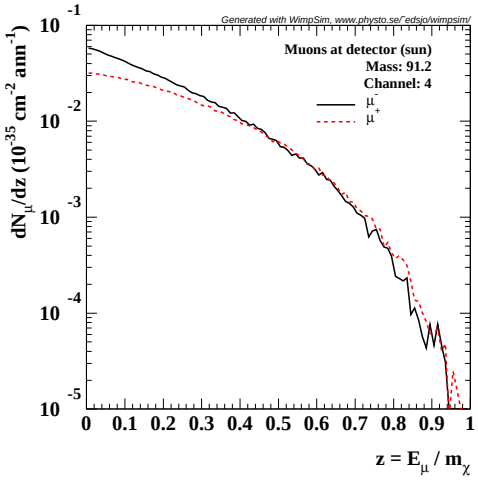
5.3.5 Charged leptons at neutrino-nucleon vertex (Earth)

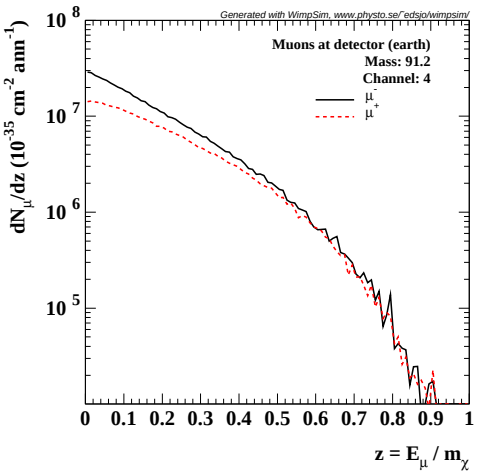


5.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)



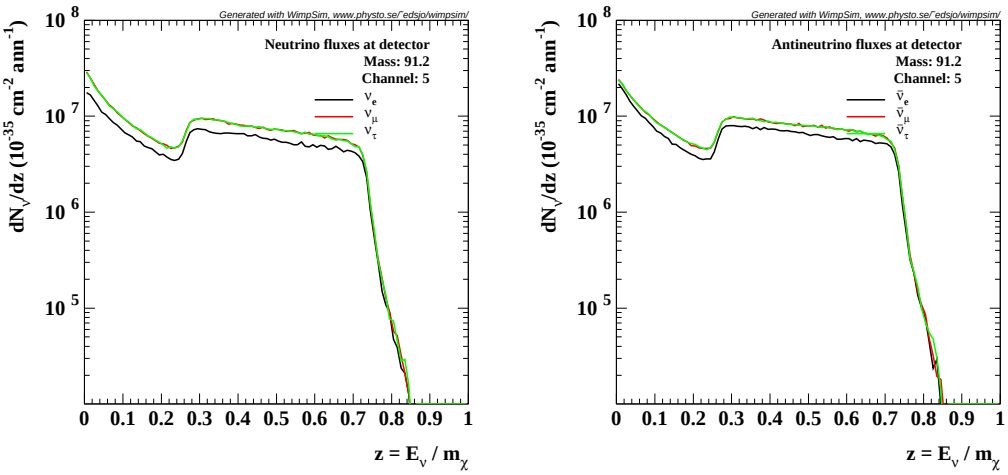
5.3.7 Muons at detector (Sun/Earth)



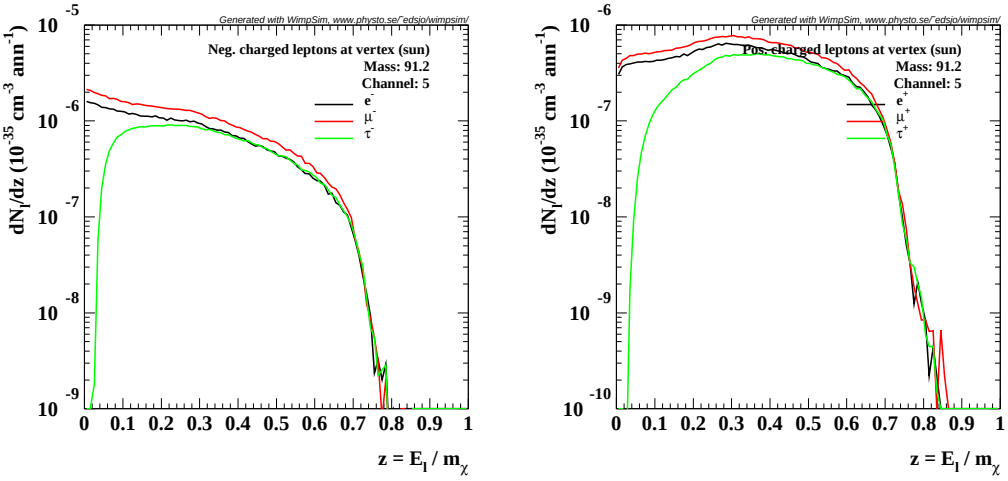


5.4 Channel 5 – W^-W^+

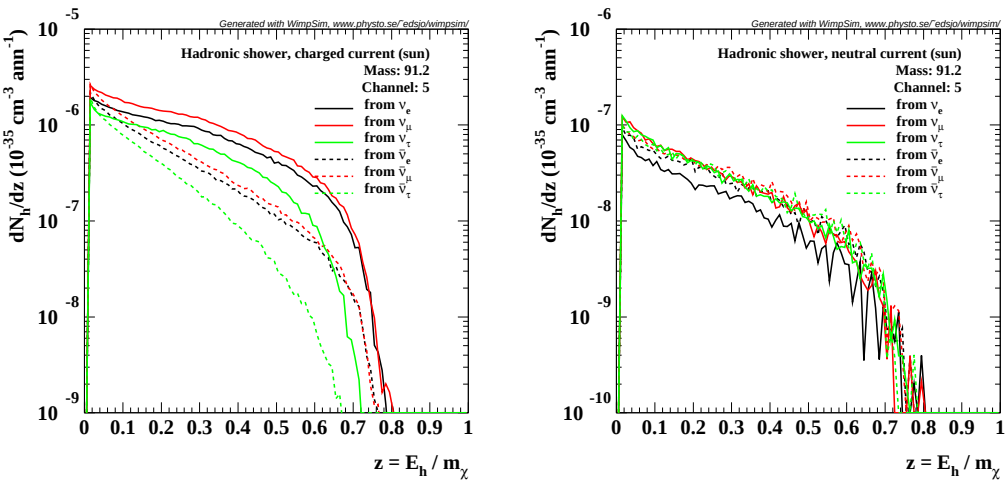
5.4.1 Neutrino fluxes at detector (Sun)



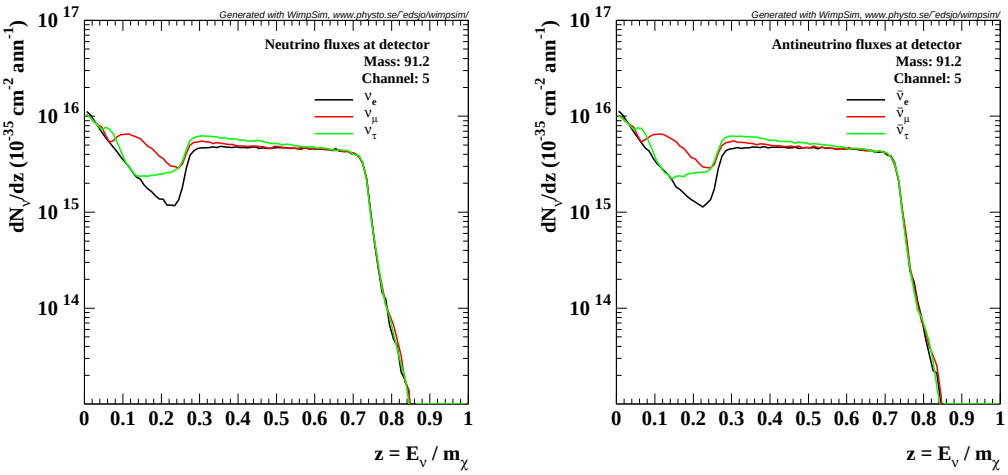
5.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



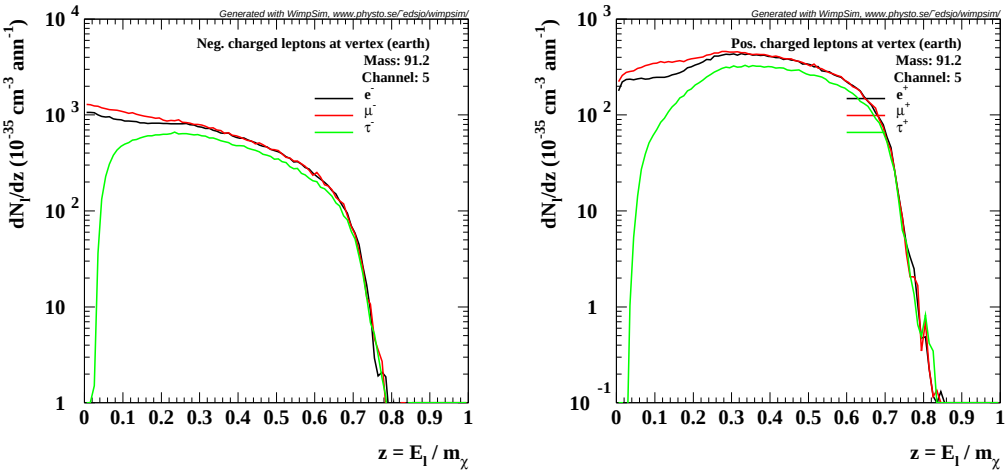
5.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



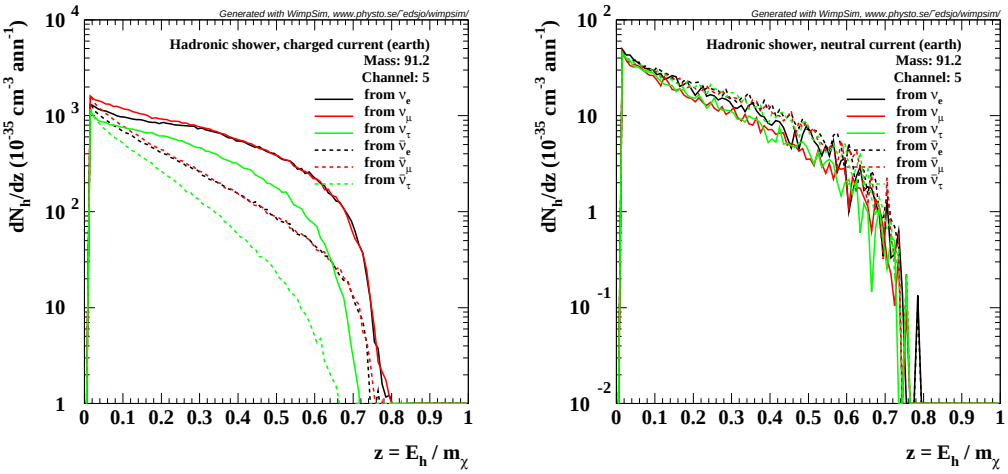
5.4.4 Neutrino fluxes at detector (Earth)



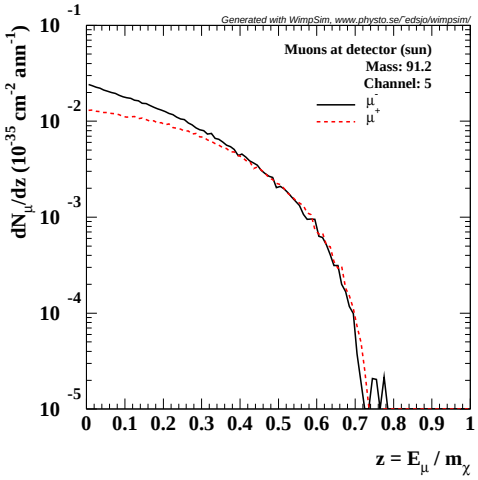
5.4.5 Charged leptons at neutrino-nucleon vertex (Earth)

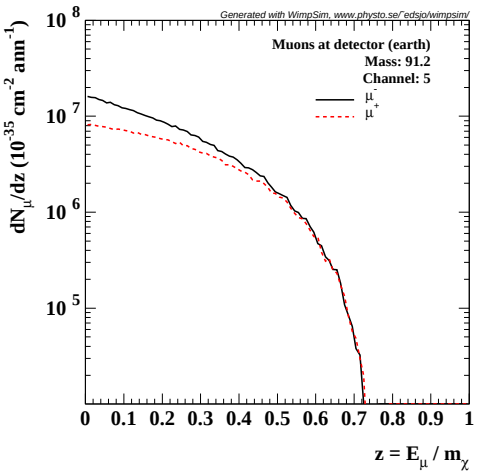


5.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)



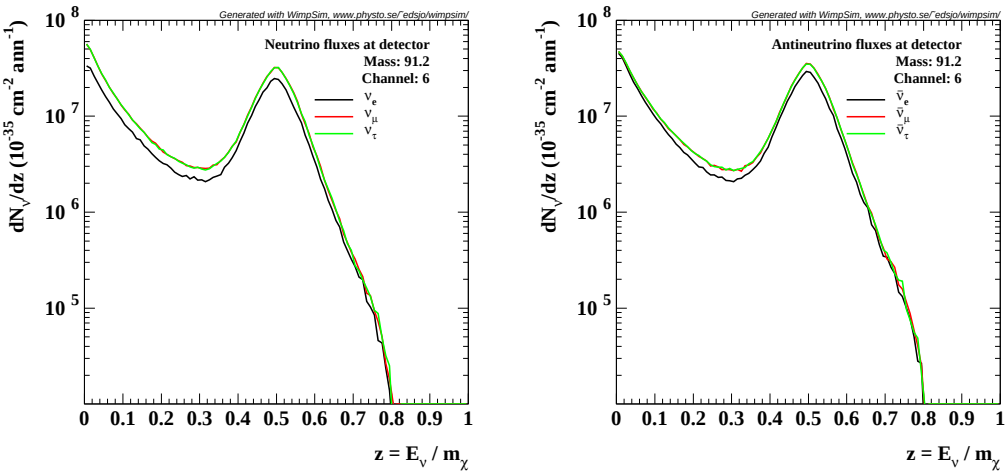
5.4.7 Muons at detector (Sun/Earth)



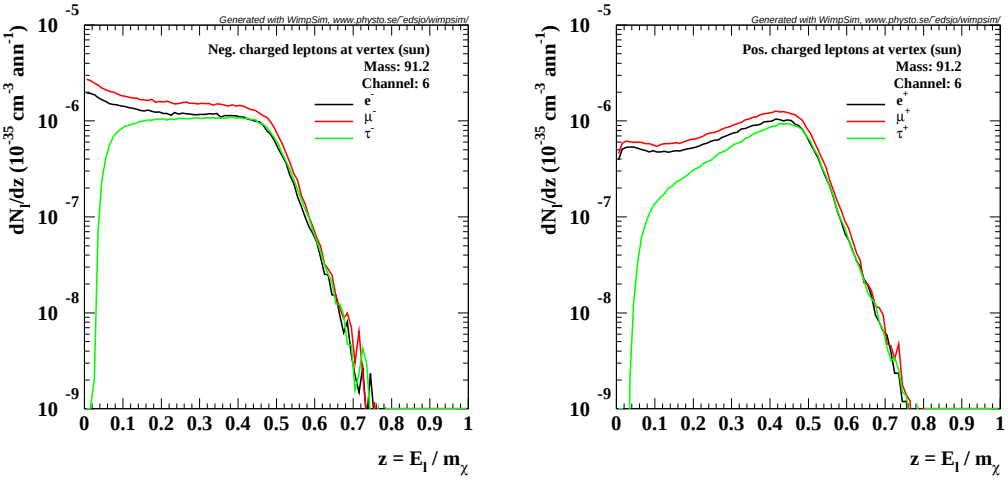


5.5 Channel 6 – Z^0Z^0

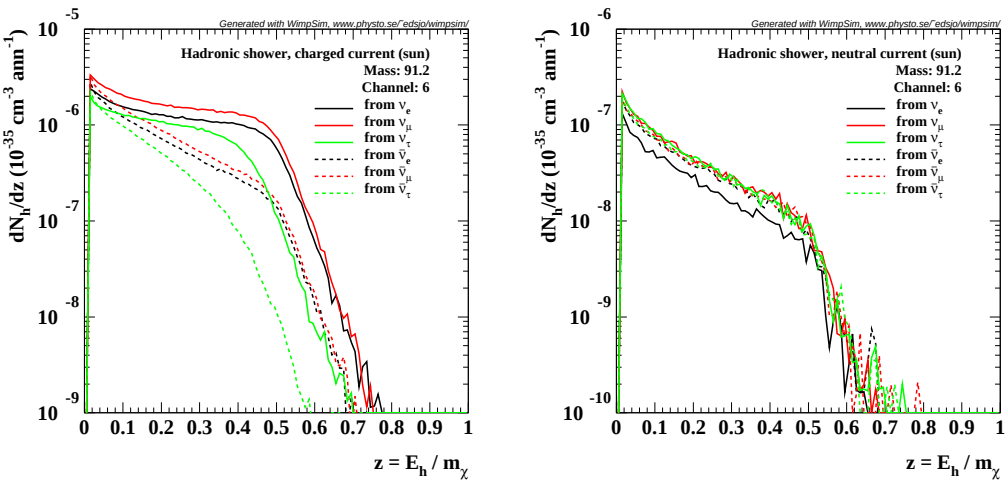
5.5.1 Neutrino fluxes at detector (Sun)



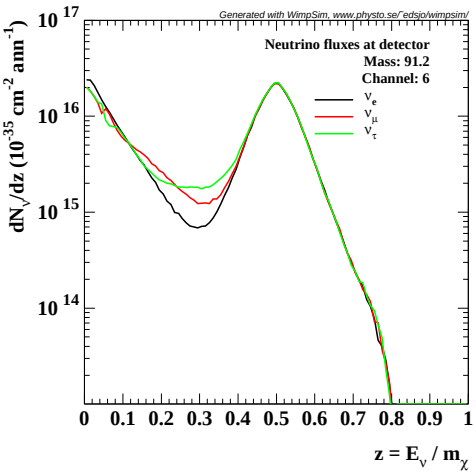
5.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

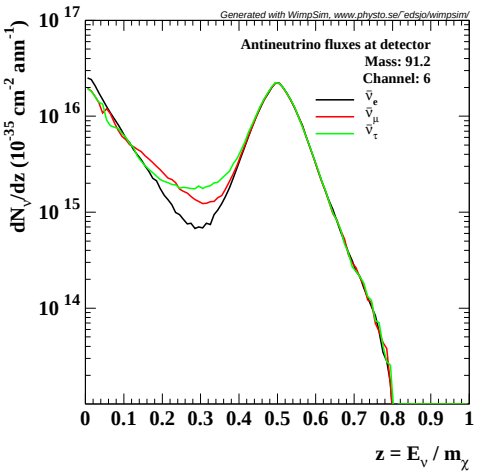


5.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

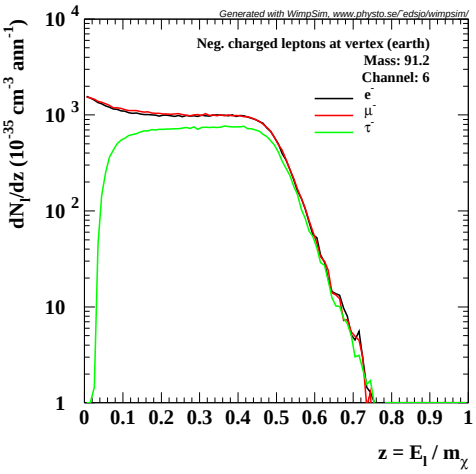


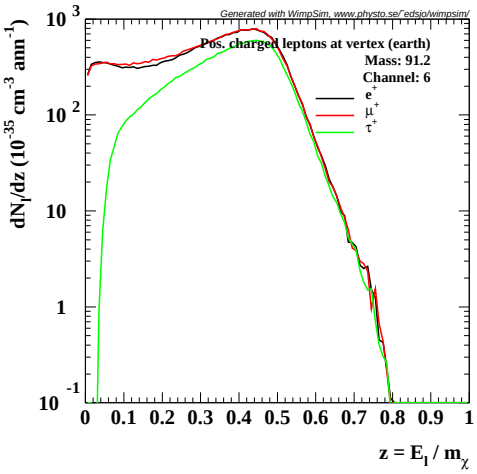
5.5.4 Neutrino fluxes at detector (Earth)



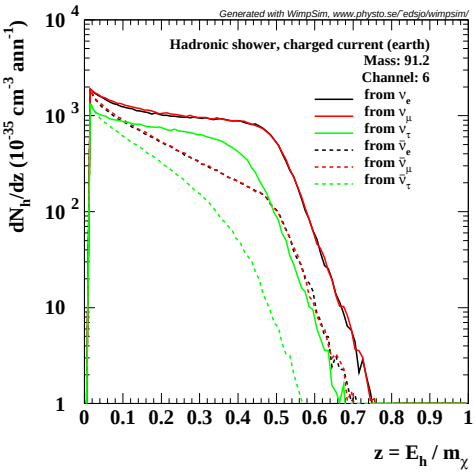


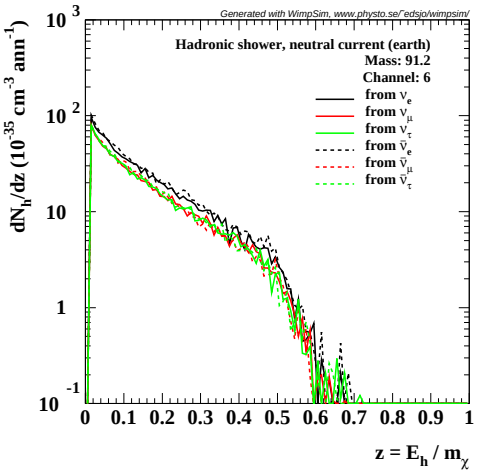
5.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



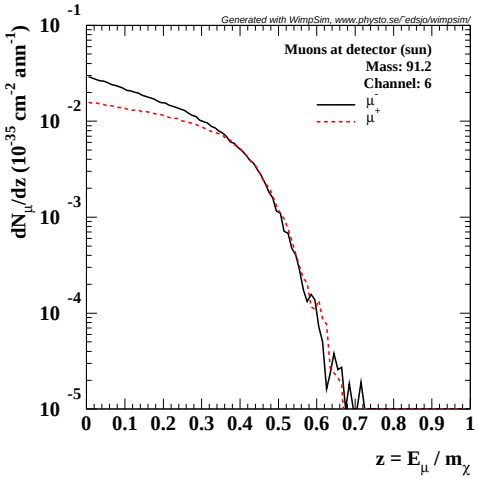


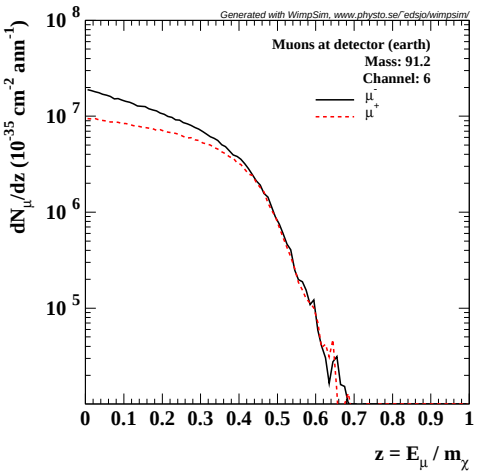
5.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





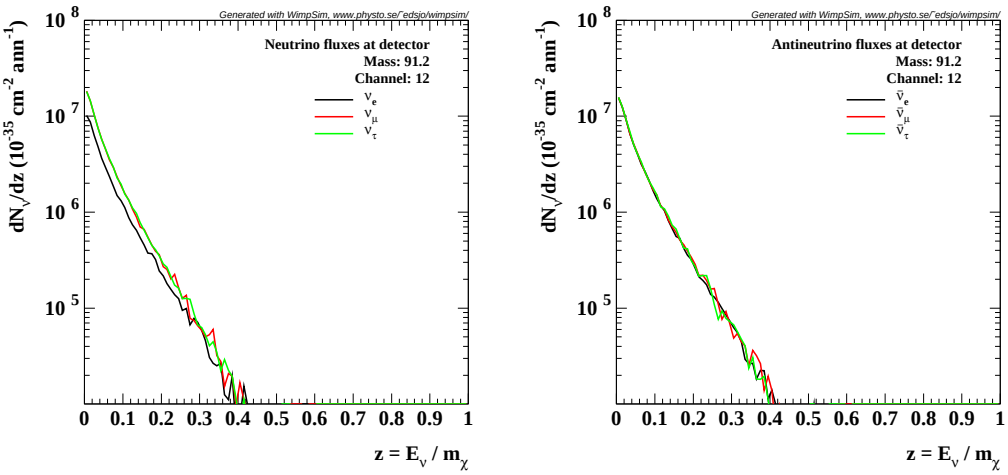
5.5.7 Muons at detector (Sun/Earth)



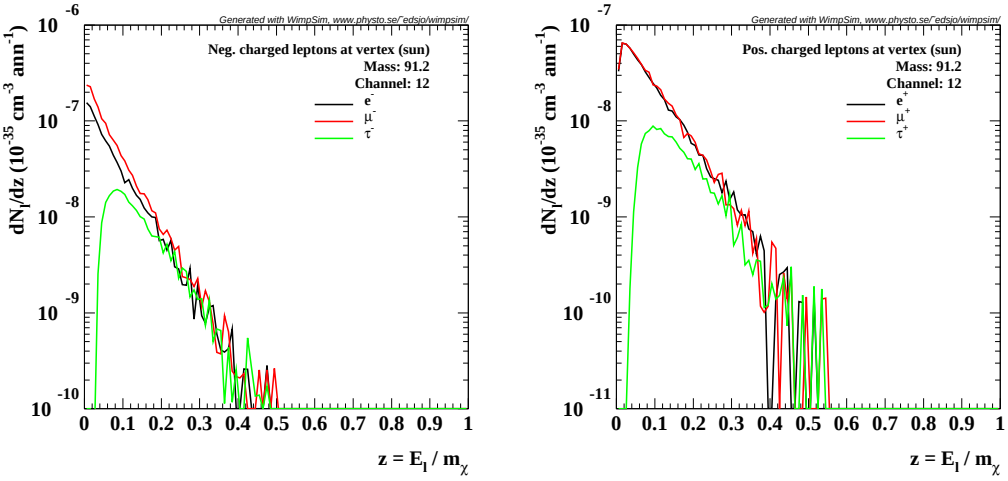


5.6 Channel 12 – gg

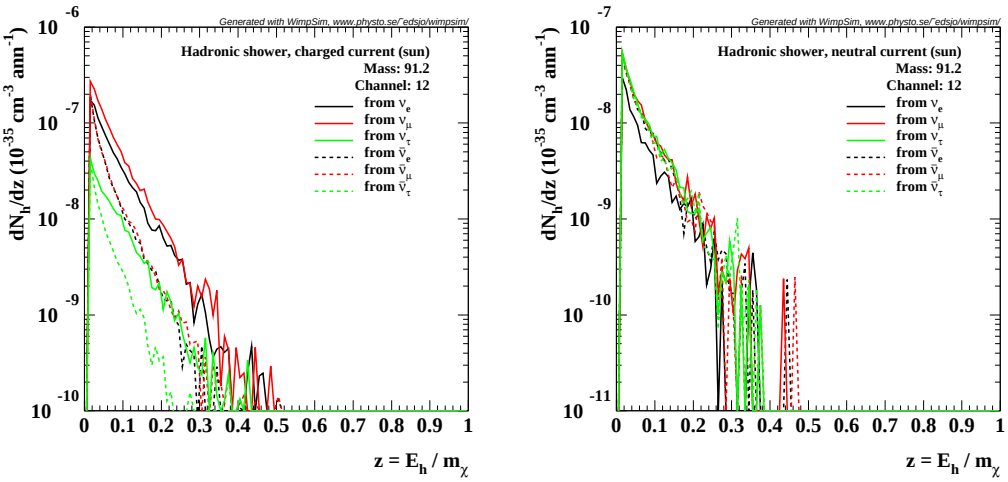
5.6.1 Neutrino fluxes at detector (Sun)



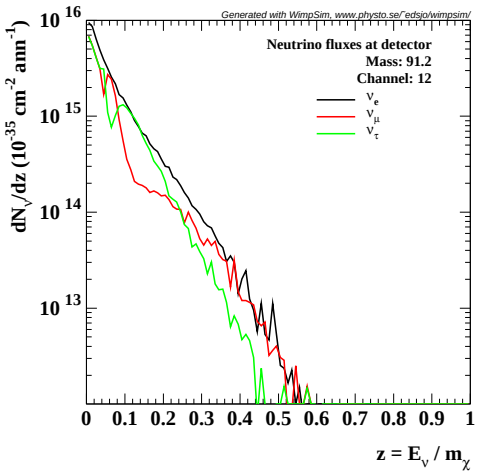
5.6.2 Charged leptons at neutrino-nucleon vertex (Sun)

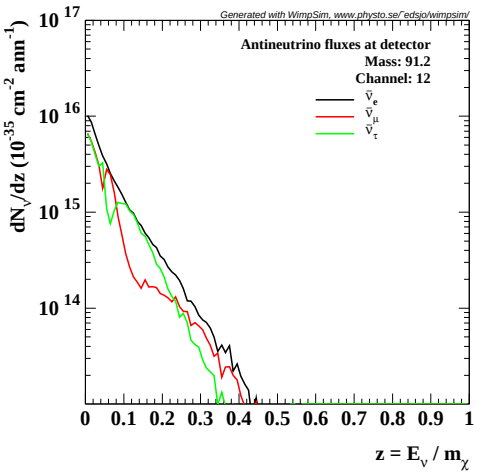


5.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)

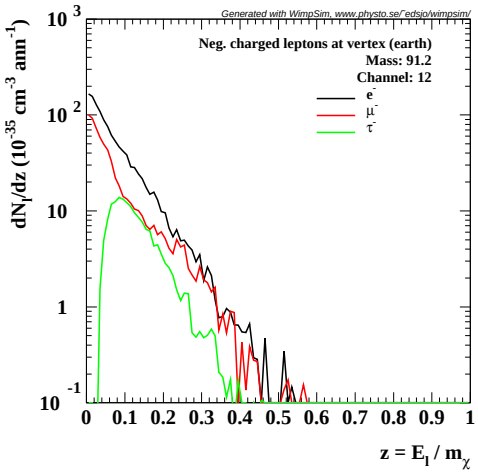


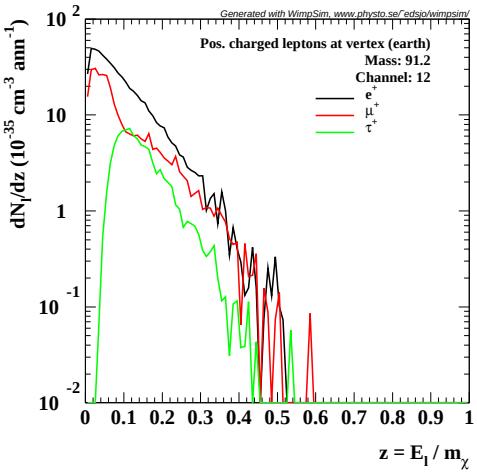
5.6.4 Neutrino fluxes at detector (Earth)



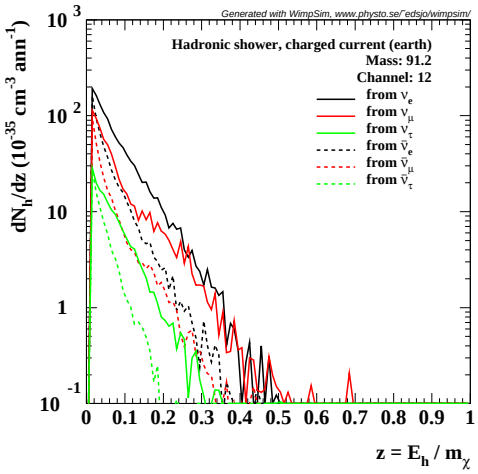


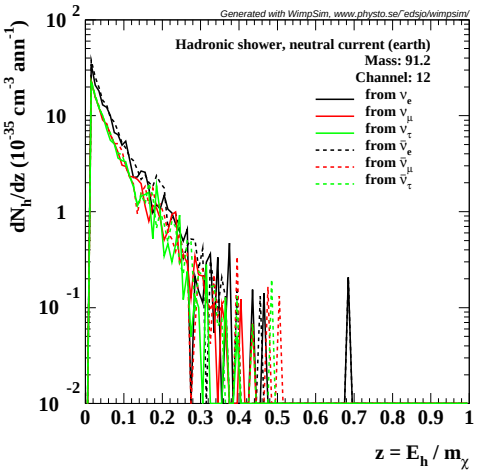
5.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



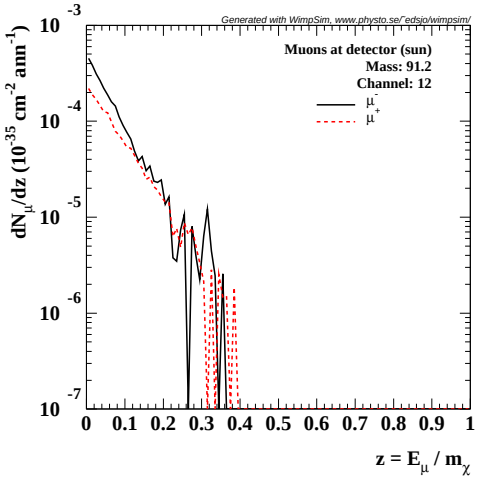


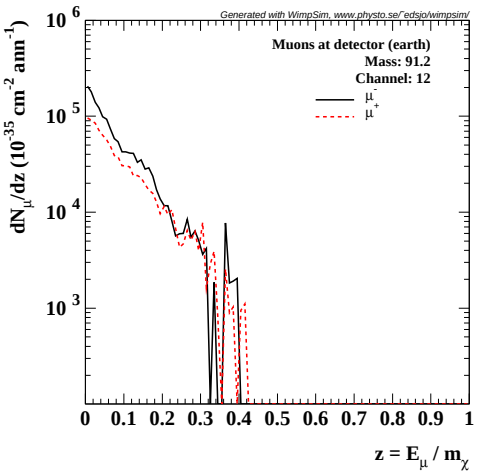
5.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





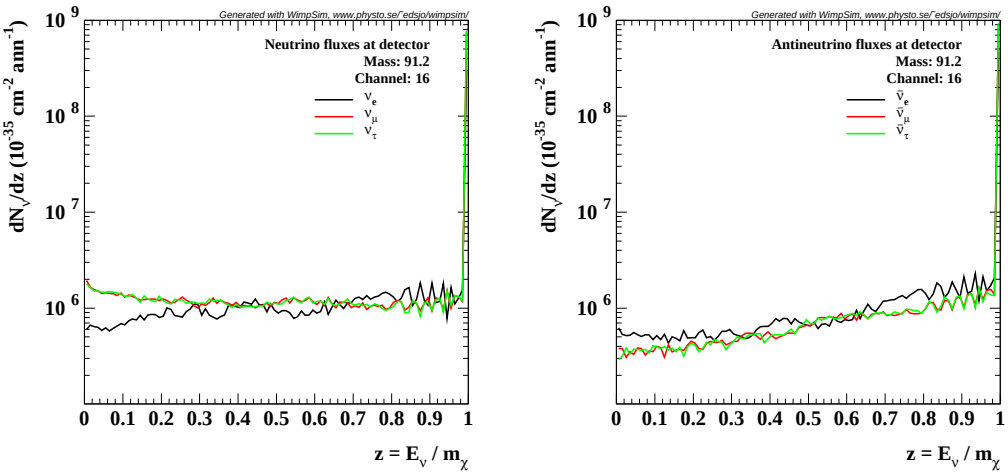
5.6.7 Muons at detector (Sun/Earth)



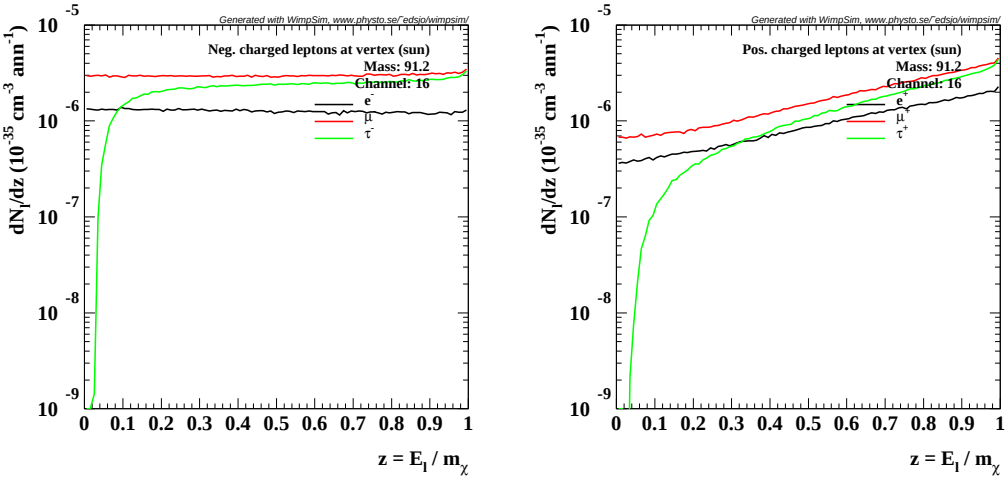


5.7 Channel 16 – $\nu_e\bar{\nu}_e$

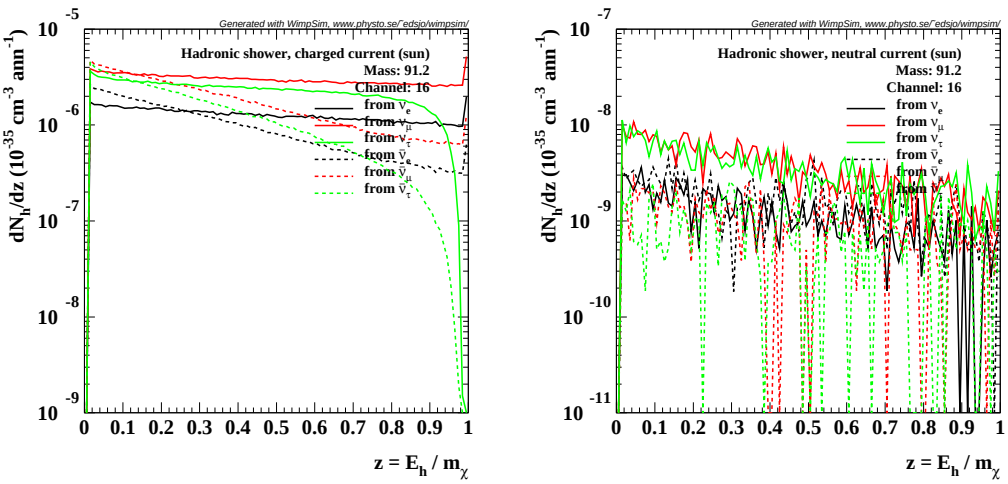
5.7.1 Neutrino fluxes at detector (Sun)



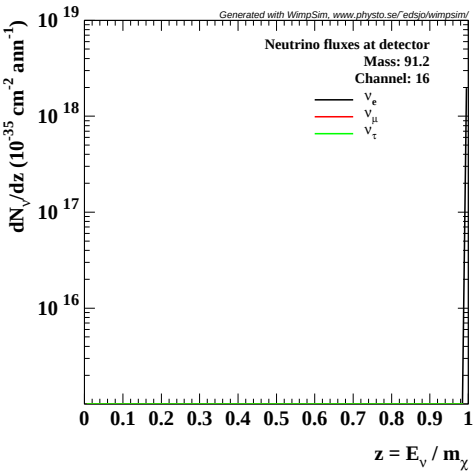
5.7.2 Charged leptons at neutrino-nucleon vertex (Sun)

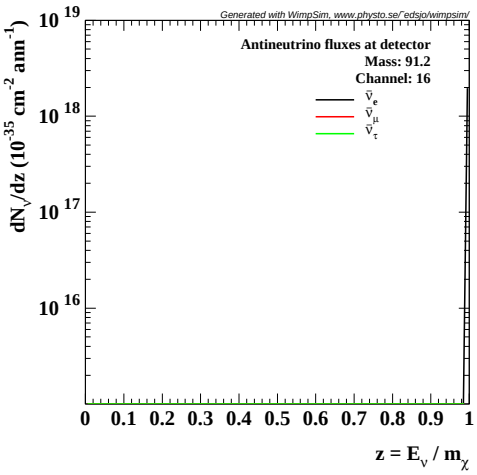


5.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

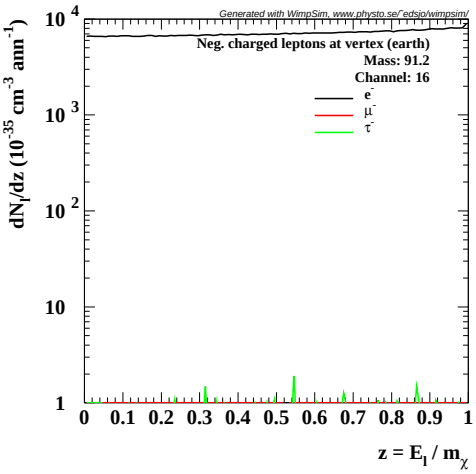


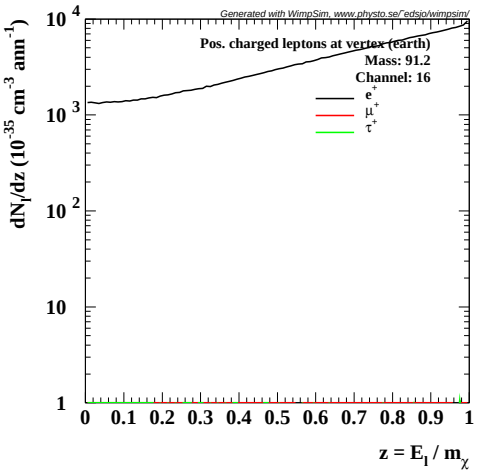
5.7.4 Neutrino fluxes at detector (Earth)



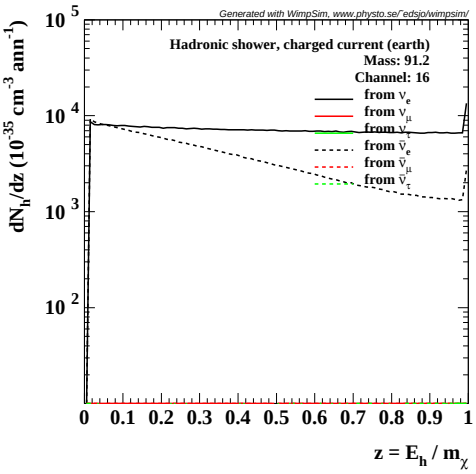


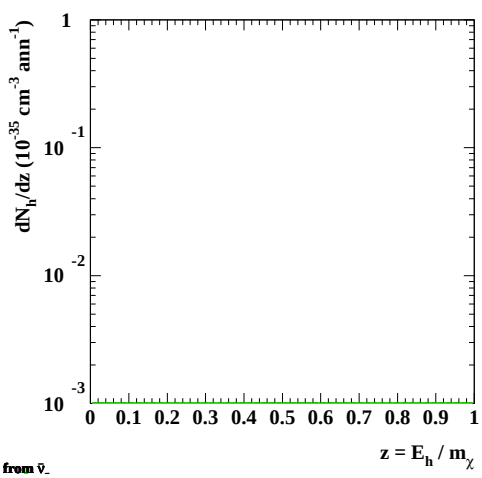
5.7.5 Charged leptons at neutrino-nucleon vertex (Earth)





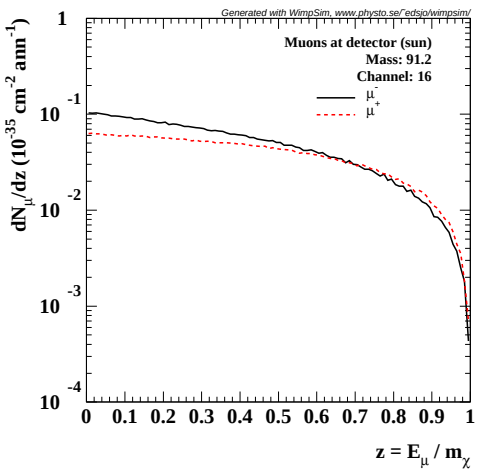
5.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)

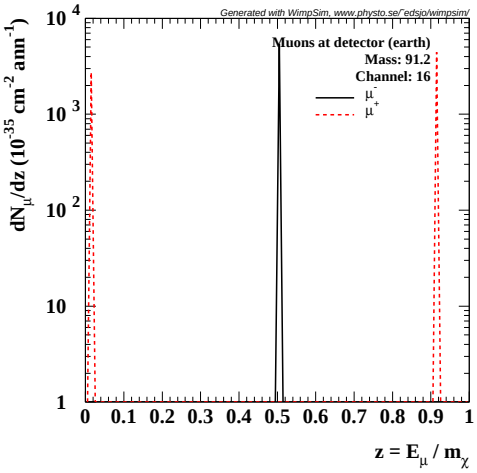




from $\bar{\nu}_\tau$

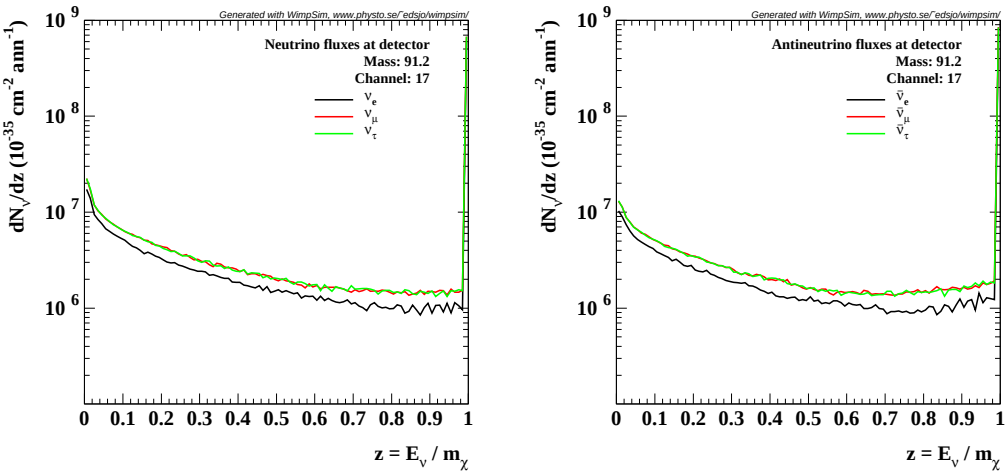
5.7.7 Muons at detector (Sun/Earth)



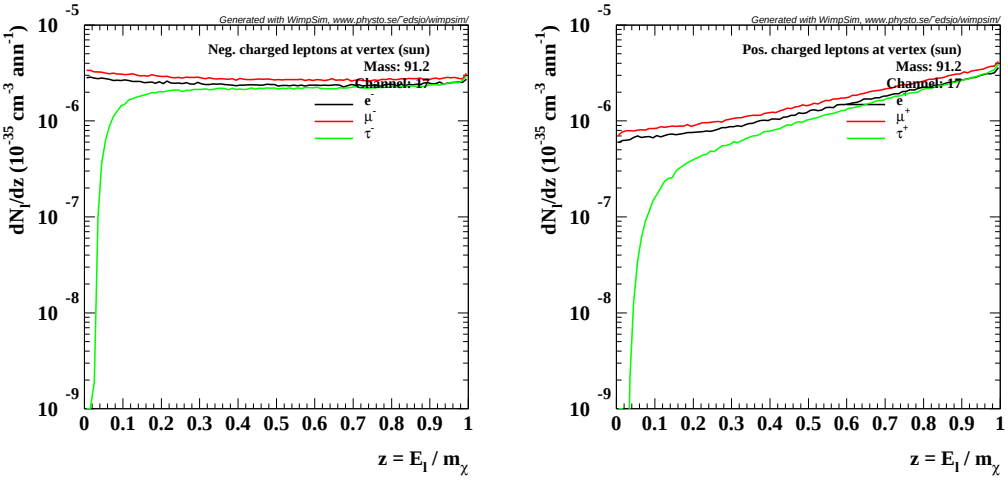


5.8 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

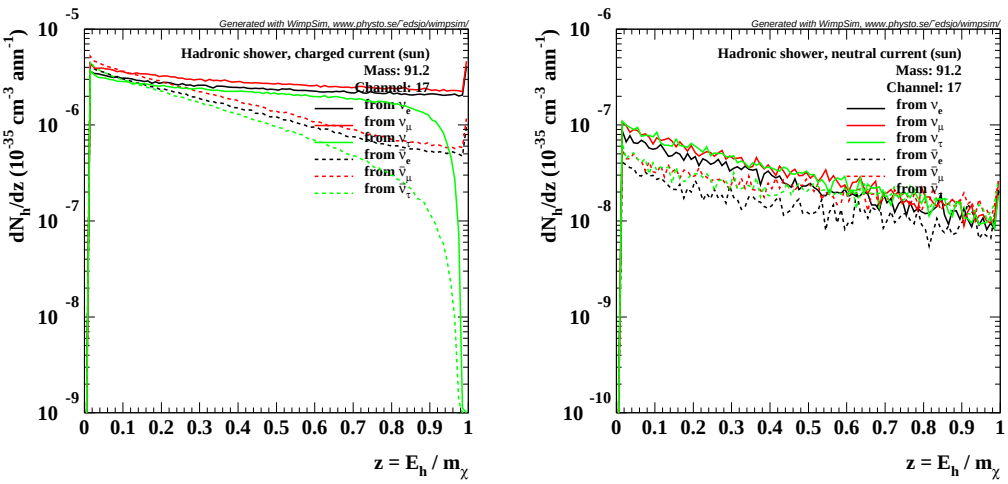
5.8.1 Neutrino fluxes at detector (Sun)



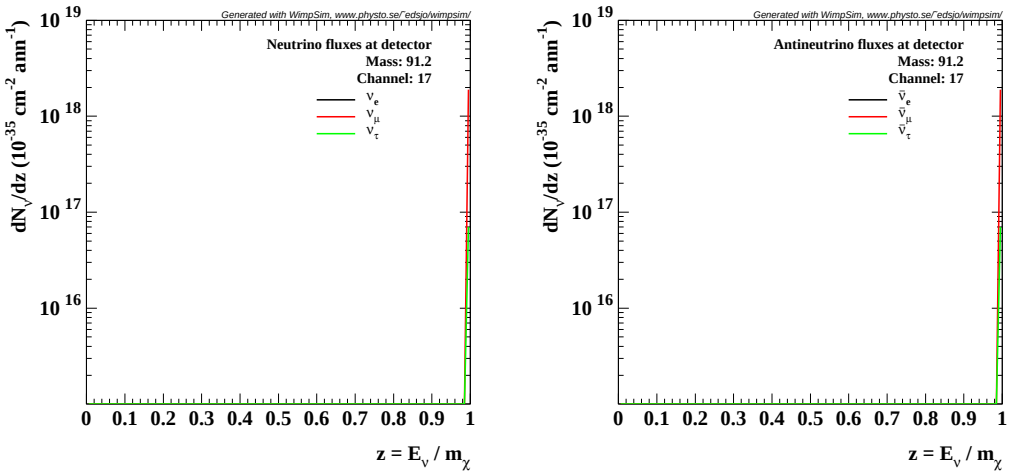
5.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



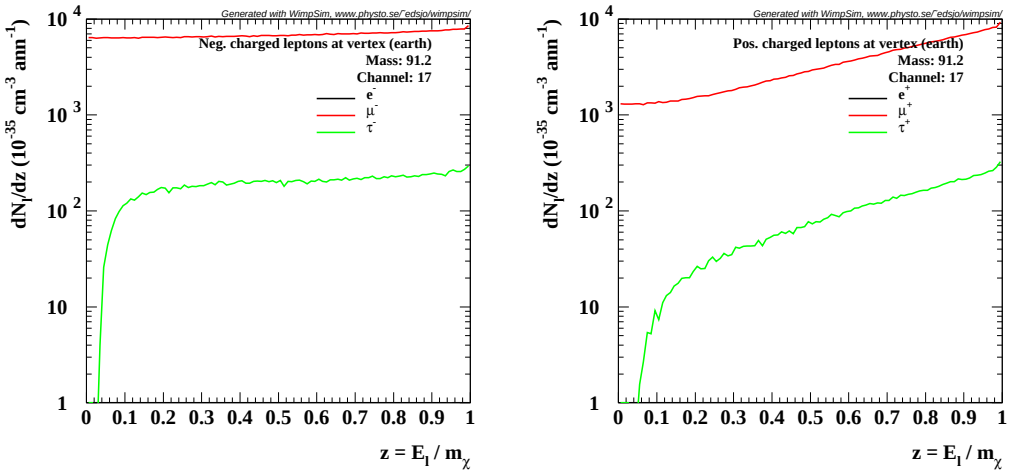
5.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



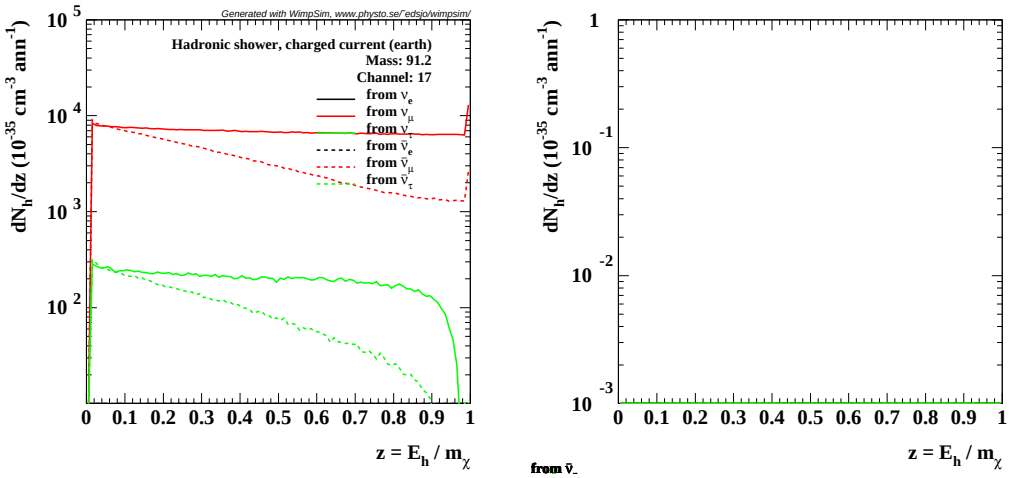
5.8.4 Neutrino fluxes at detector (Earth)



5.8.5 Charged leptons at neutrino-nucleon vertex (Earth)

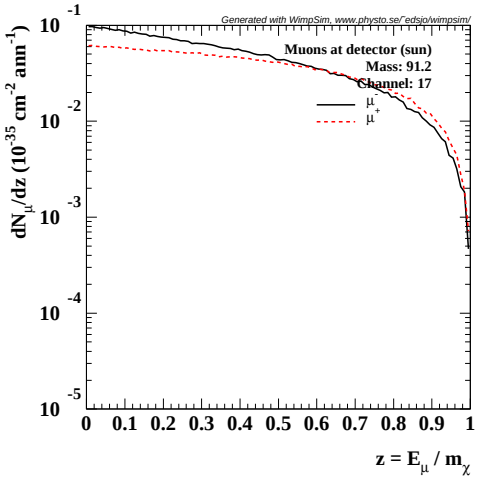


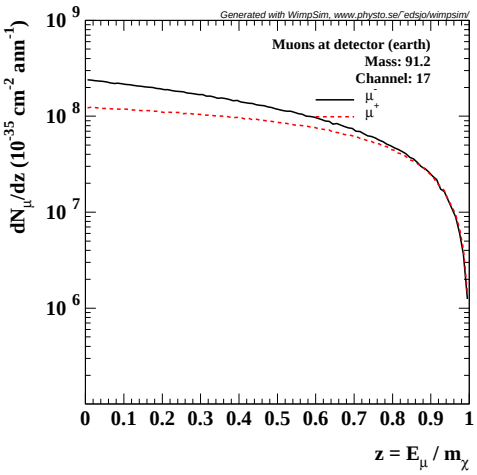
5.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

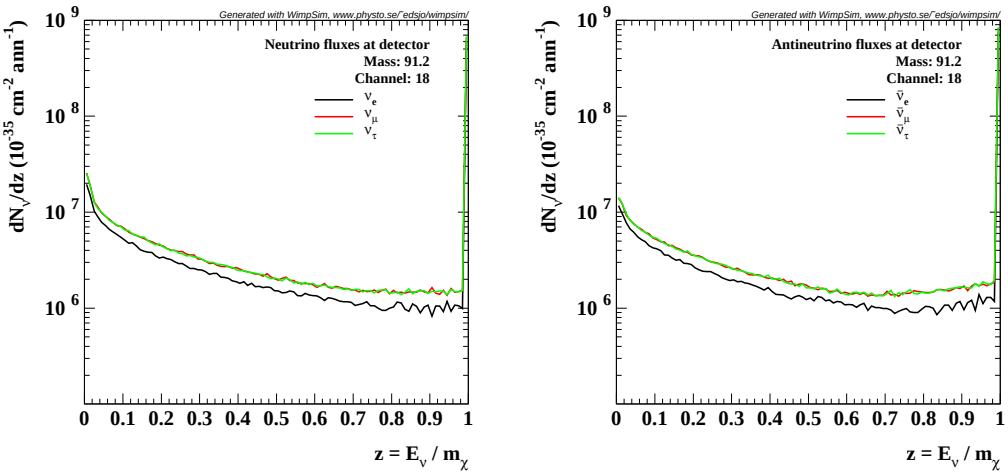
5.8.7 Muons at detector (Sun/Earth)



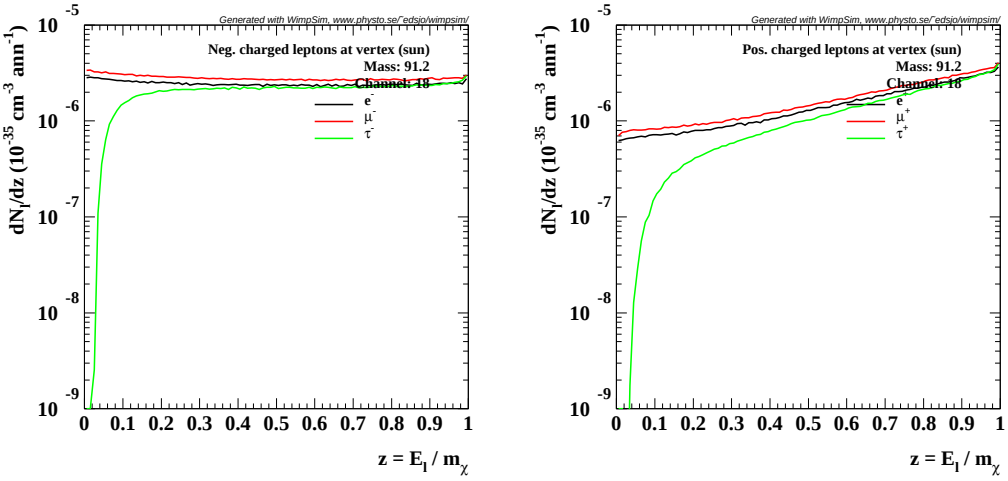


5.9 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

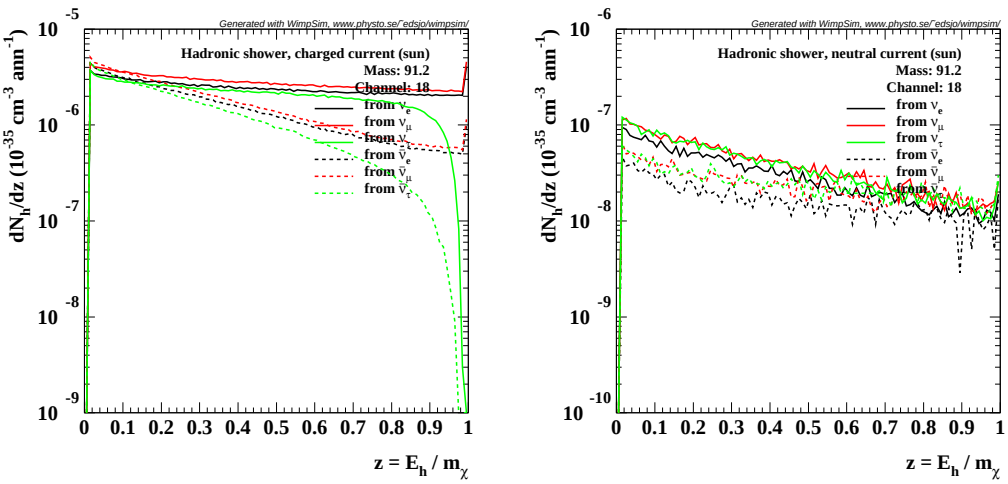
5.9.1 Neutrino fluxes at detector (Sun)



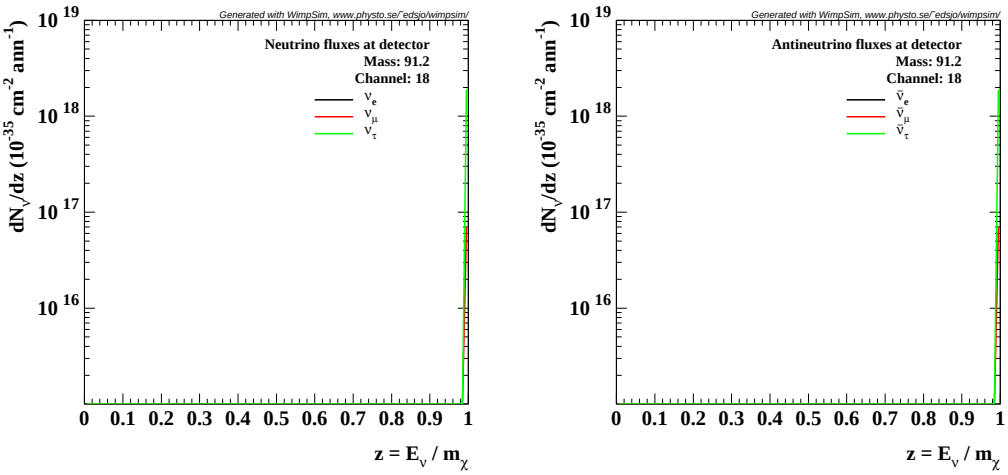
5.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



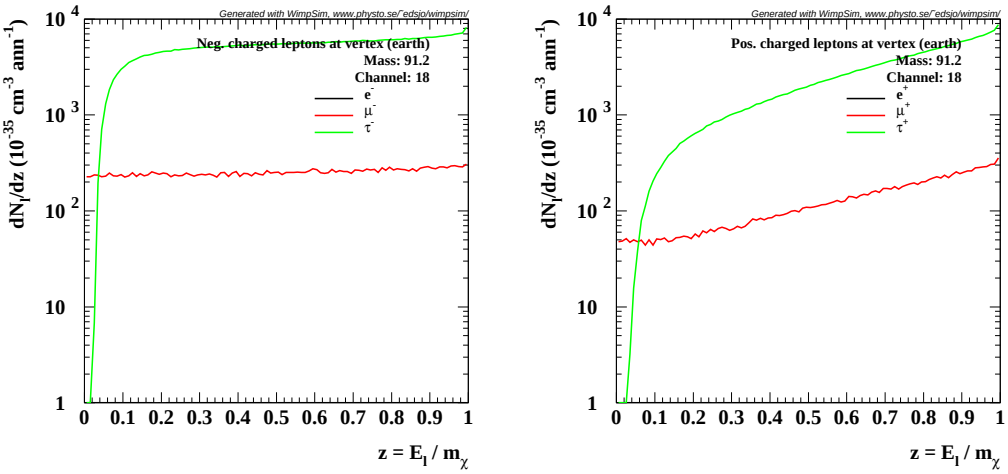
5.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



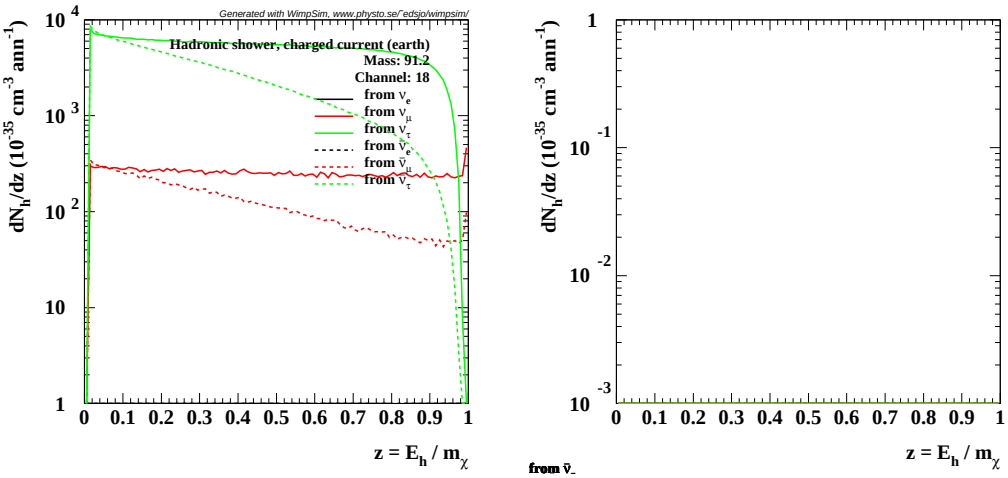
5.9.4 Neutrino fluxes at detector (Earth)



5.9.5 Charged leptons at neutrino-nucleon vertex (Earth)

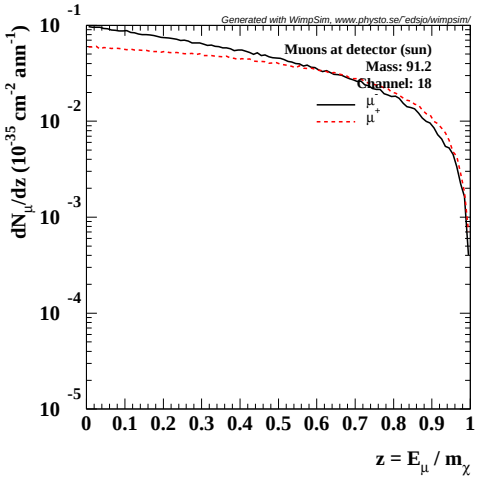


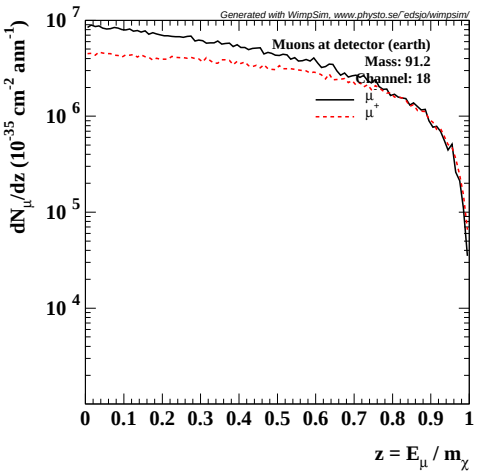
5.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

5.9.7 Muons at detector (Sun/Earth)

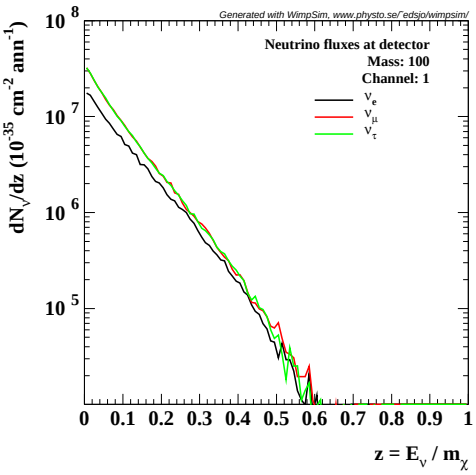


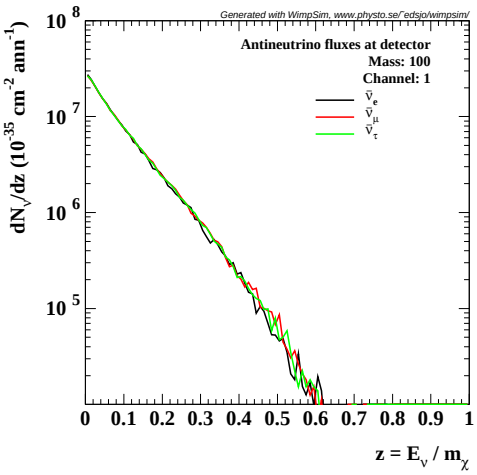


6 Mass 100

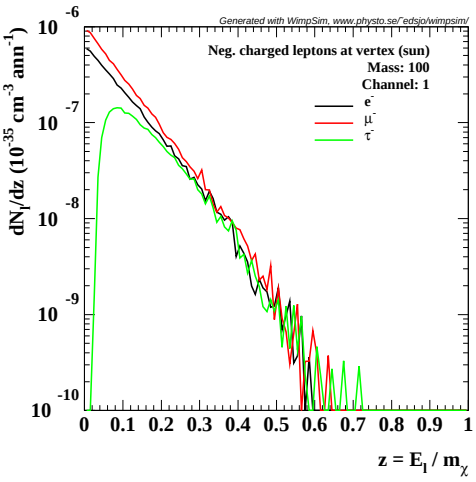
6.1 Channel 1 – $c\bar{c}$

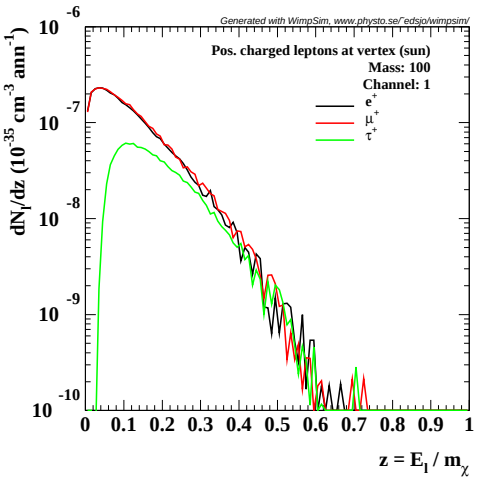
6.1.1 Neutrino fluxes at detector (Sun)



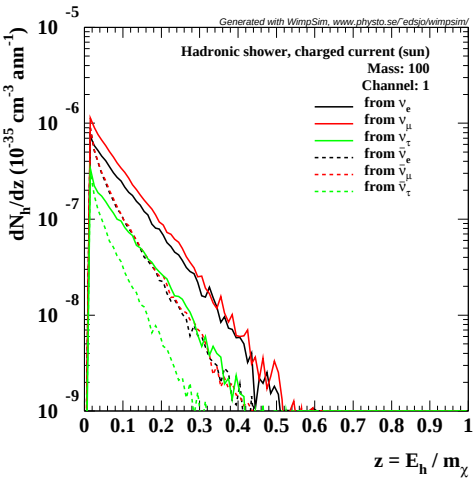


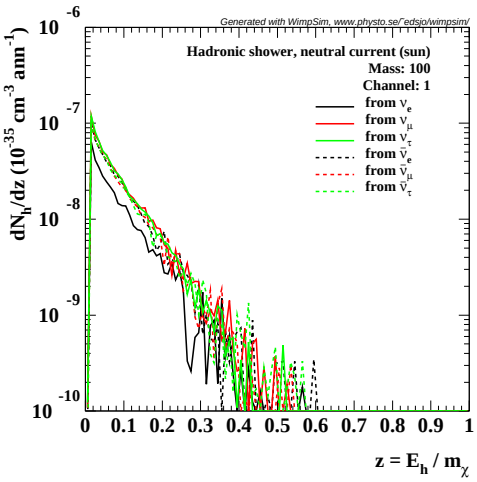
6.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



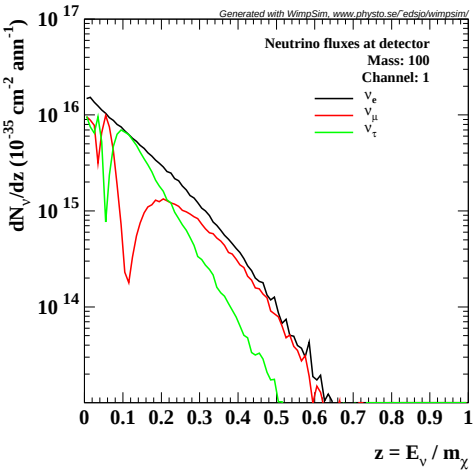


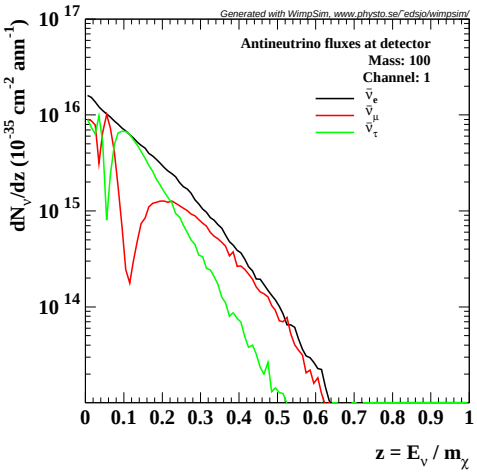
6.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



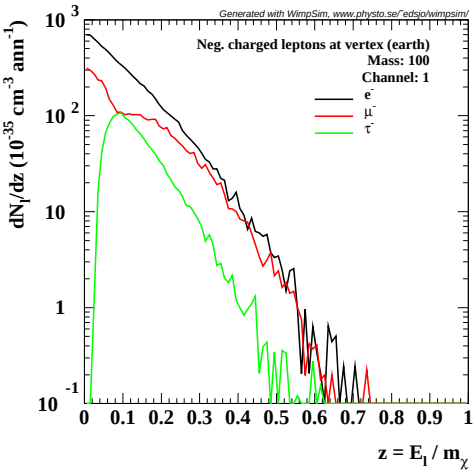


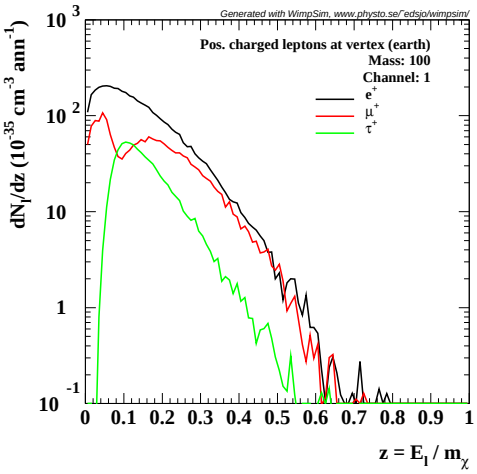
6.1.4 Neutrino fluxes at detector (Earth)



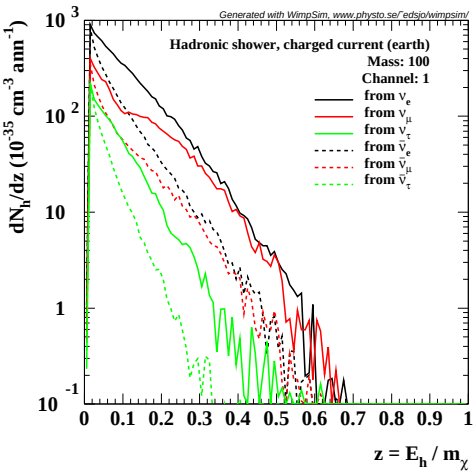


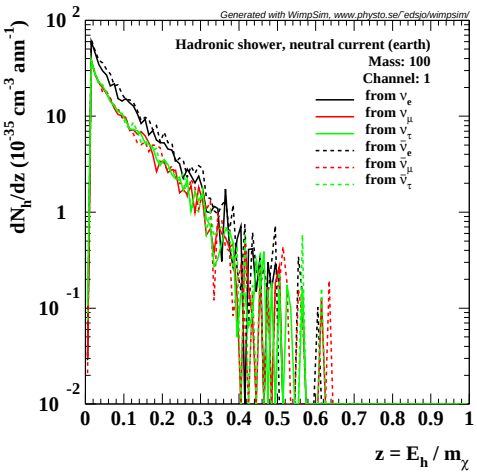
6.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



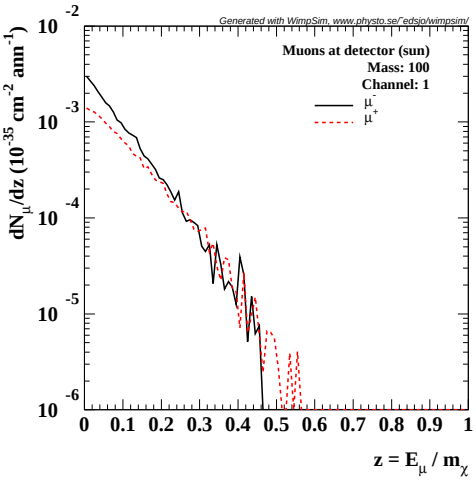


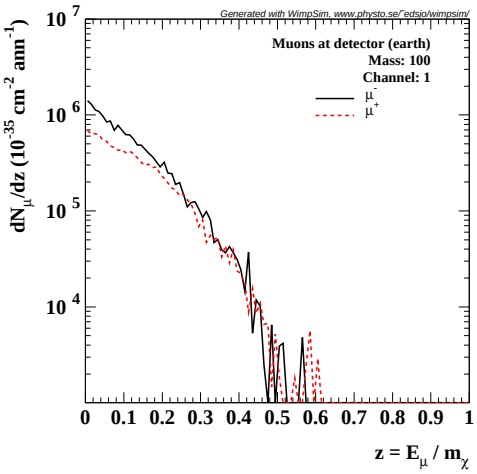
6.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





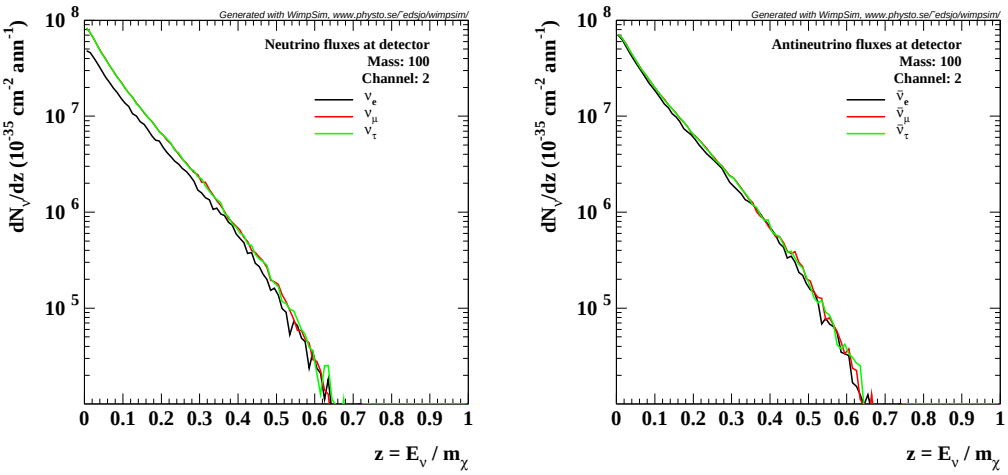
6.1.7 Muons at detector (Sun/Earth)



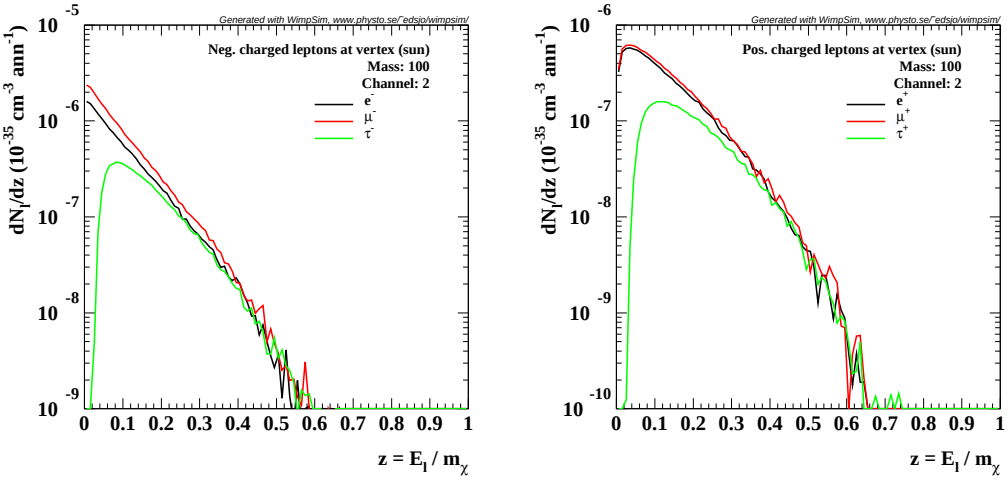


6.2 Channel 2 – $b\bar{b}$

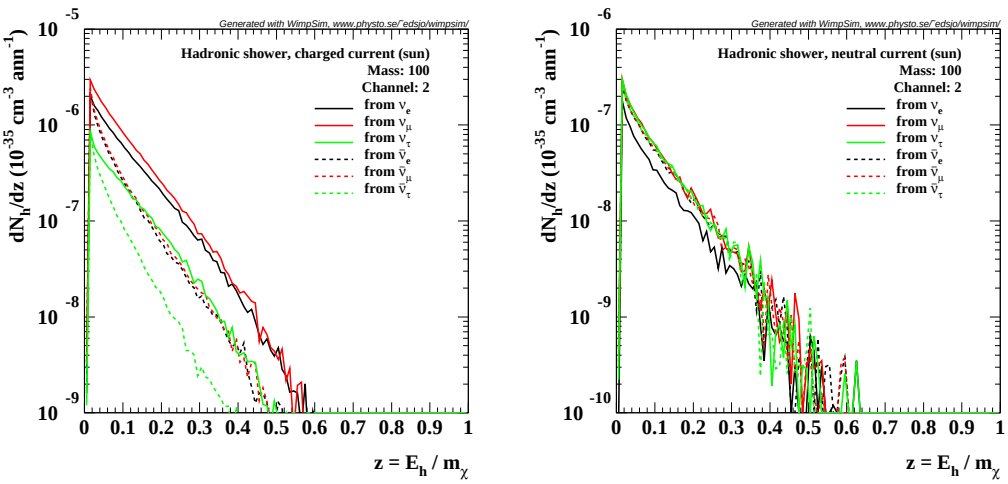
6.2.1 Neutrino fluxes at detector (Sun)



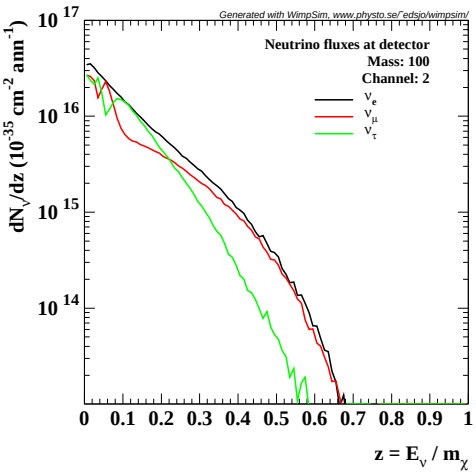
6.2.2 Charged leptons at neutrino-nucleon vertex (Sun)

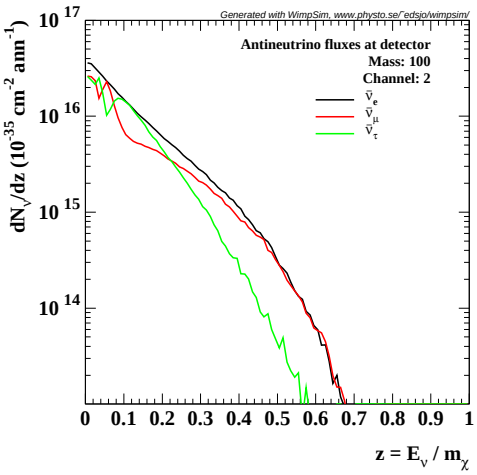


6.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)

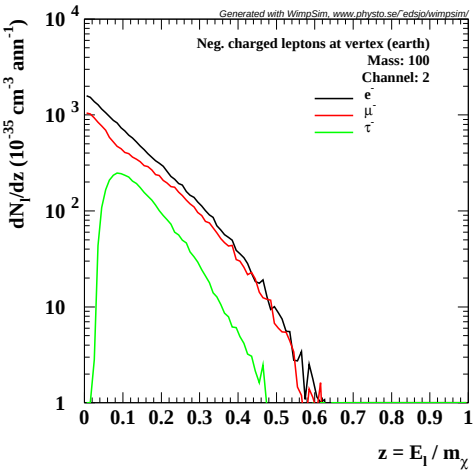


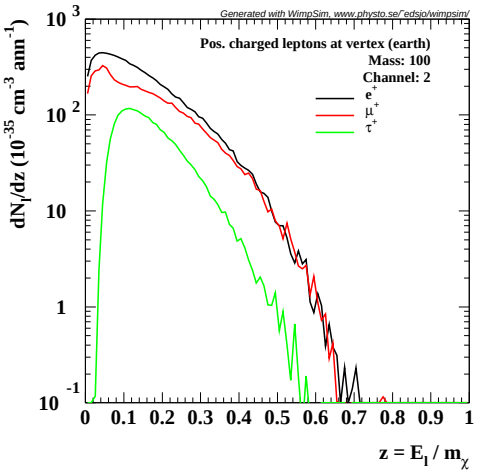
6.2.4 Neutrino fluxes at detector (Earth)



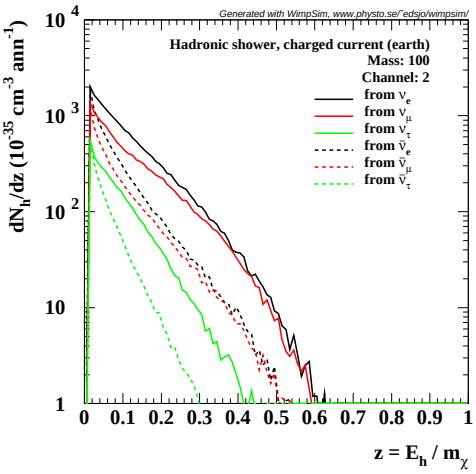


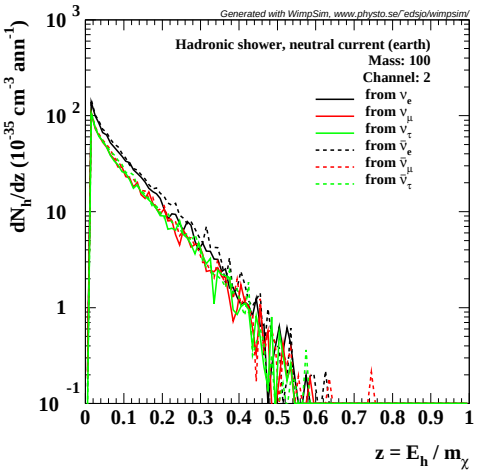
6.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



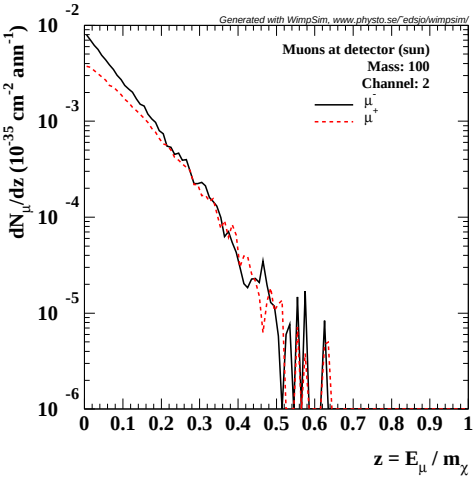


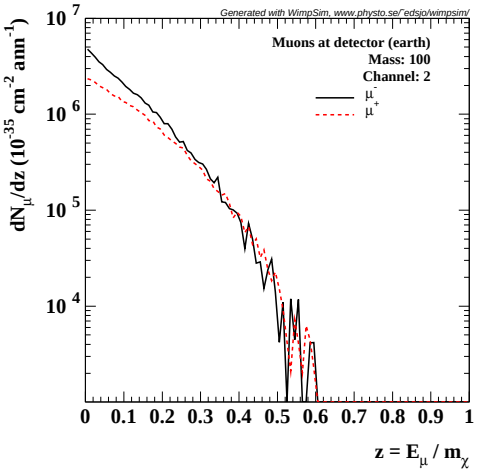
6.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





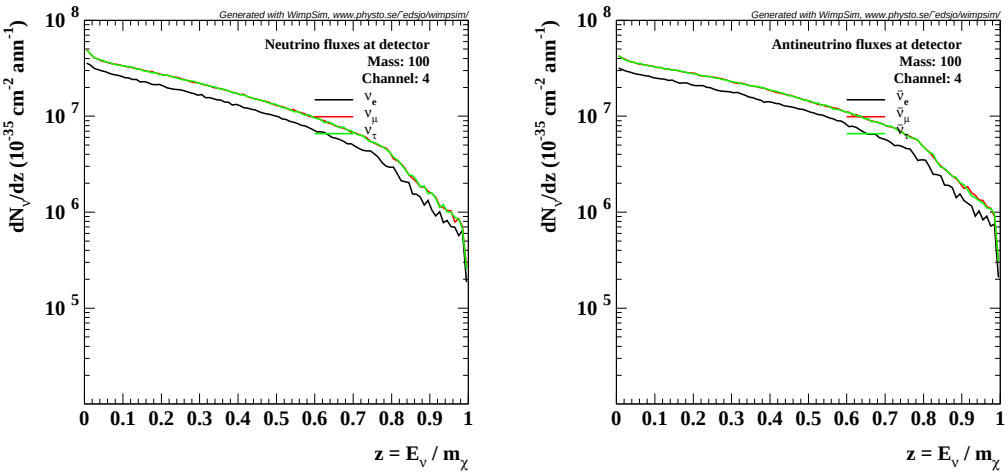
6.2.7 Muons at detector (Sun/Earth)



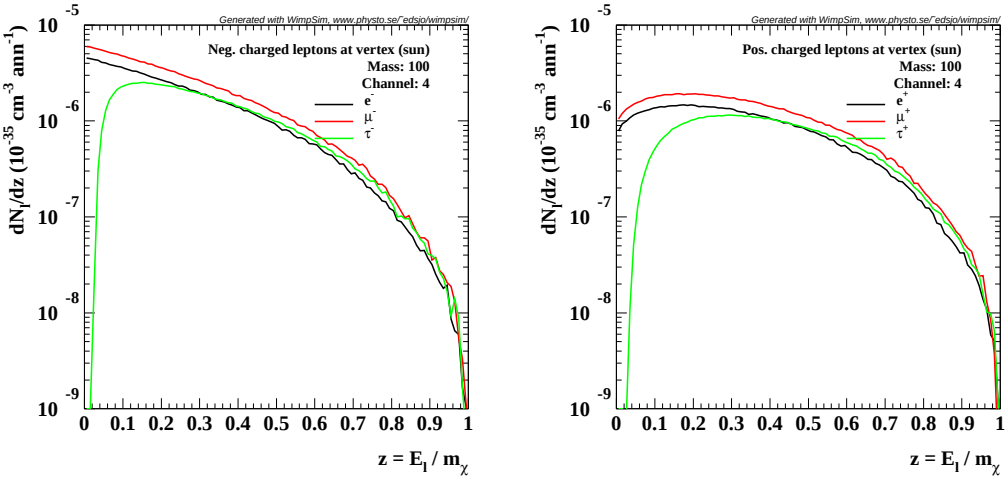


6.3 Channel 4 – $\tau^-\tau^+$

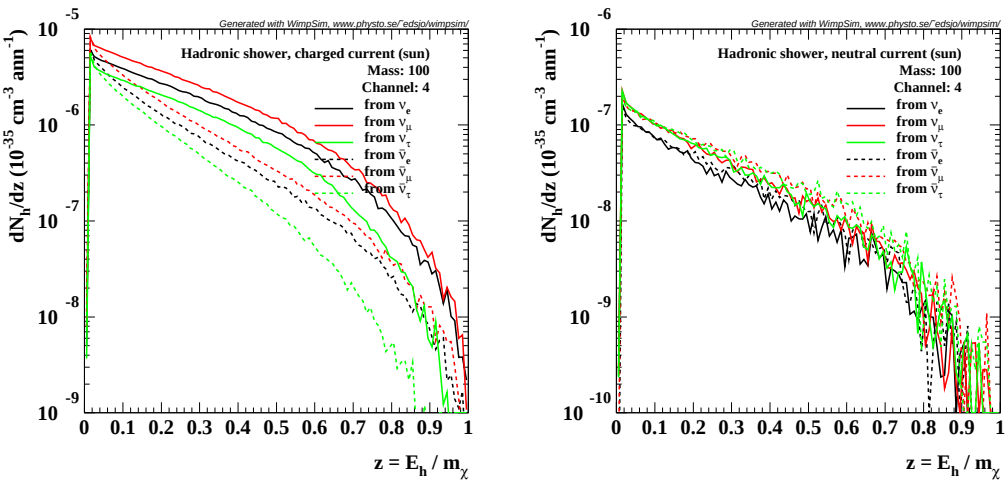
6.3.1 Neutrino fluxes at detector (Sun)



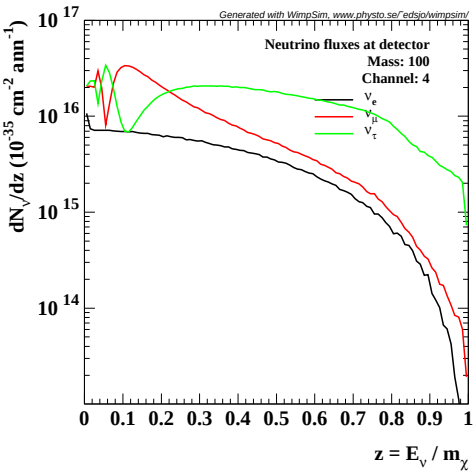
6.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

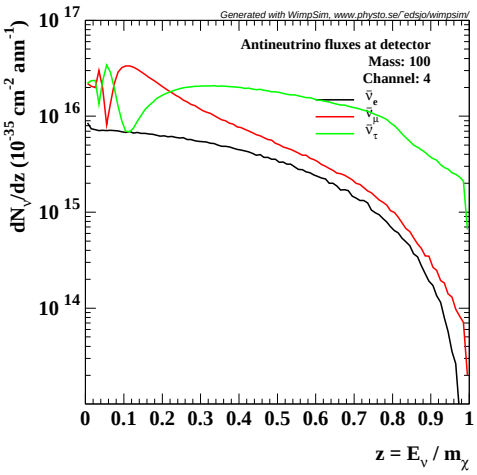


6.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

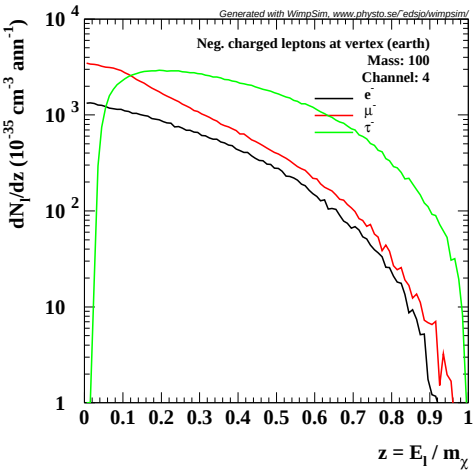


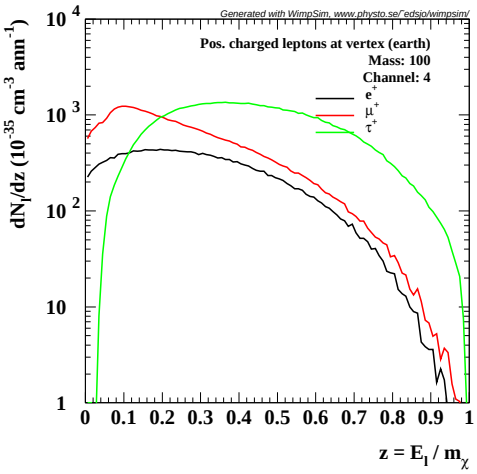
6.3.4 Neutrino fluxes at detector (Earth)



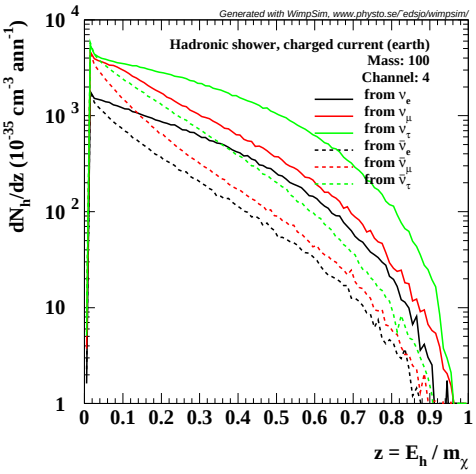


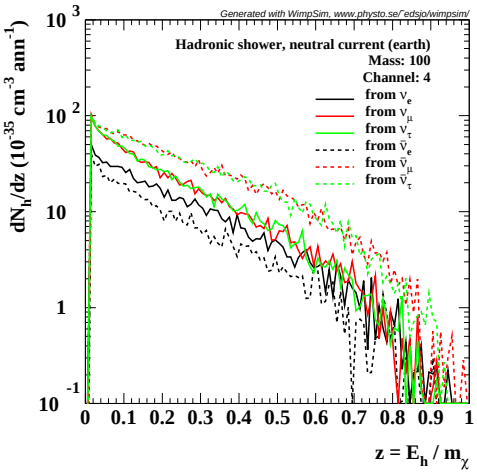
6.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



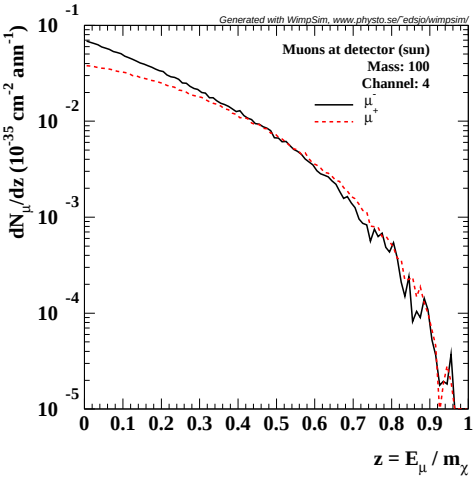


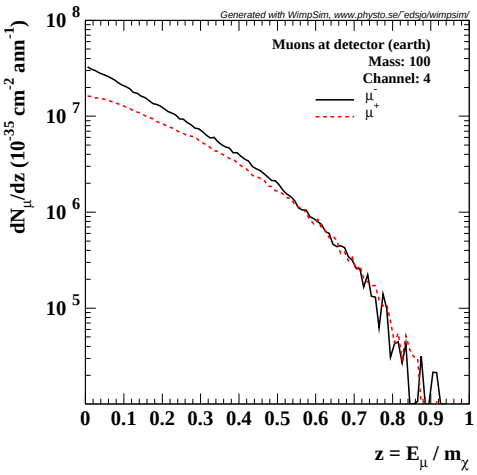
6.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





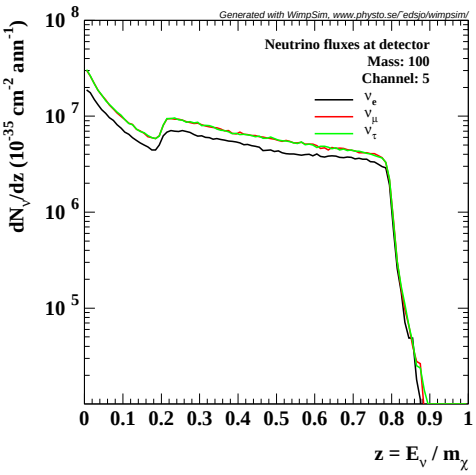
6.3.7 Muons at detector (Sun/Earth)

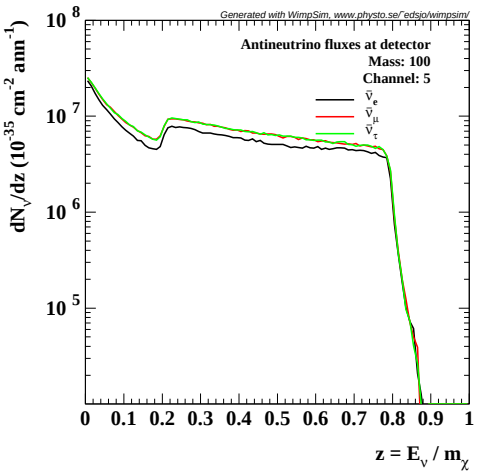




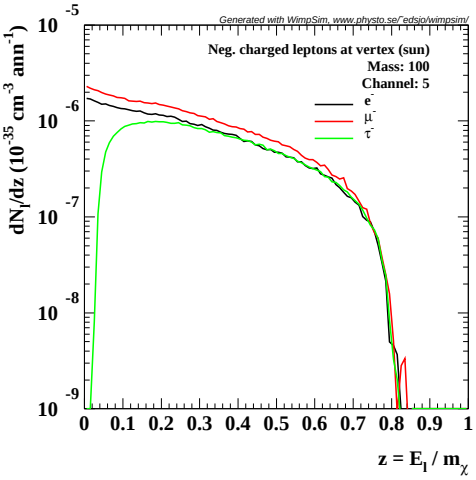
6.4 Channel 5 – W^-W^+

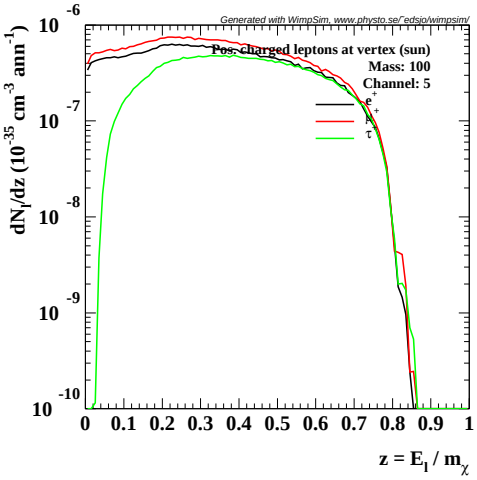
6.4.1 Neutrino fluxes at detector (Sun)



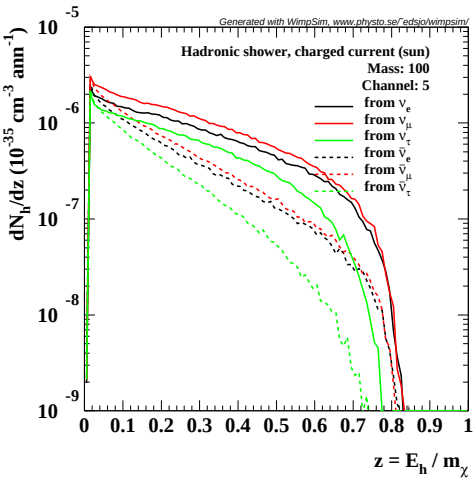


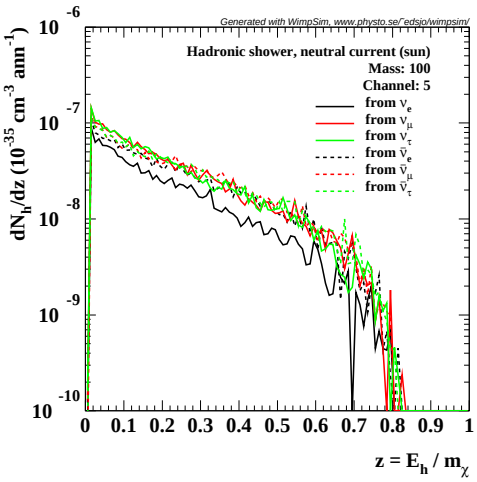
6.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



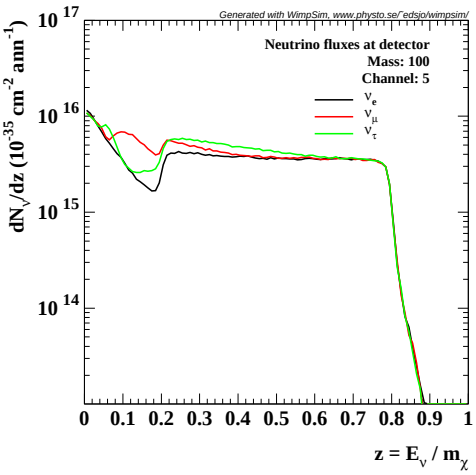


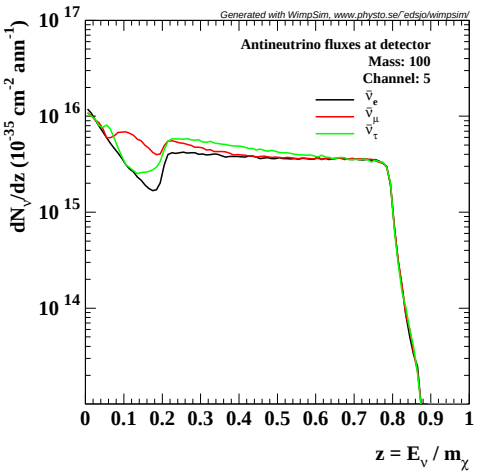
6.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



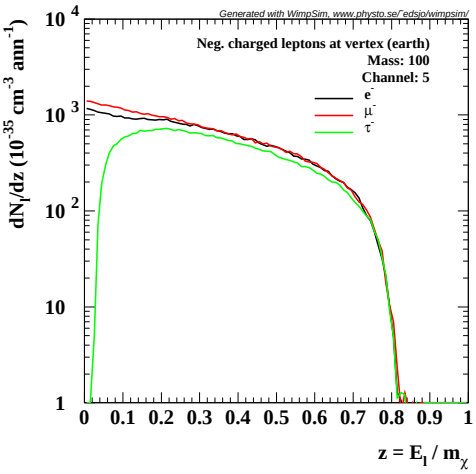


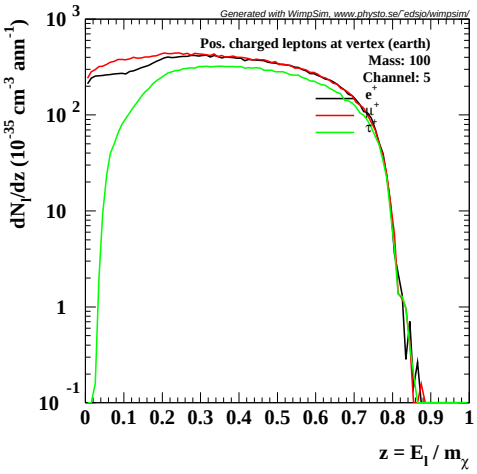
6.4.4 Neutrino fluxes at detector (Earth)



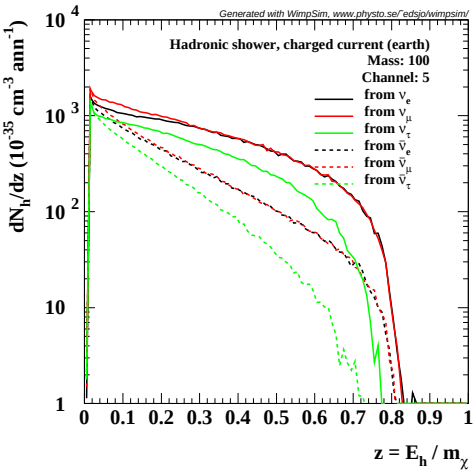


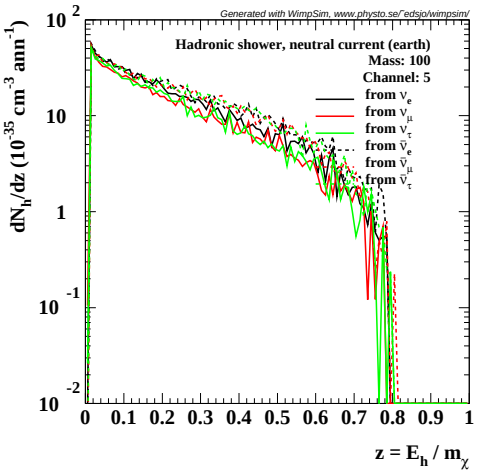
6.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



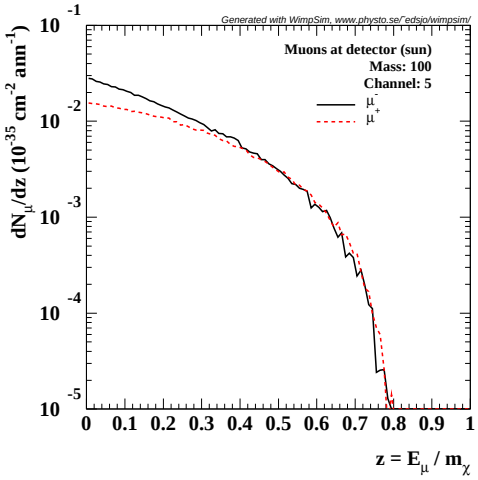


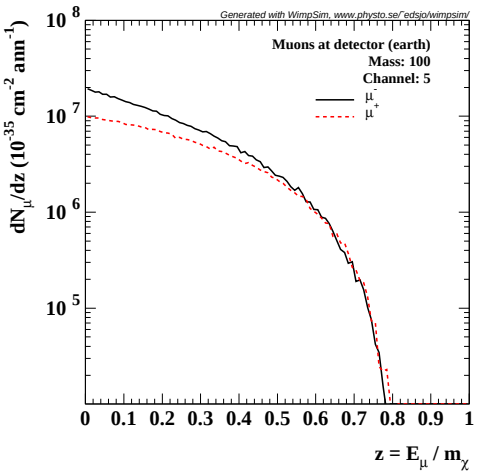
6.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





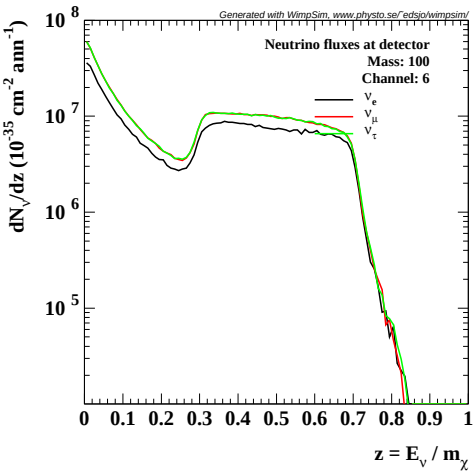
6.4.7 Muons at detector (Sun/Earth)

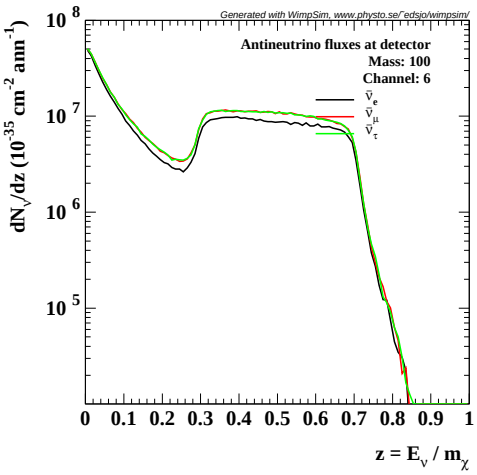




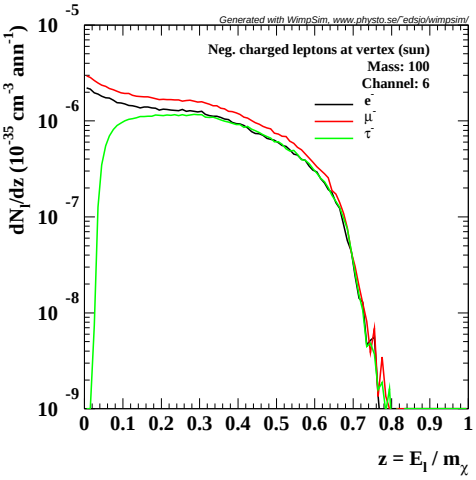
6.5 Channel 6 – Z^0Z^0

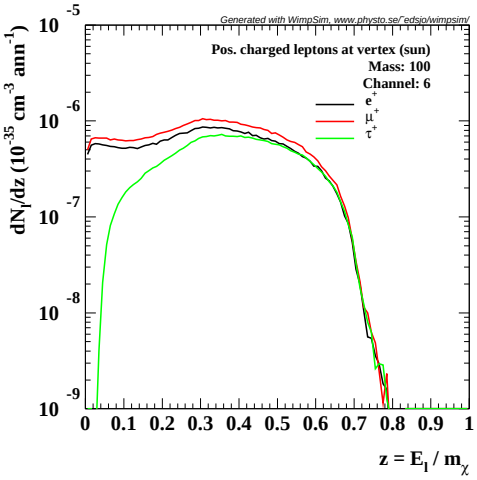
6.5.1 Neutrino fluxes at detector (Sun)



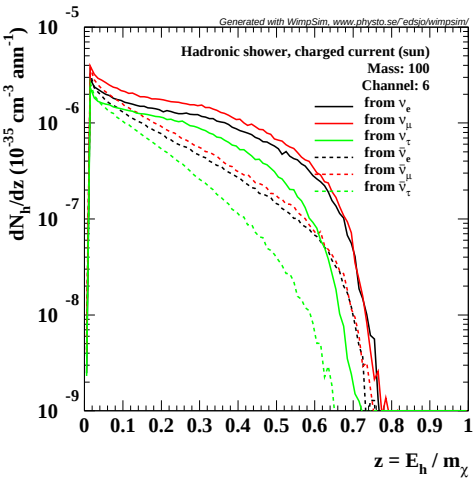


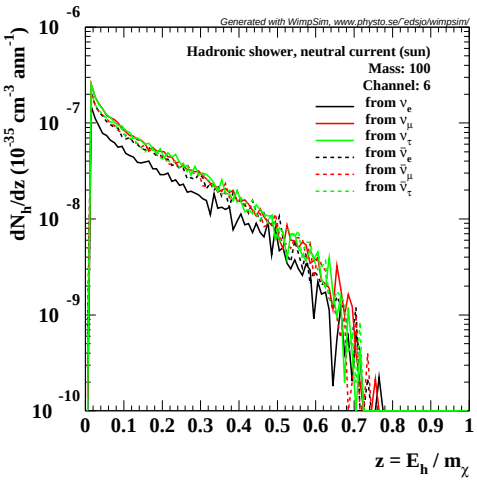
6.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



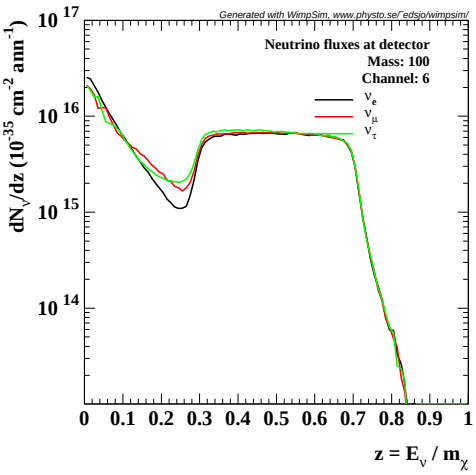


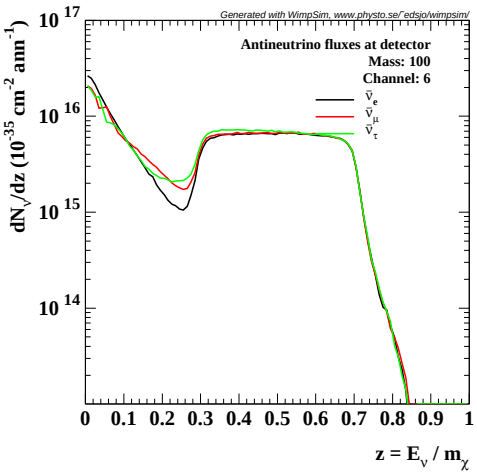
6.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



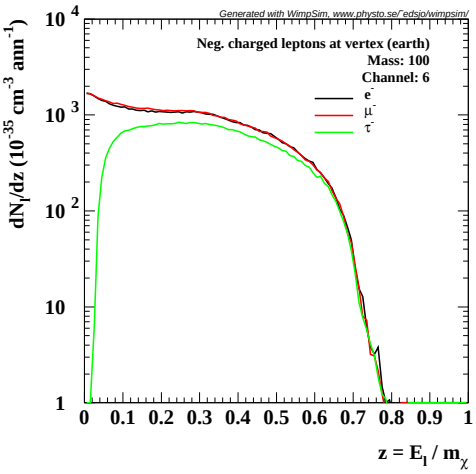


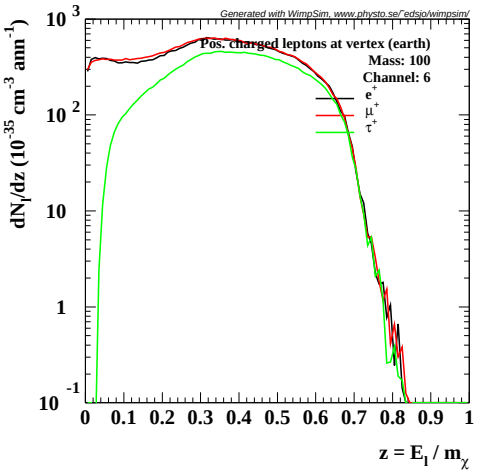
6.5.4 Neutrino fluxes at detector (Earth)



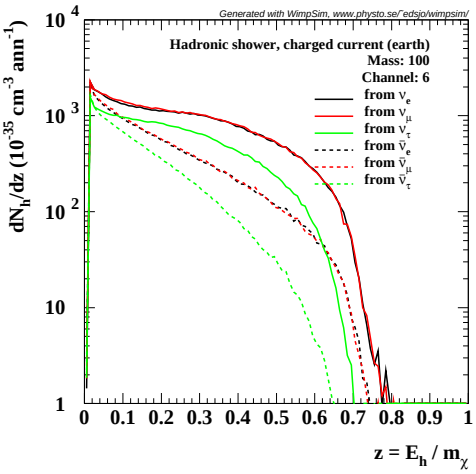


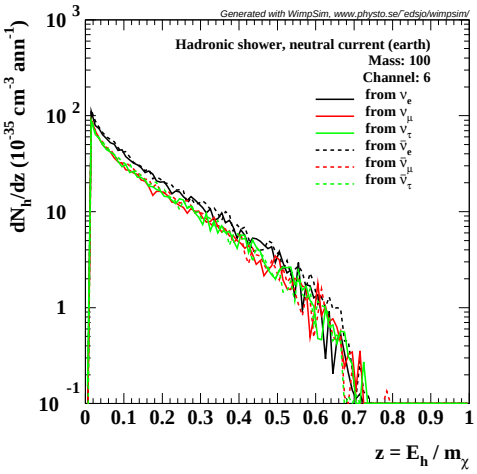
6.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



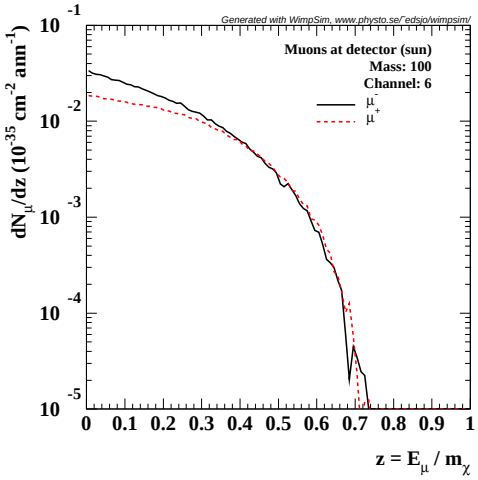


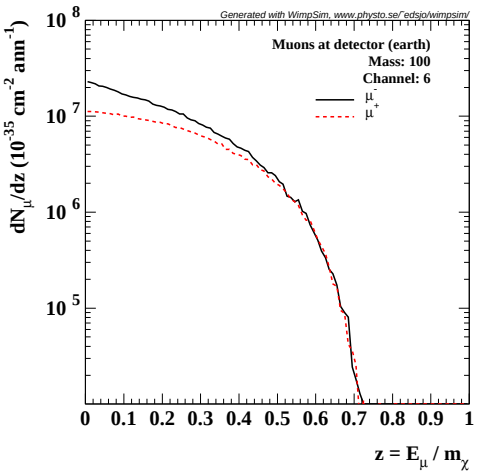
6.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





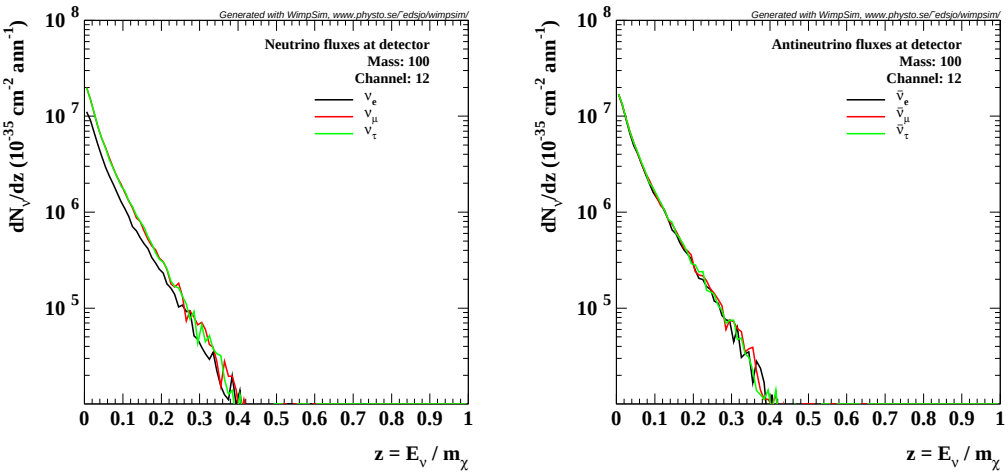
6.5.7 Muons at detector (Sun/Earth)



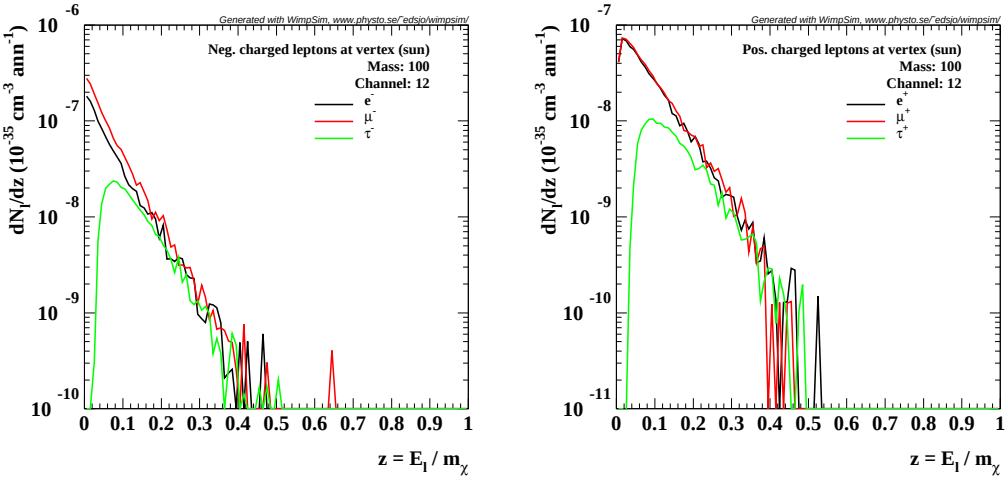


6.6 Channel 12 – gg

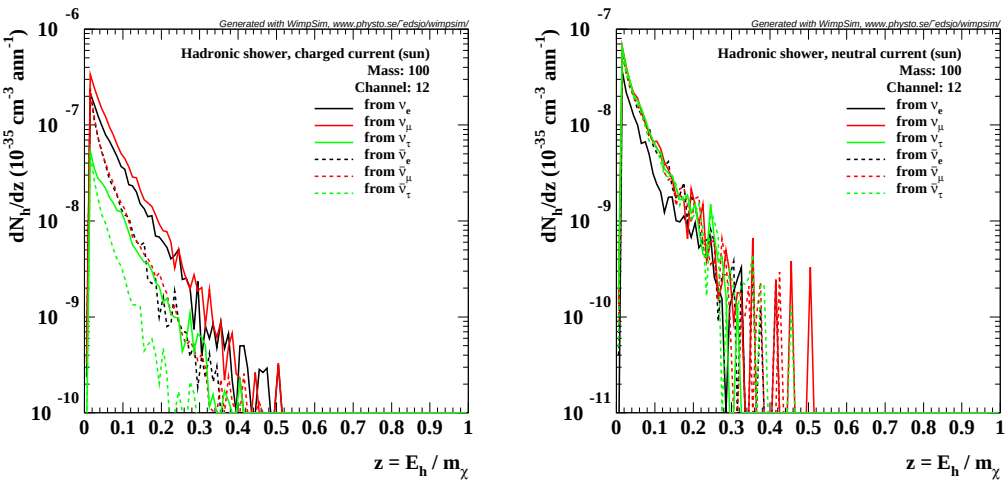
6.6.1 Neutrino fluxes at detector (Sun)



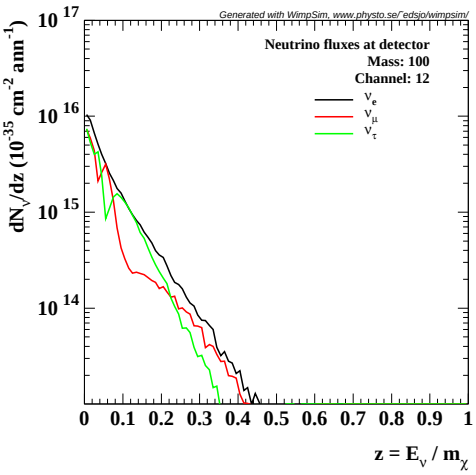
6.6.2 Charged leptons at neutrino-nucleon vertex (Sun)

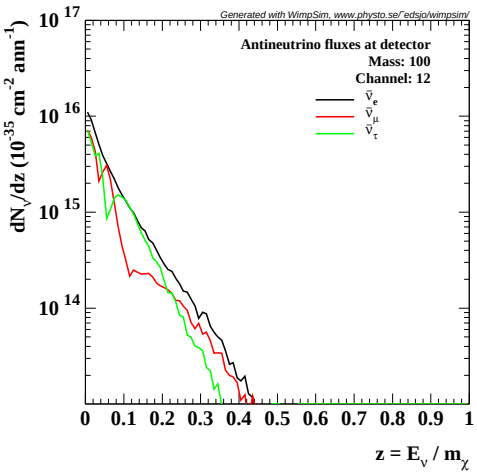


6.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)

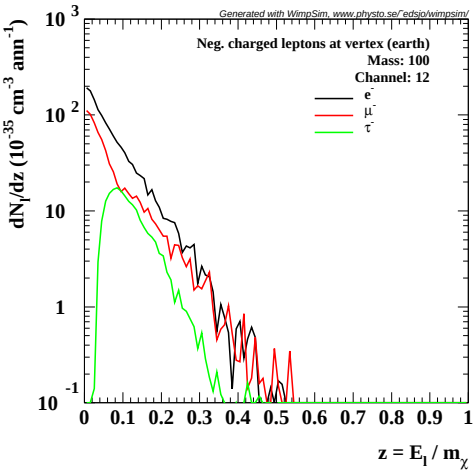


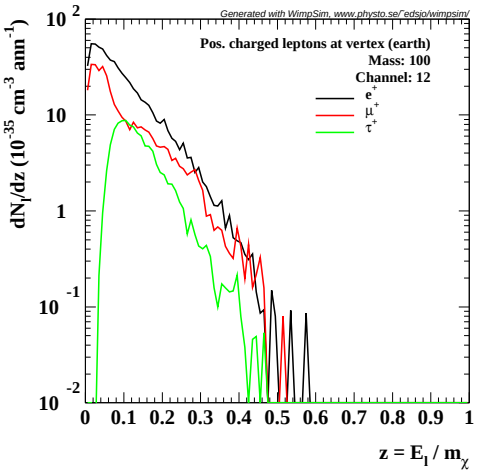
6.6.4 Neutrino fluxes at detector (Earth)



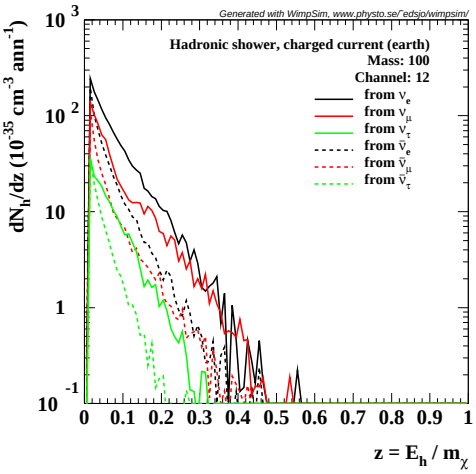


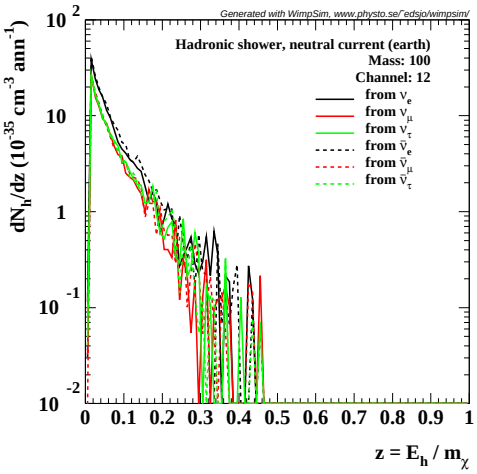
6.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



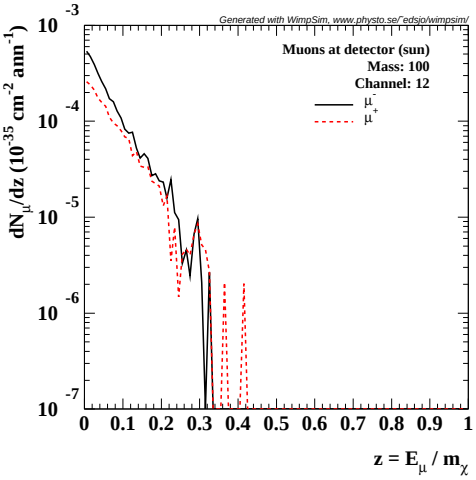


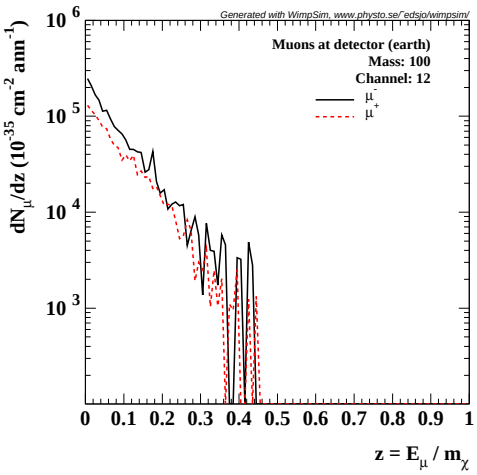
6.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





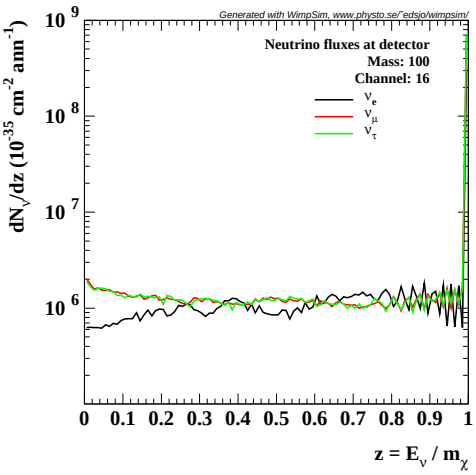
6.6.7 Muons at detector (Sun/Earth)

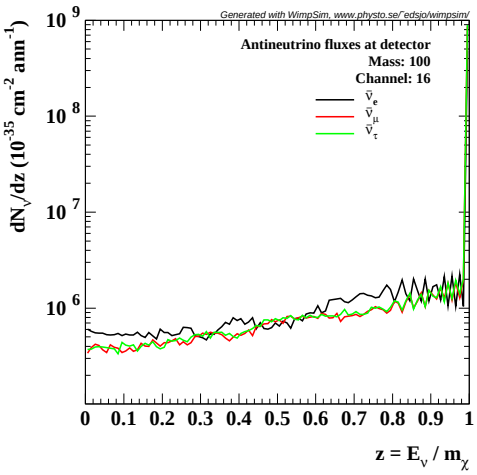




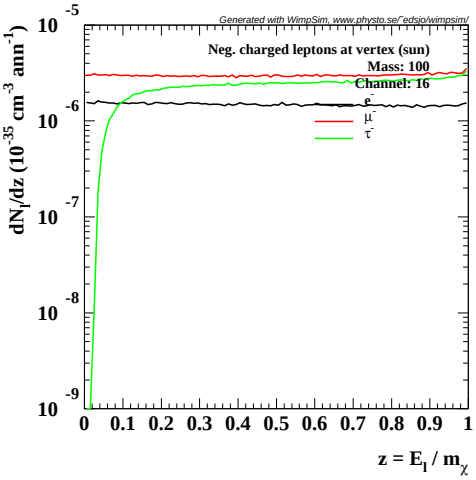
6.7 Channel 16 – $\nu_e\bar{\nu}_e$

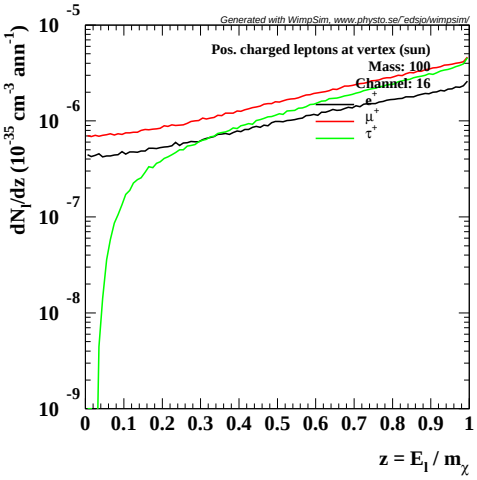
6.7.1 Neutrino fluxes at detector (Sun)



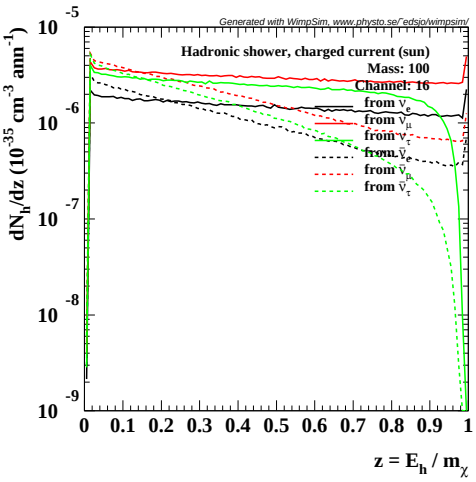


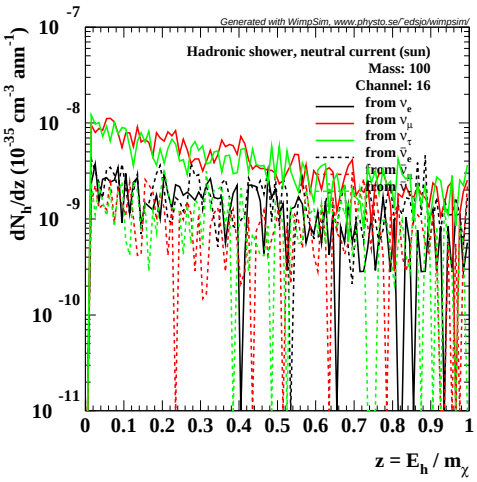
6.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



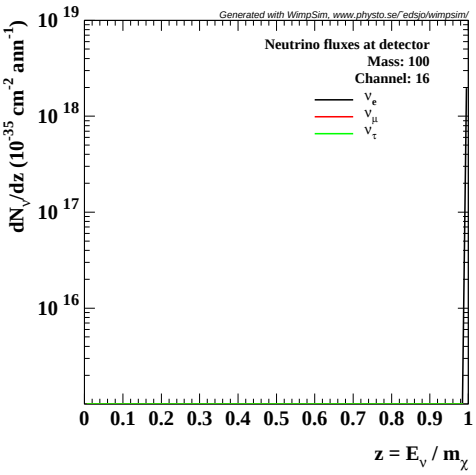


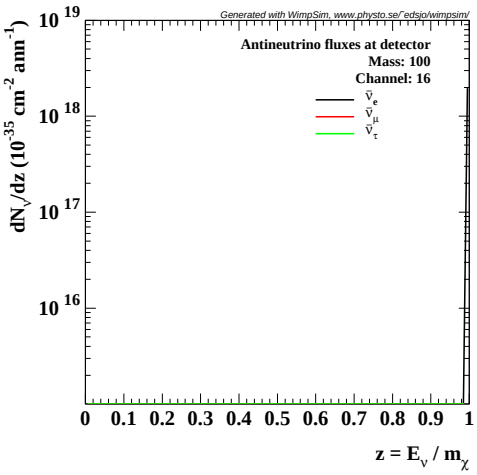
6.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



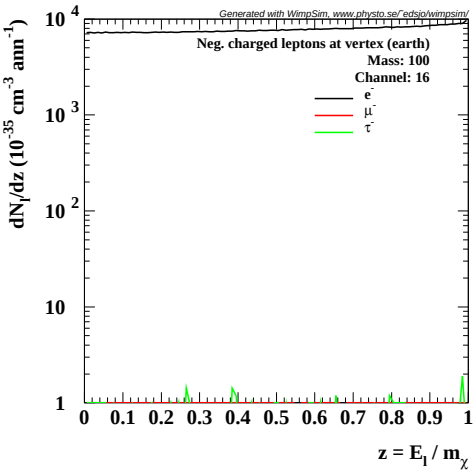


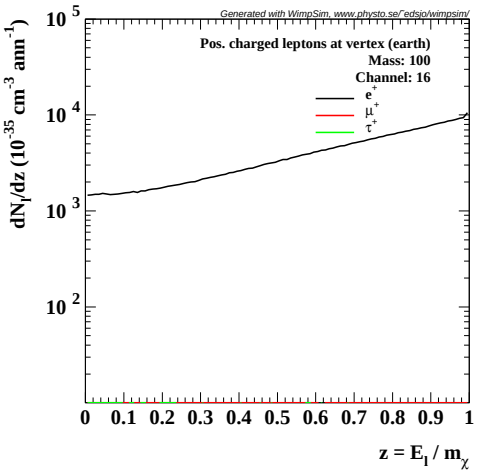
6.7.4 Neutrino fluxes at detector (Earth)



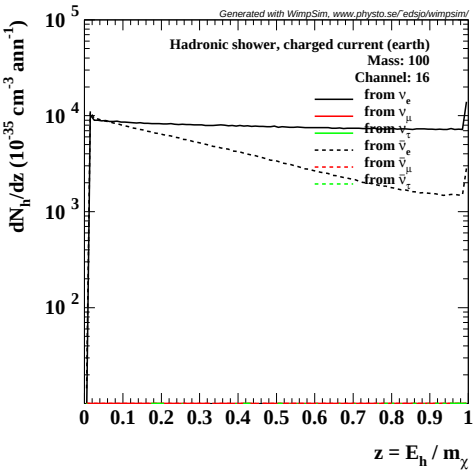


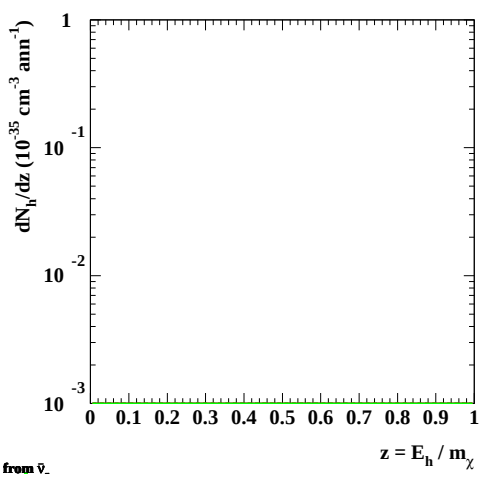
6.7.5 Charged leptons at neutrino-nucleon vertex (Earth)





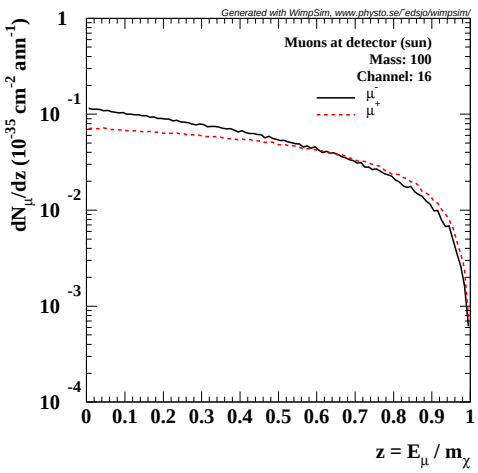
6.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)

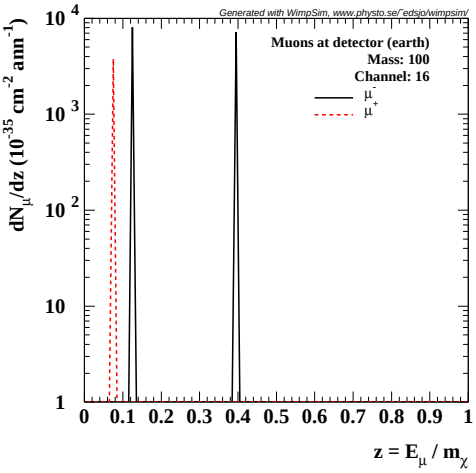




from $\bar{\nu}_\tau$

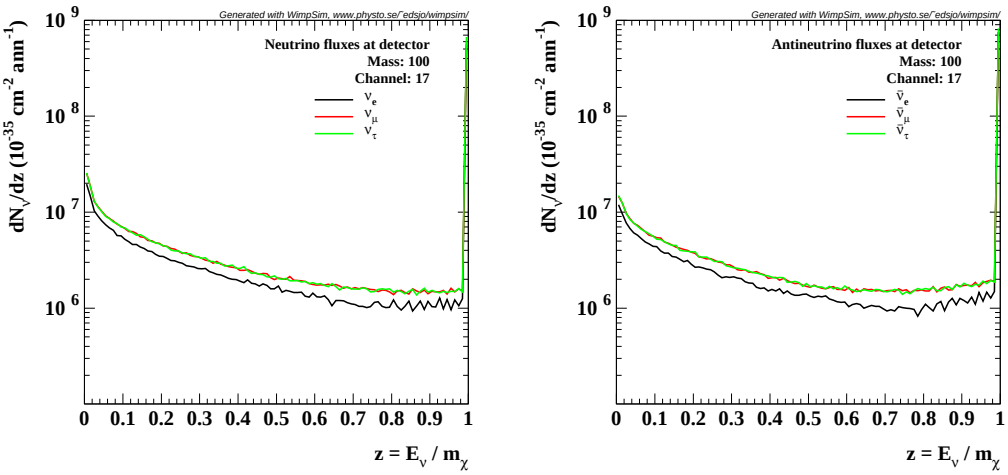
6.7.7 Muons at detector (Sun/Earth)



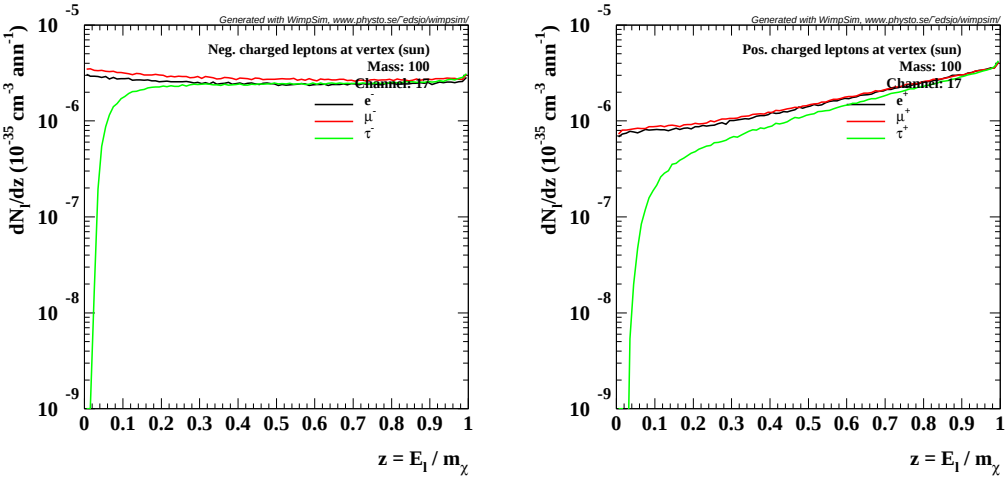


6.8 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

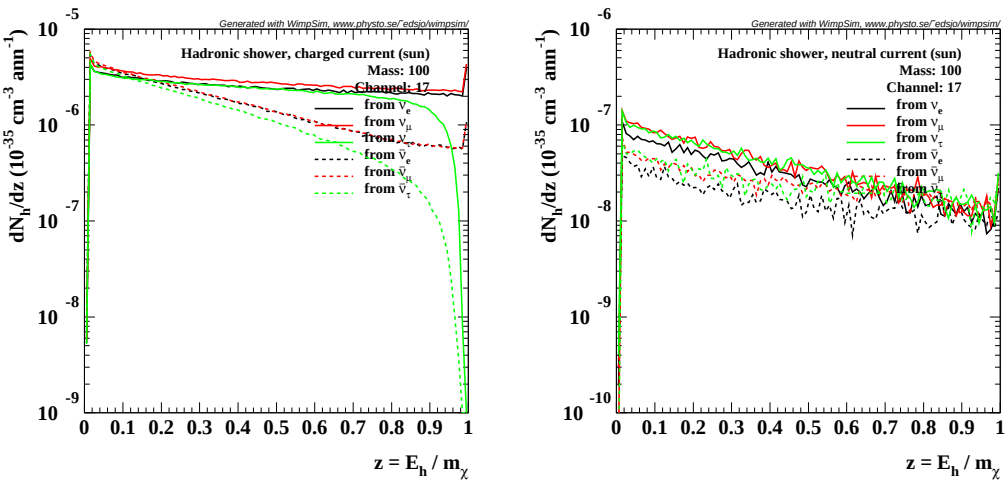
6.8.1 Neutrino fluxes at detector (Sun)



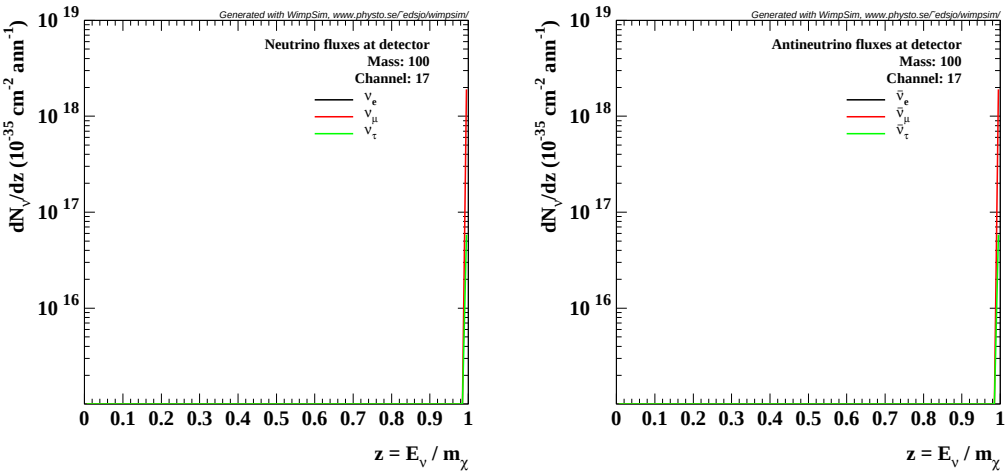
6.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



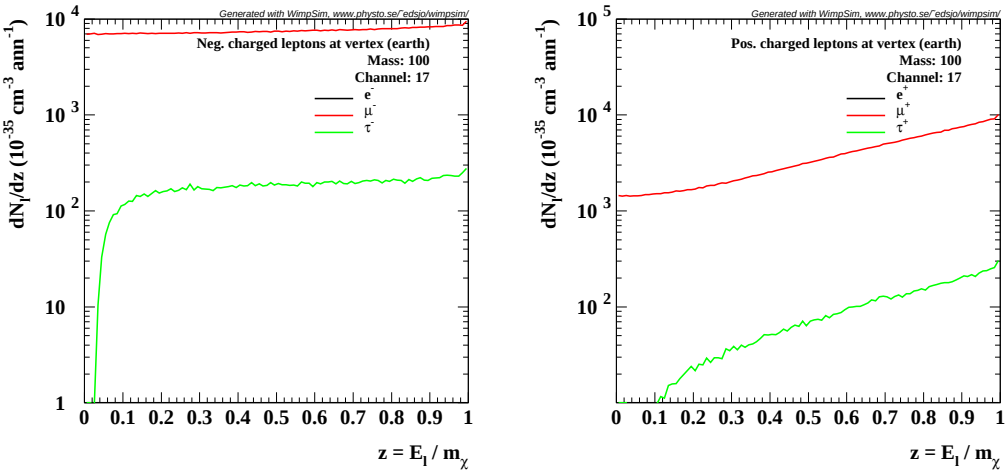
6.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



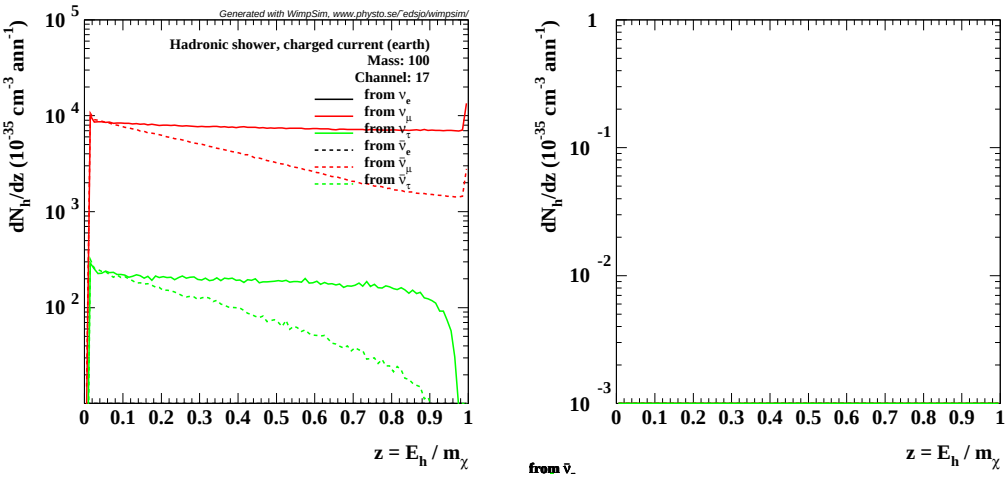
6.8.4 Neutrino fluxes at detector (Earth)



6.8.5 Charged leptons at neutrino-nucleon vertex (Earth)

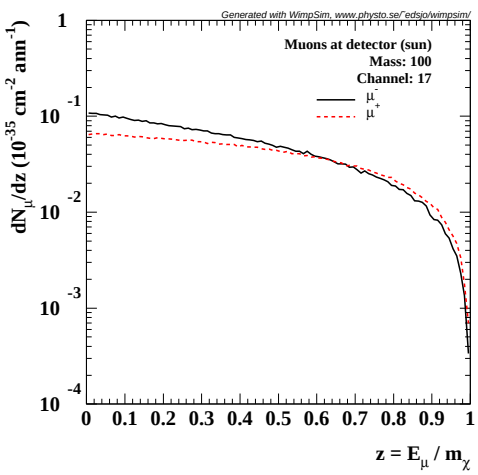


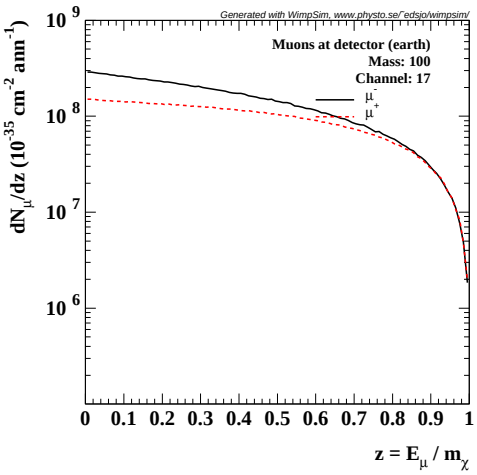
6.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

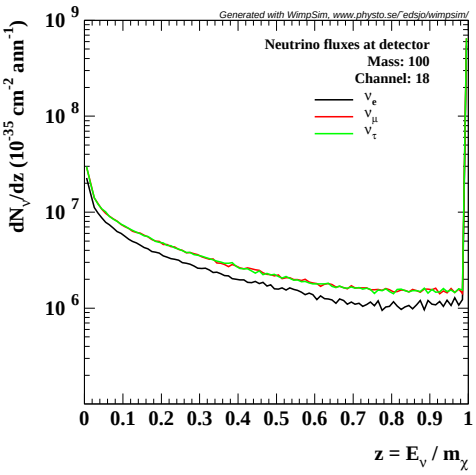
6.8.7 Muons at detector (Sun/Earth)

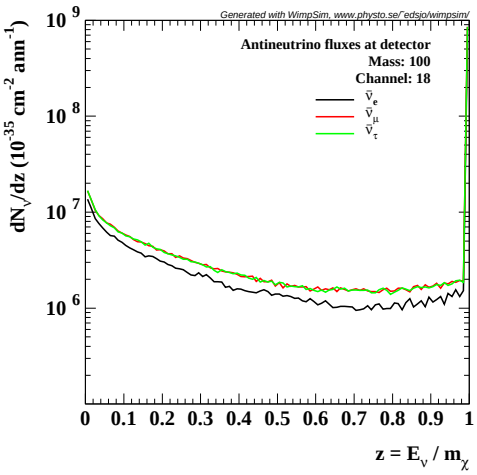




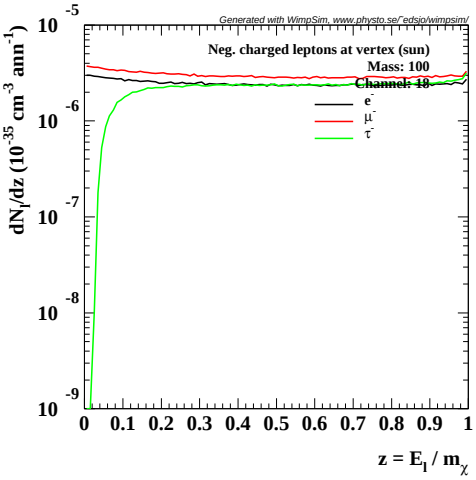
6.9 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

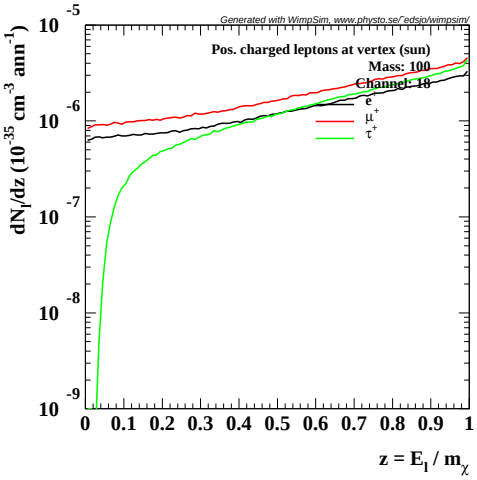
6.9.1 Neutrino fluxes at detector (Sun)



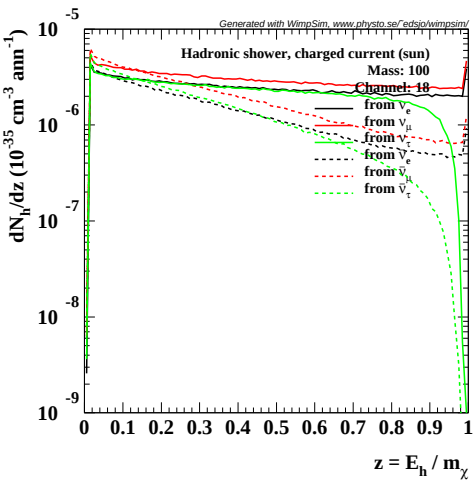


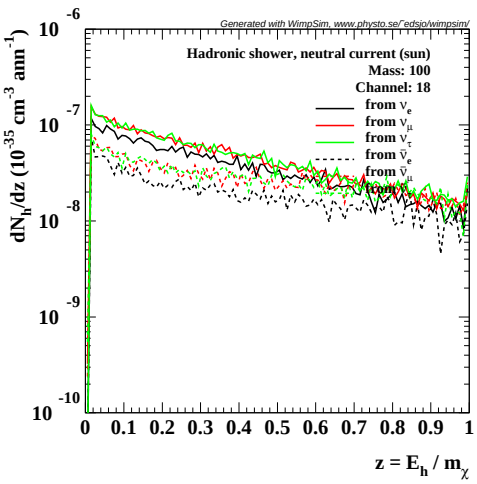
6.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



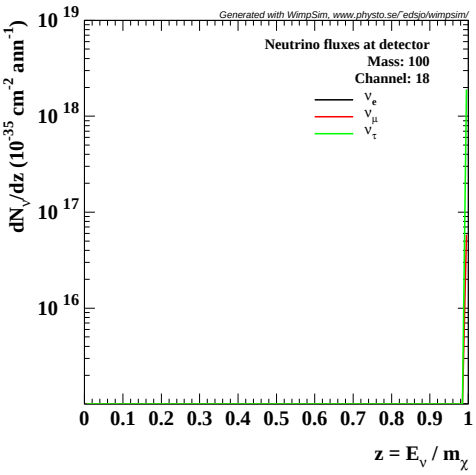


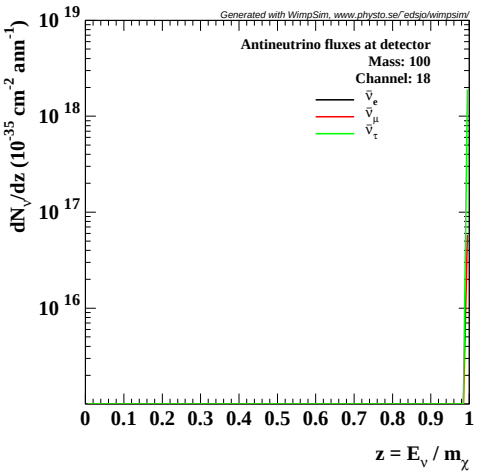
6.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



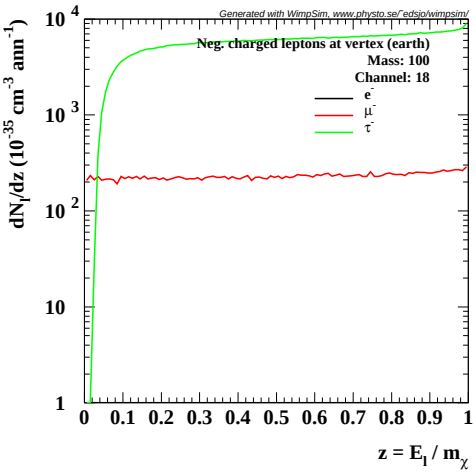


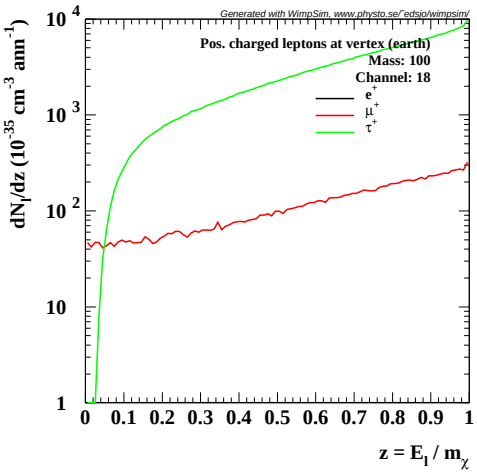
6.9.4 Neutrino fluxes at detector (Earth)



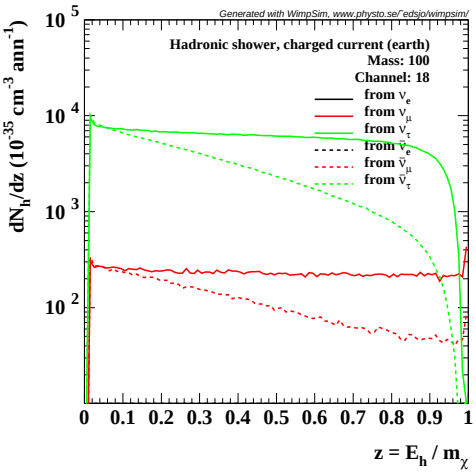


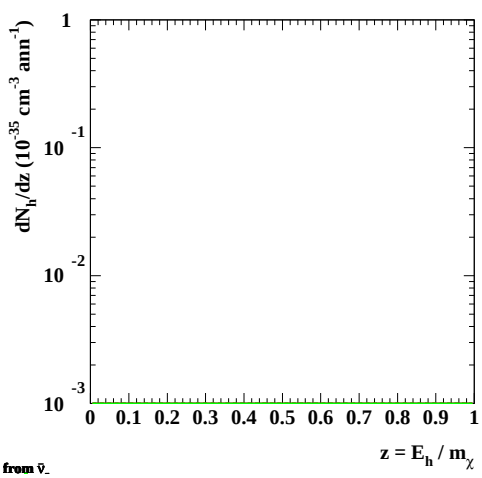
6.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



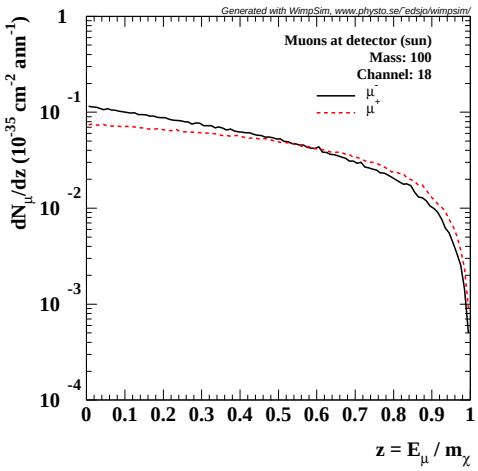


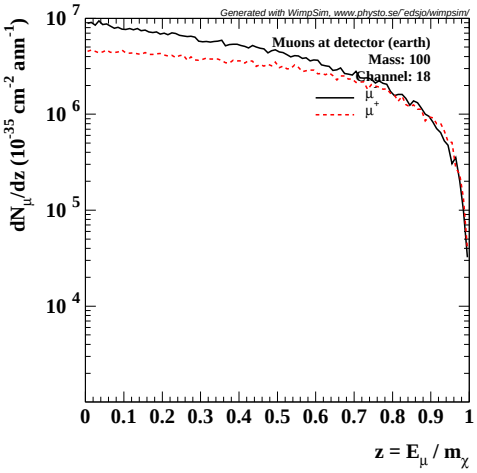
6.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





6.9.7 Muons at detector (Sun/Earth)

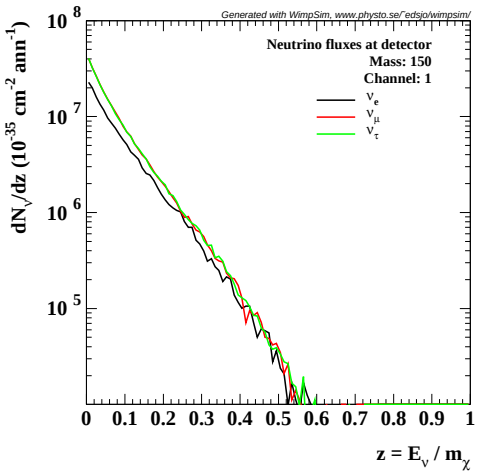


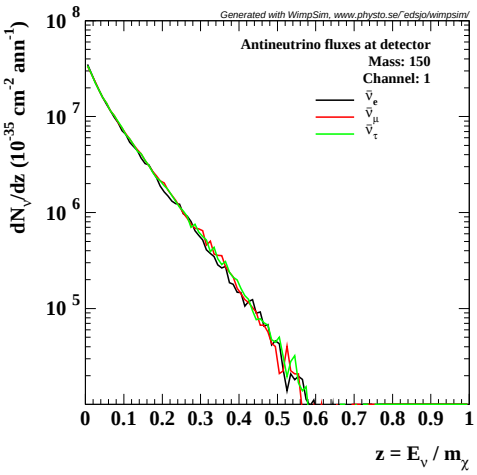


7 Mass 150

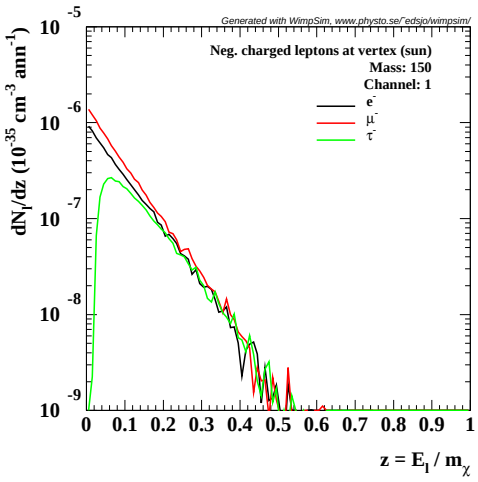
7.1 Channel 1 – $c\bar{c}$

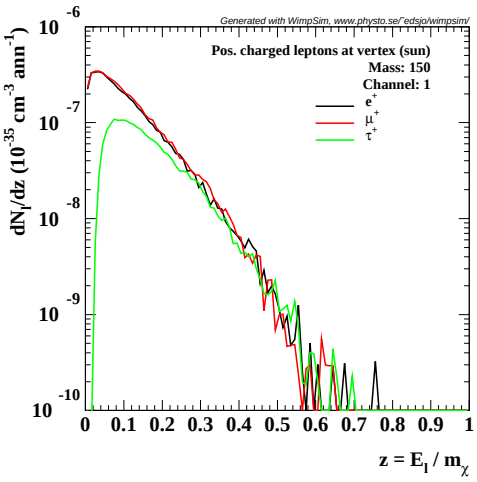
7.1.1 Neutrino fluxes at detector (Sun)



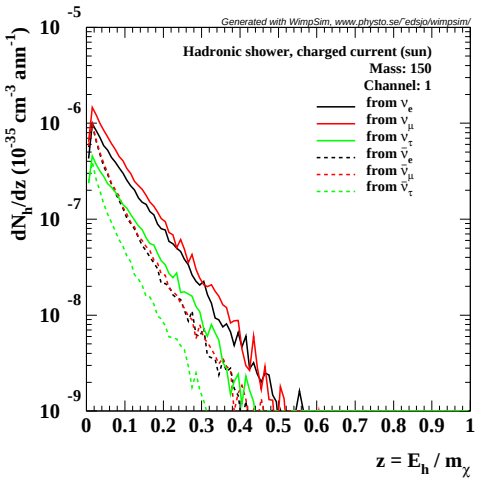


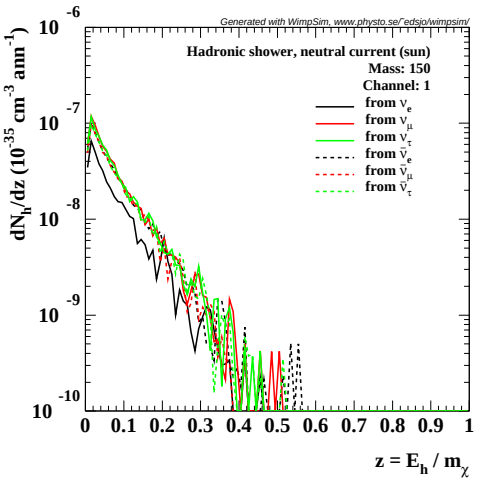
7.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



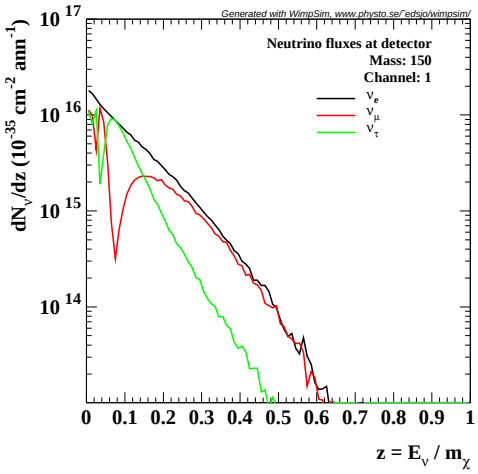


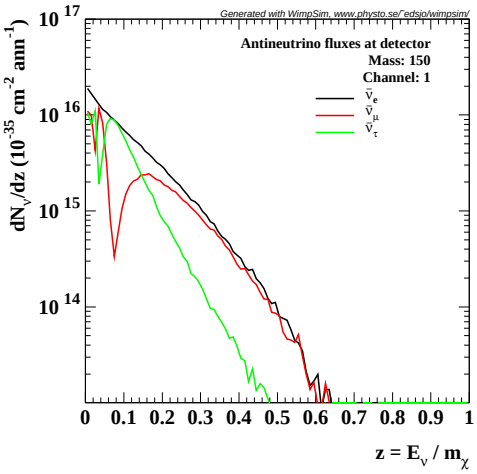
7.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



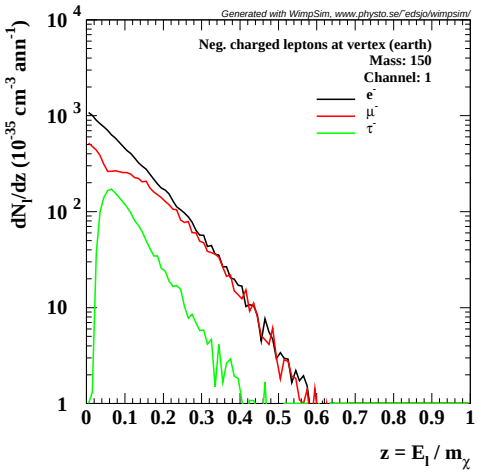


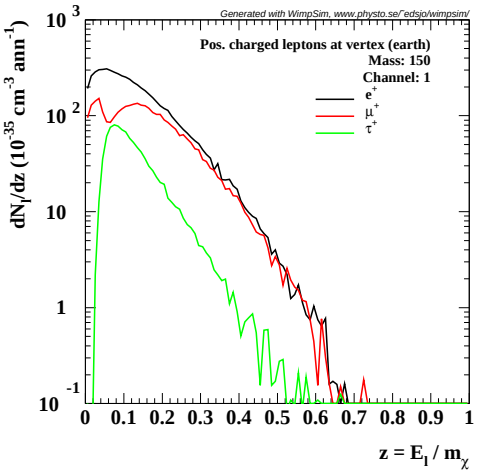
7.1.4 Neutrino fluxes at detector (Earth)



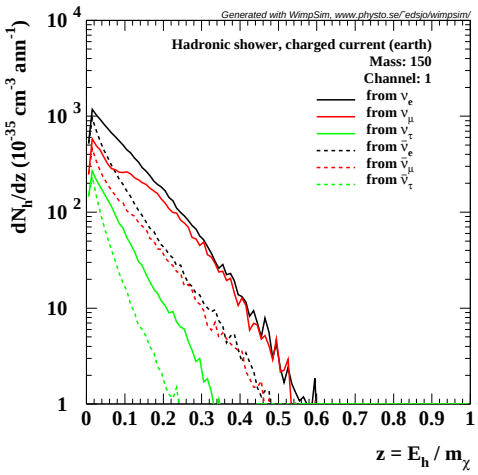


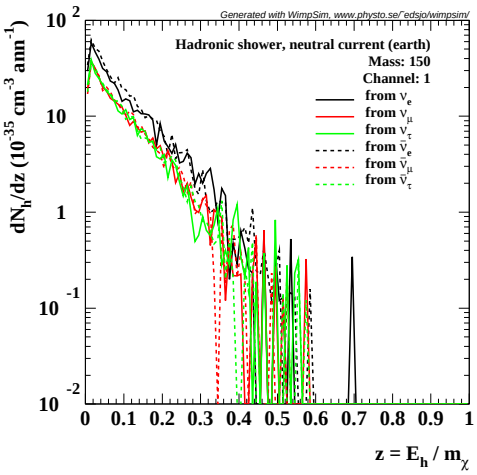
7.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



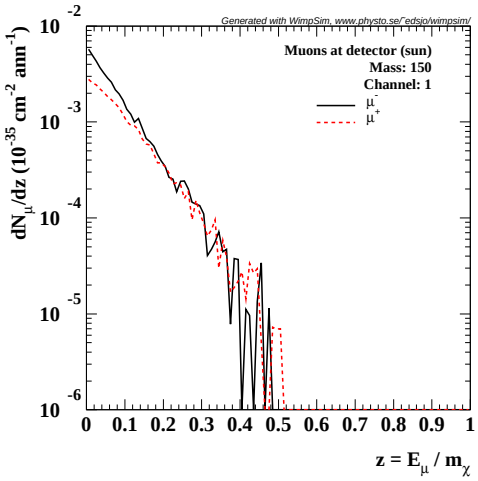


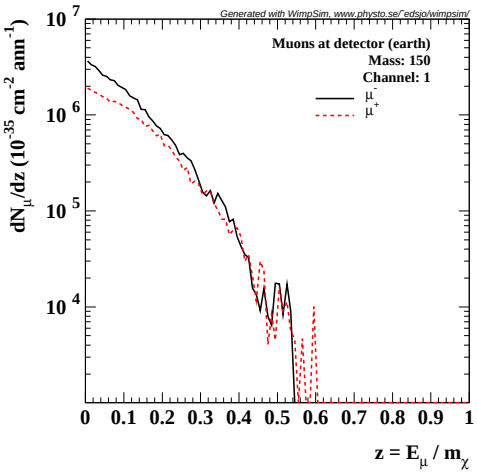
7.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





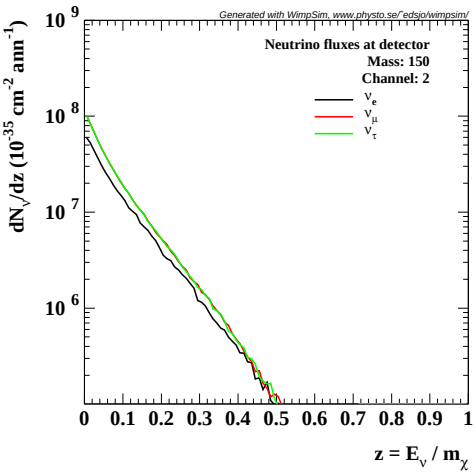
7.1.7 Muons at detector (Sun/Earth)

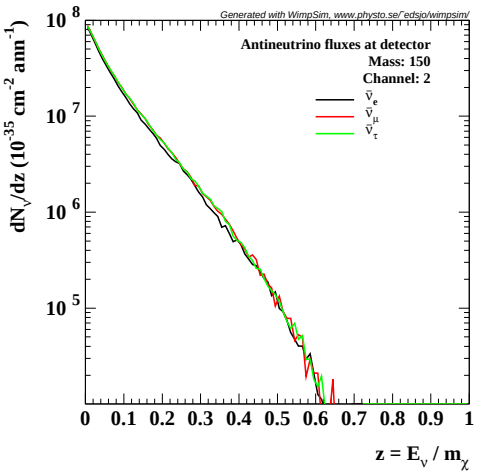




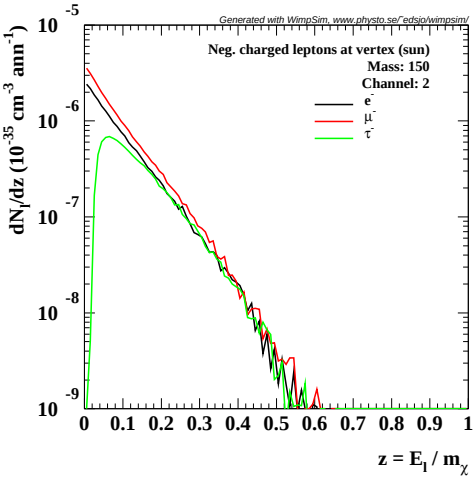
7.2 Channel 2 – $b\bar{b}$

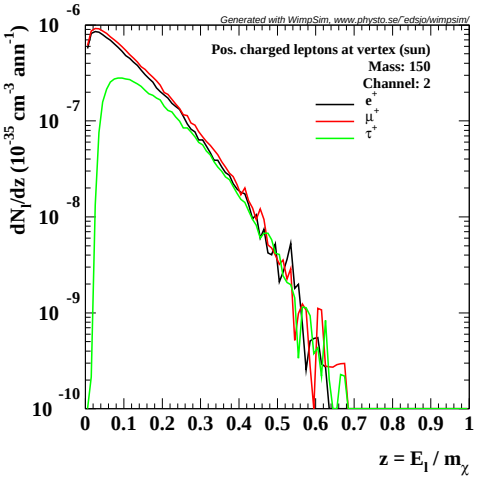
7.2.1 Neutrino fluxes at detector (Sun)



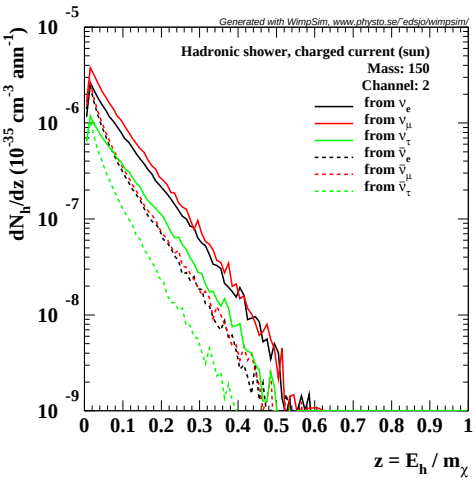


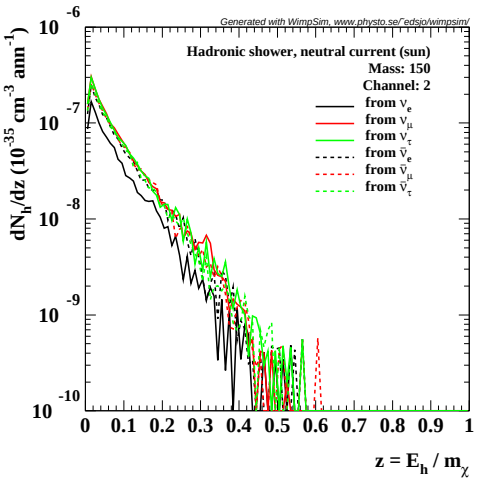
7.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



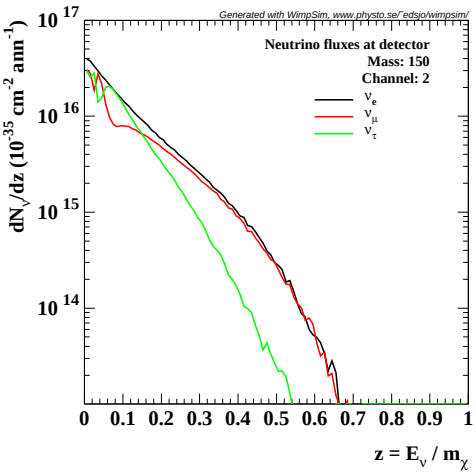


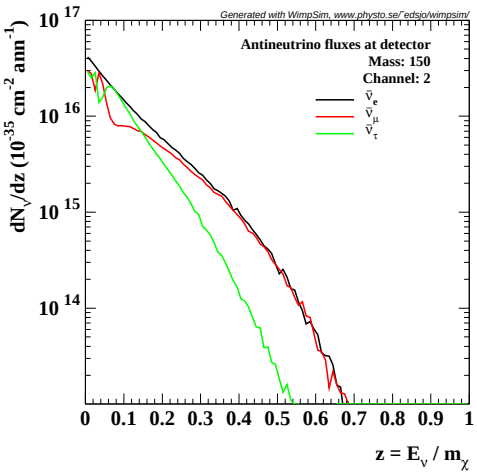
7.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



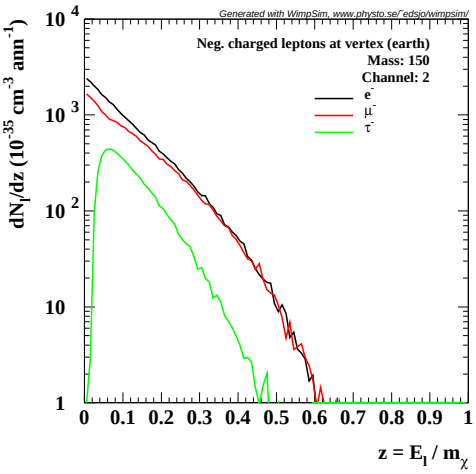


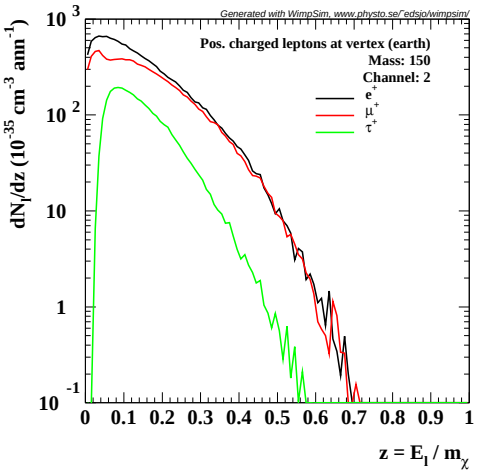
7.2.4 Neutrino fluxes at detector (Earth)



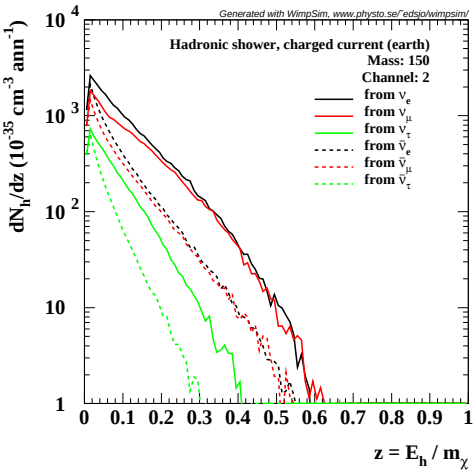


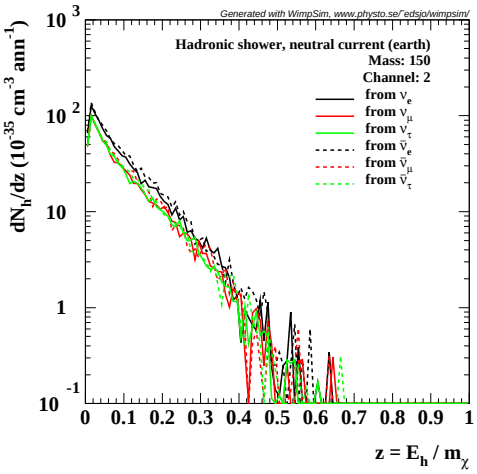
7.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



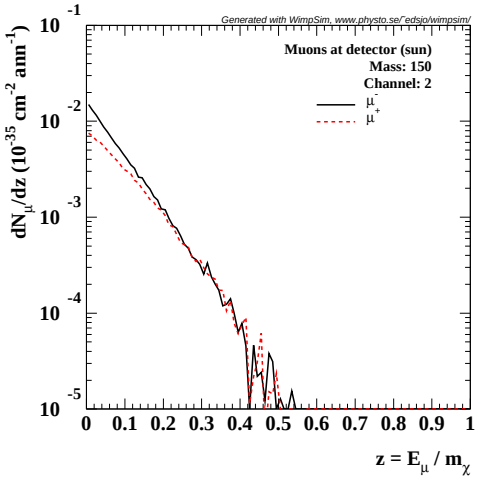


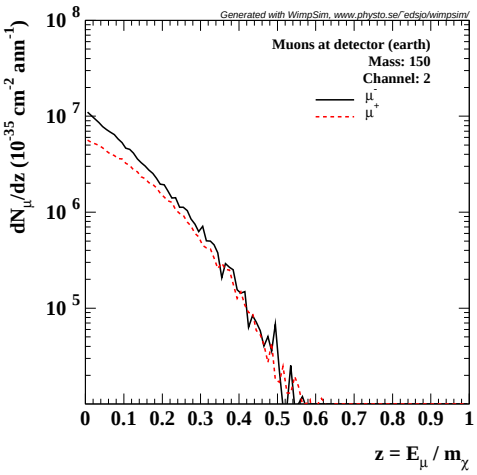
7.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





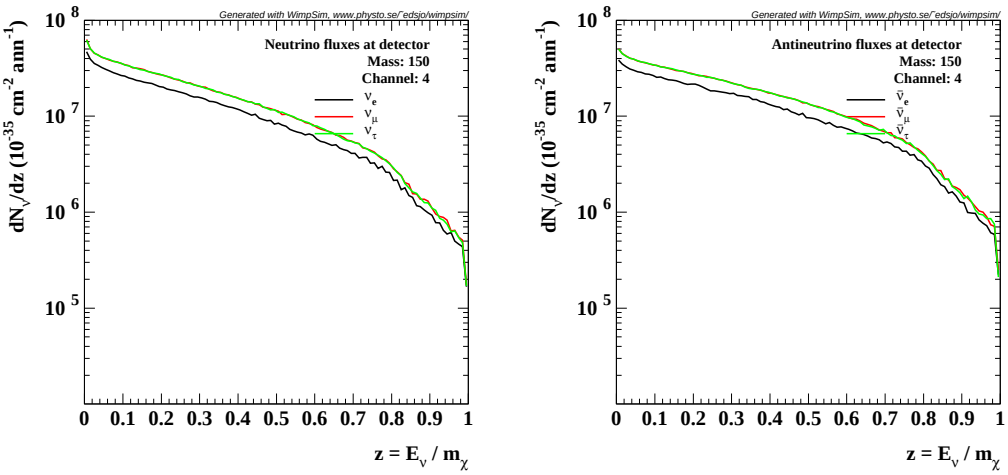
7.2.7 Muons at detector (Sun/Earth)



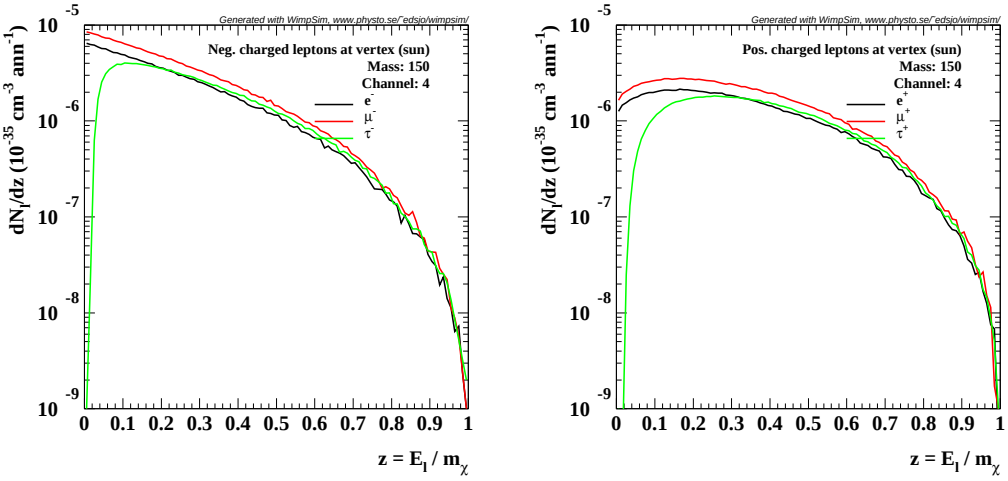


7.3 Channel 4 – $\tau^-\tau^+$

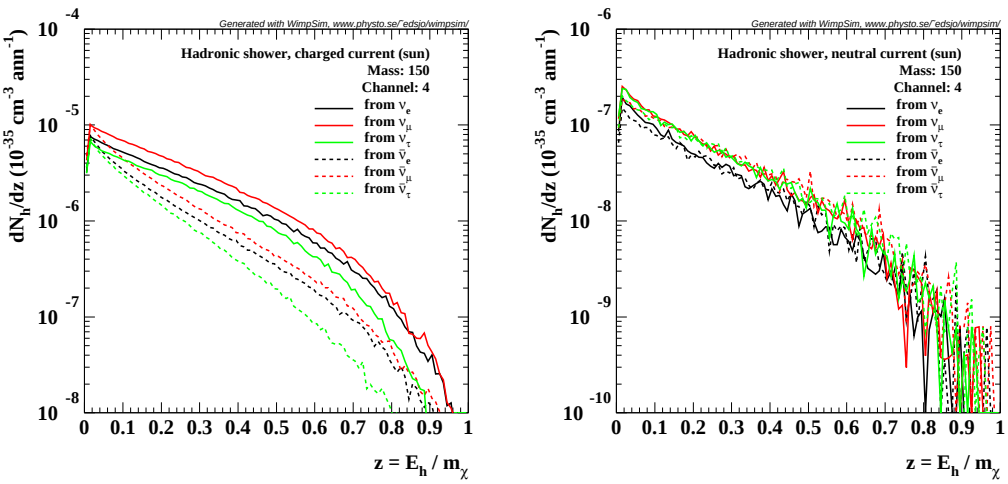
7.3.1 Neutrino fluxes at detector (Sun)



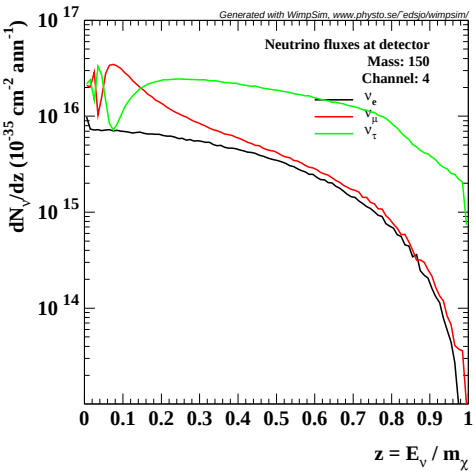
7.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

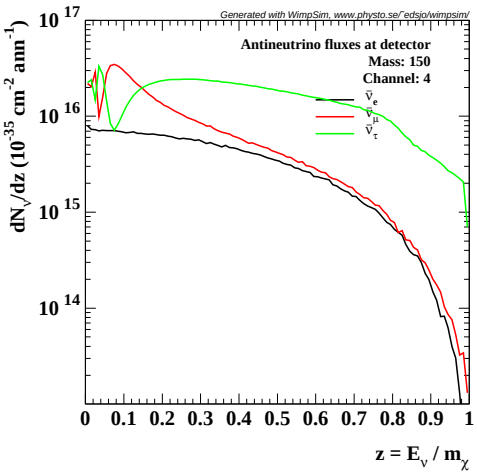


7.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

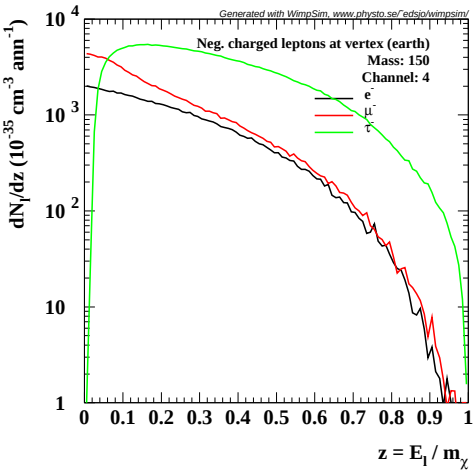


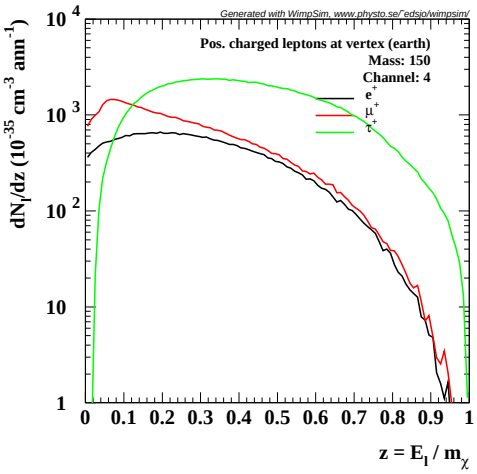
7.3.4 Neutrino fluxes at detector (Earth)



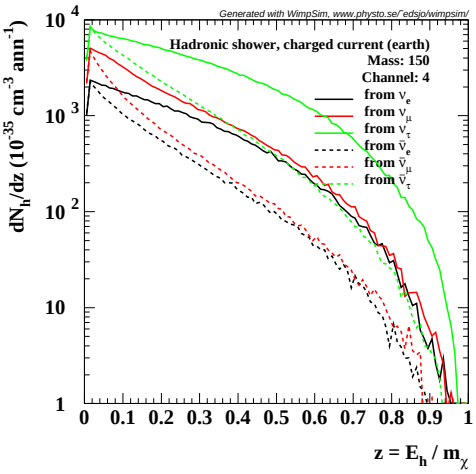


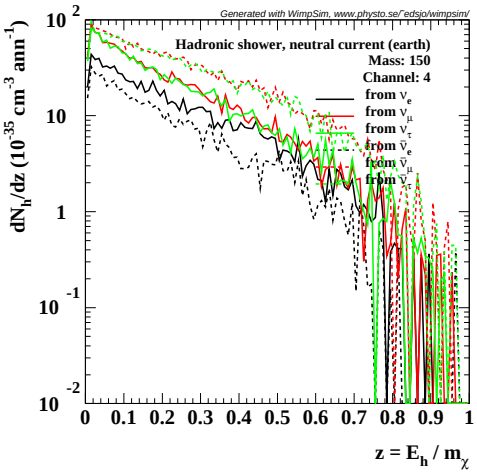
7.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



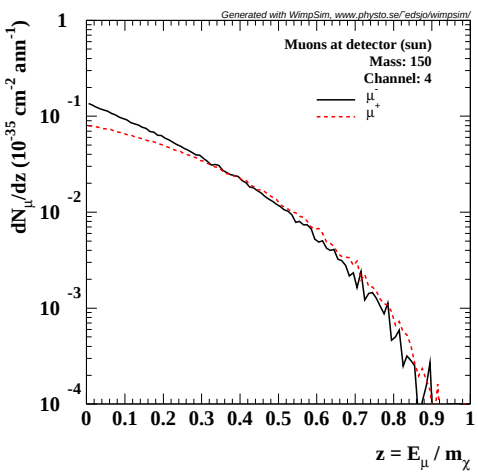


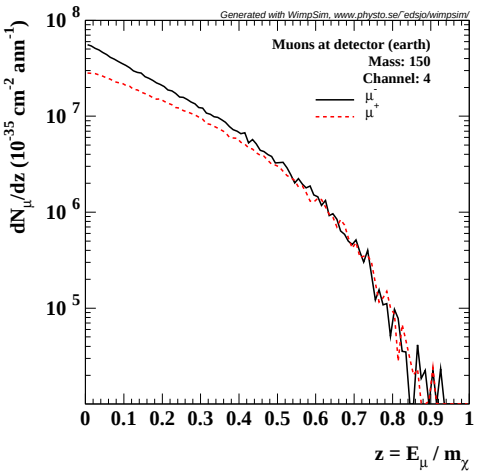
7.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





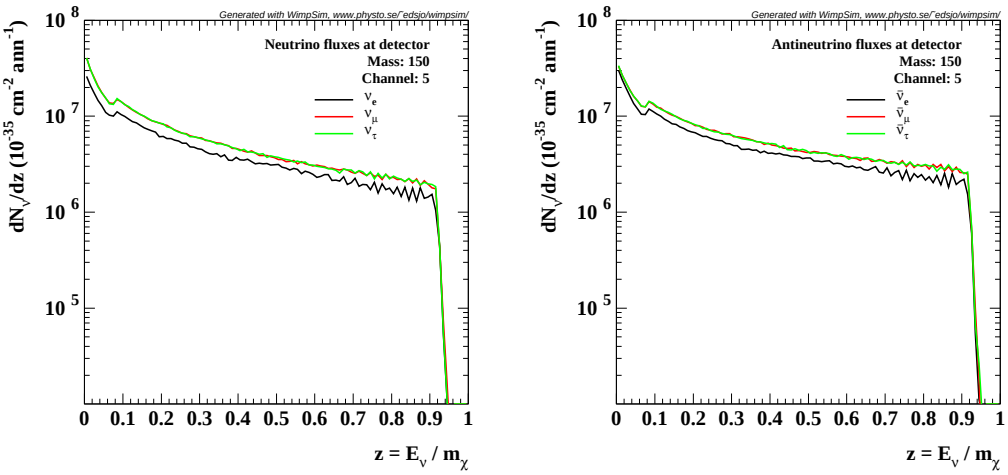
7.3.7 Muons at detector (Sun/Earth)



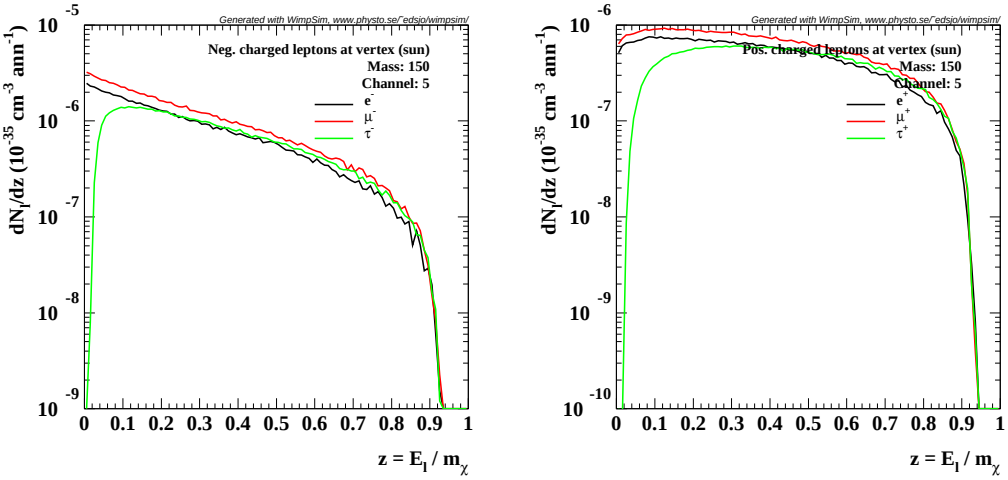


7.4 Channel 5 – W^-W^+

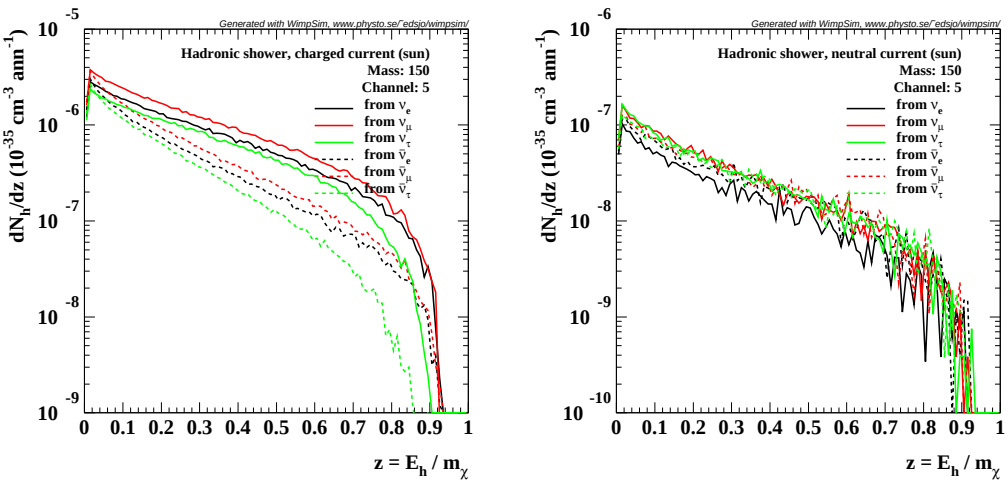
7.4.1 Neutrino fluxes at detector (Sun)



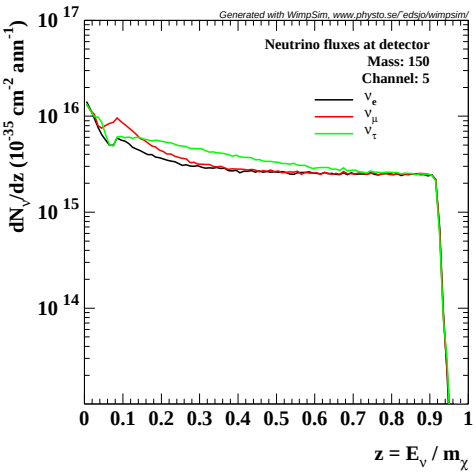
7.4.2 Charged leptons at neutrino-nucleon vertex (Sun)

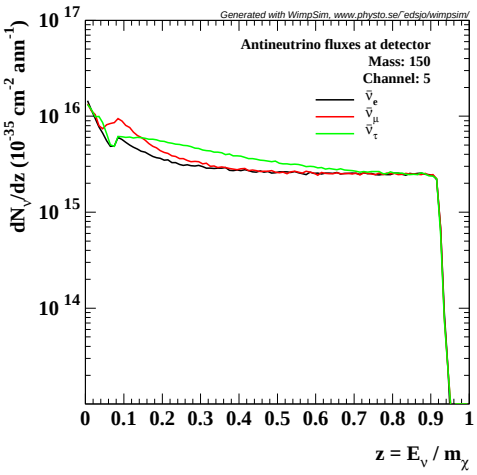


7.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)

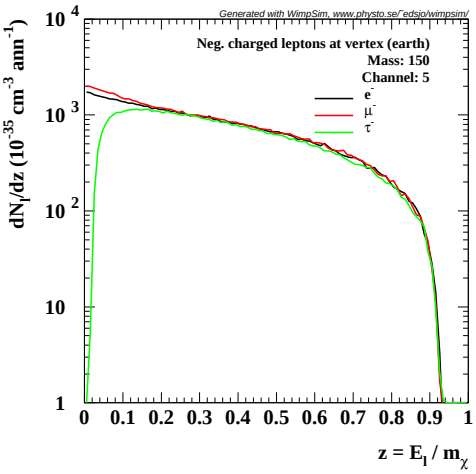


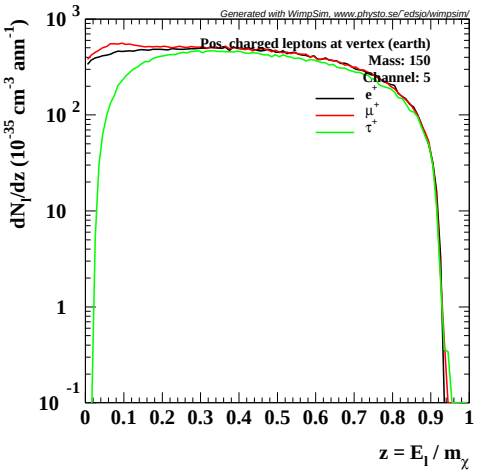
7.4.4 Neutrino fluxes at detector (Earth)



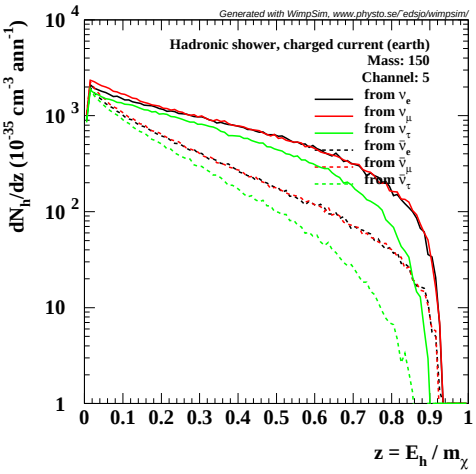


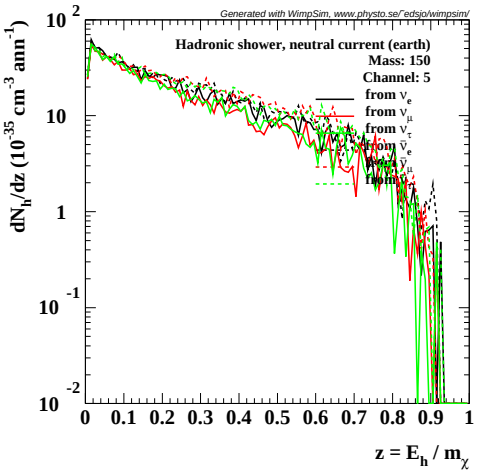
7.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



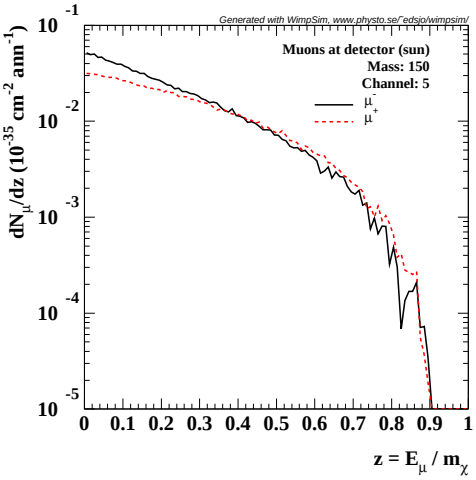


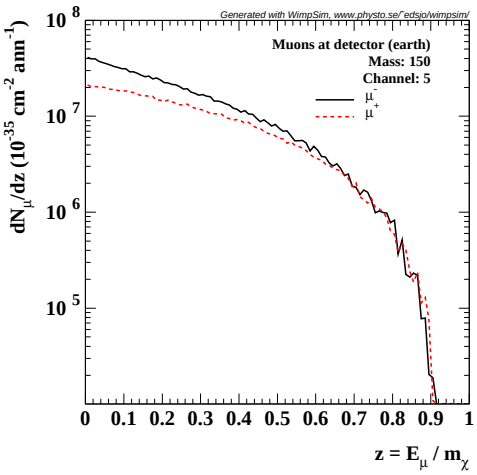
7.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





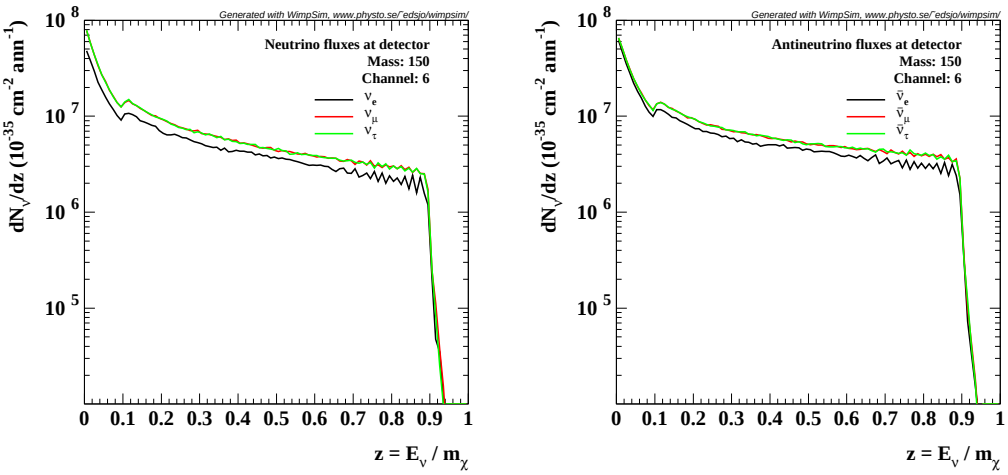
7.4.7 Muons at detector (Sun/Earth)



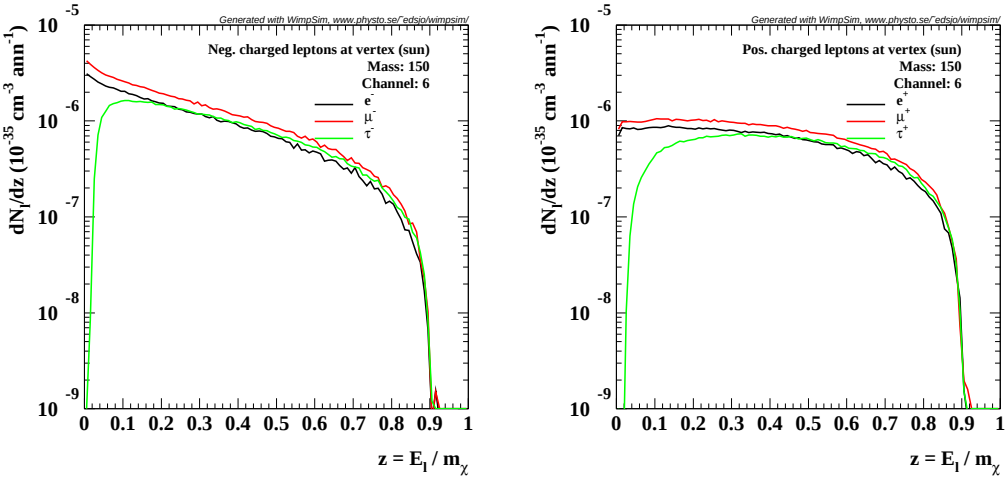


7.5 Channel 6 – Z^0Z^0

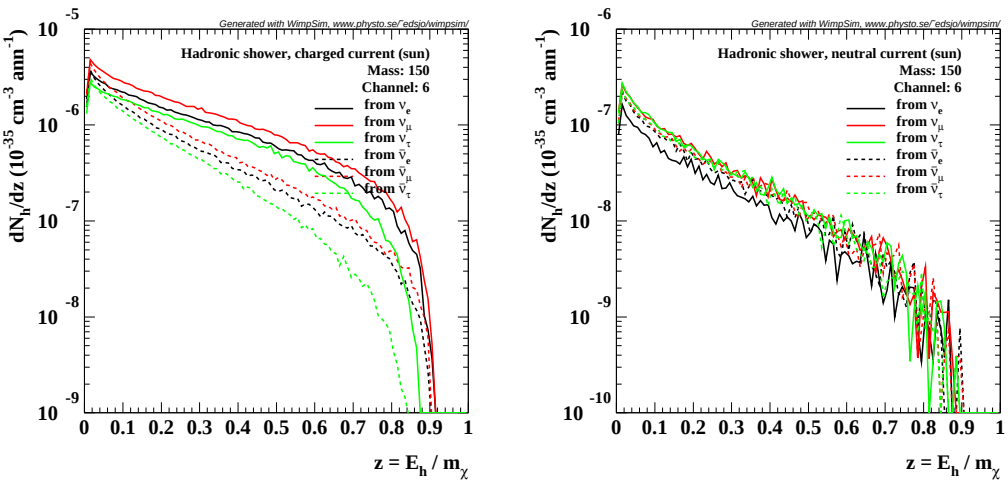
7.5.1 Neutrino fluxes at detector (Sun)



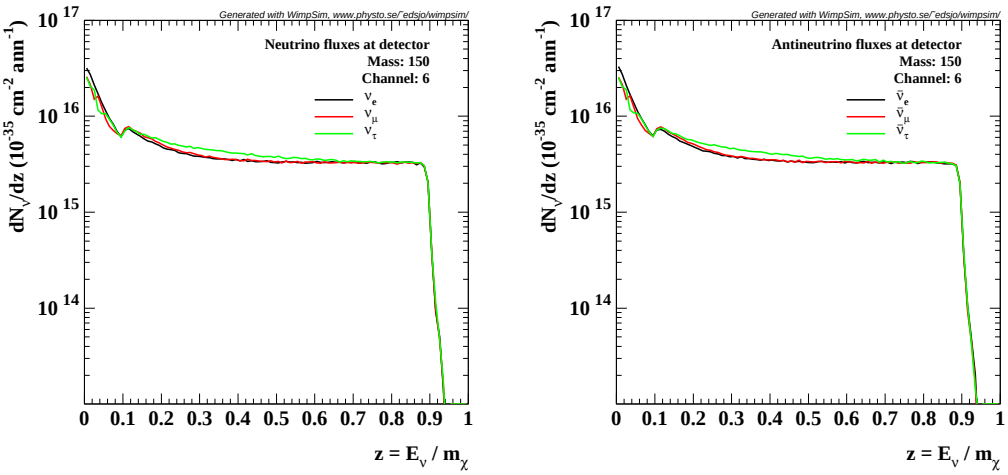
7.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



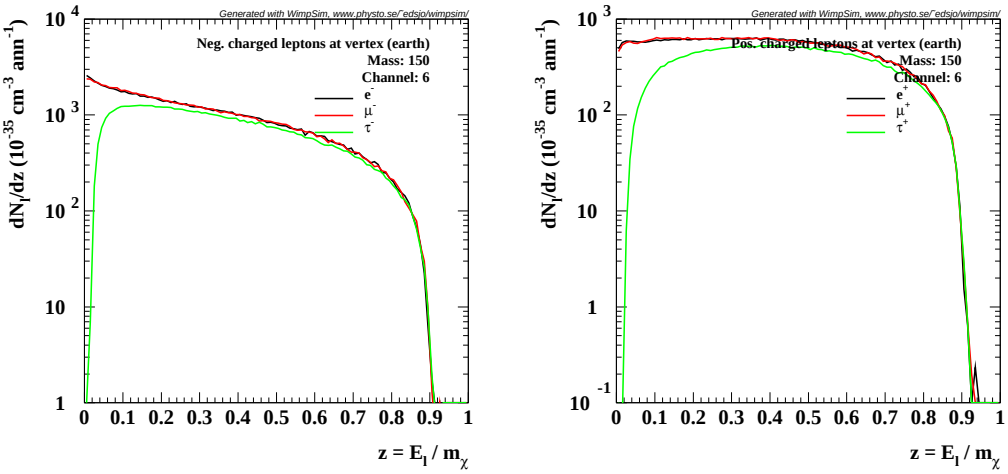
7.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



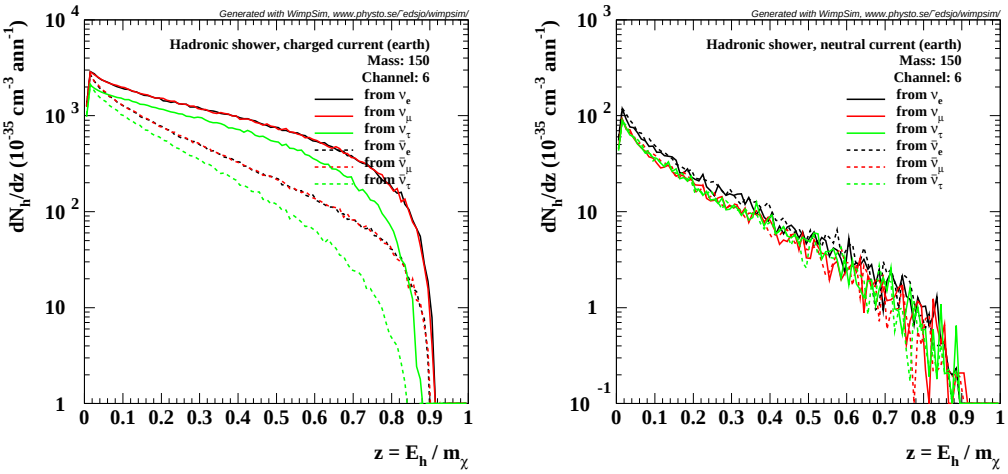
7.5.4 Neutrino fluxes at detector (Earth)



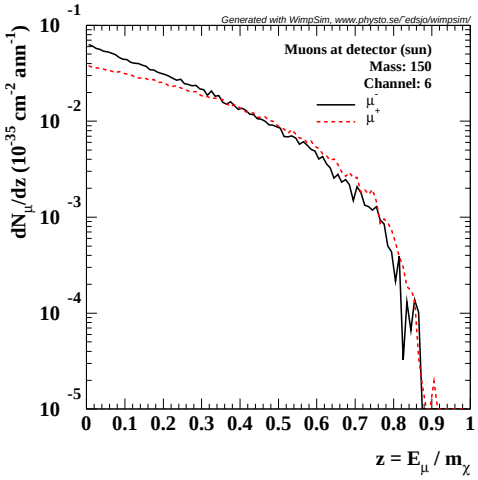
7.5.5 Charged leptons at neutrino-nucleon vertex (Earth)

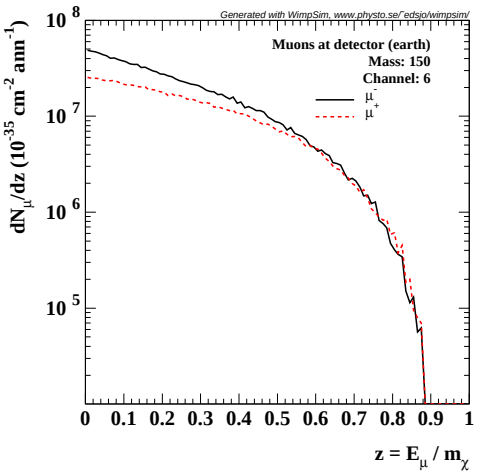


7.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)



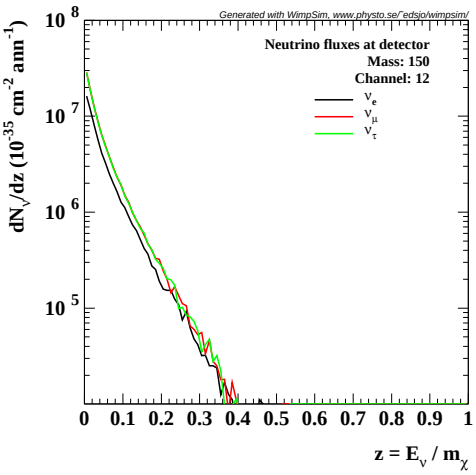
7.5.7 Muons at detector (Sun/Earth)

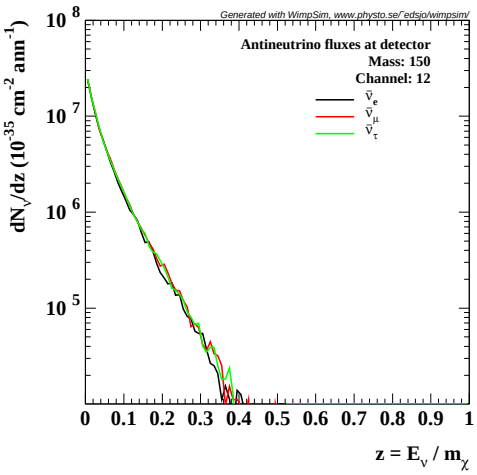




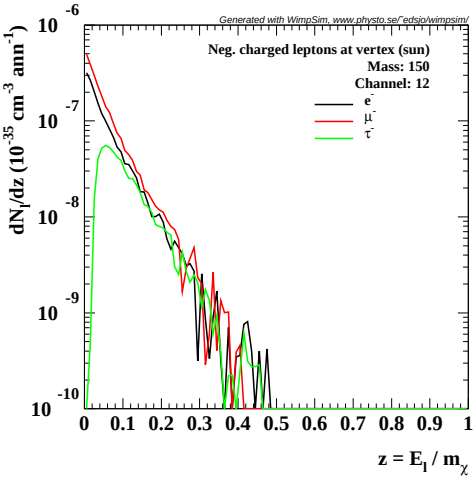
7.6 Channel 12 – gg

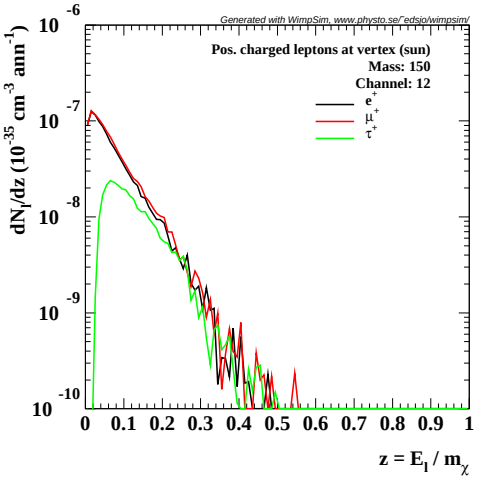
7.6.1 Neutrino fluxes at detector (Sun)



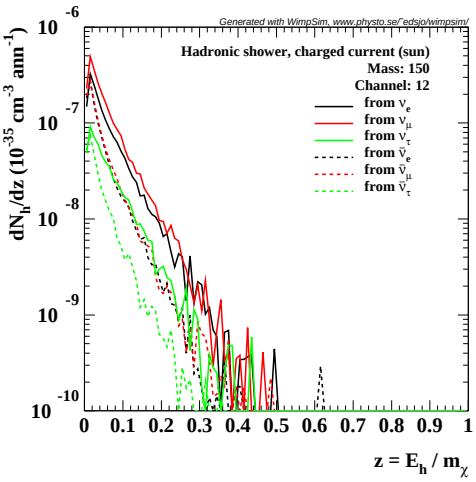


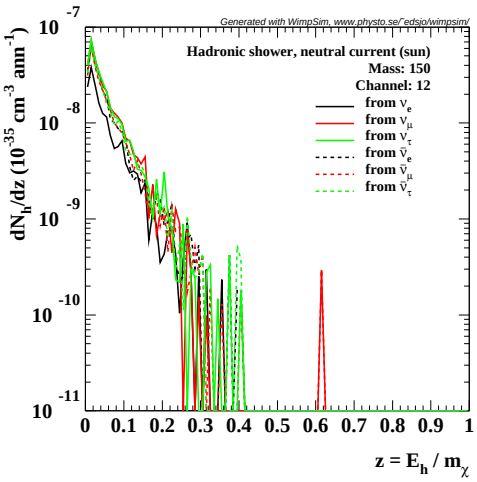
7.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



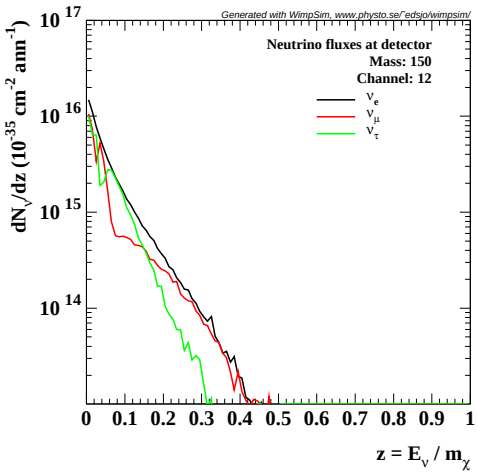


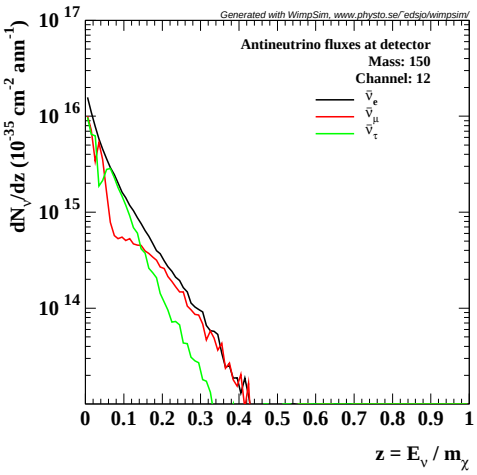
7.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



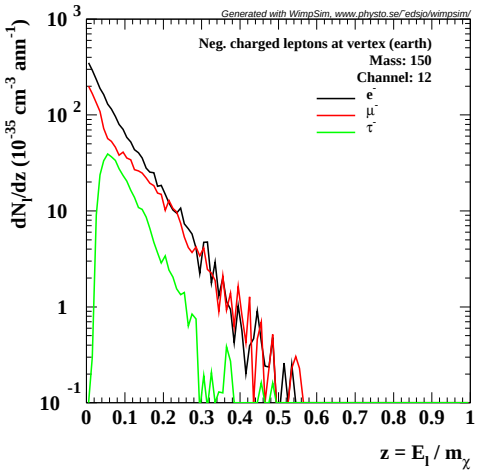


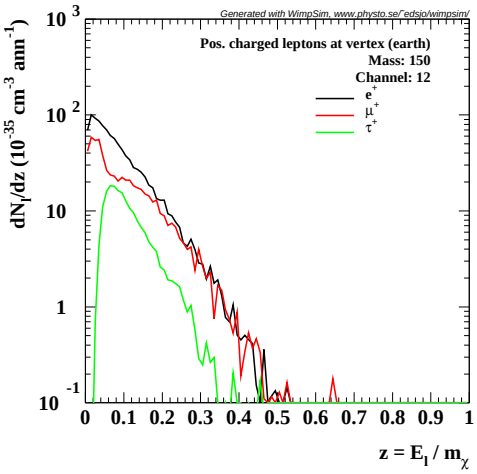
7.6.4 Neutrino fluxes at detector (Earth)



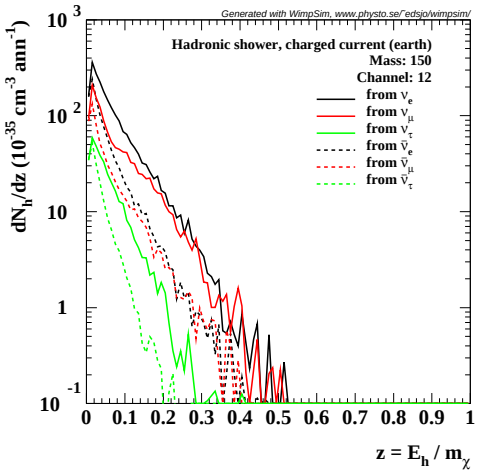


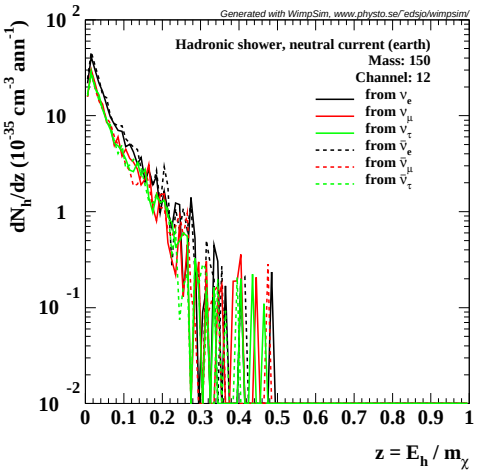
7.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



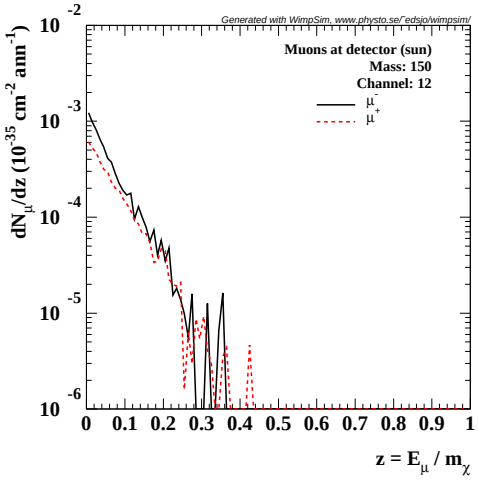


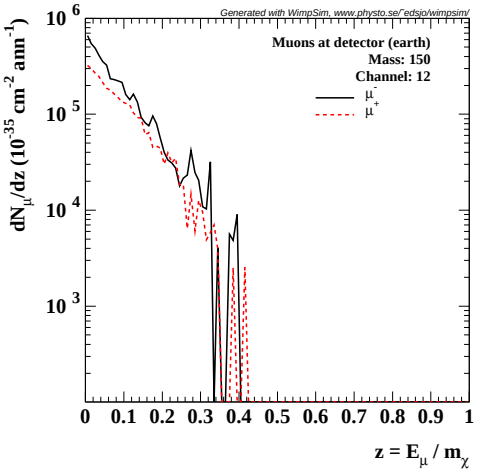
7.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





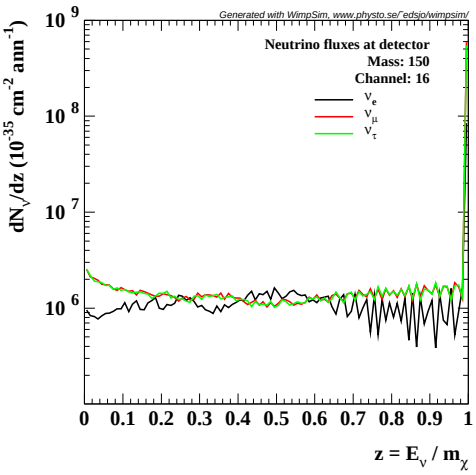
7.6.7 Muons at detector (Sun/Earth)

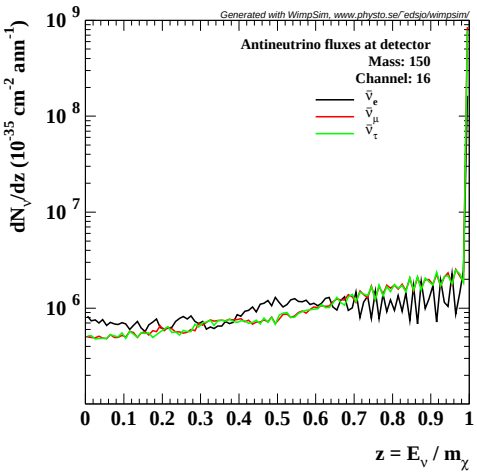




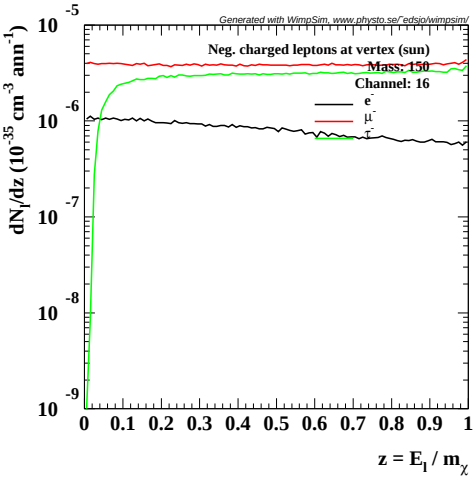
7.7 Channel 16 – $\nu_e\bar{\nu}_e$

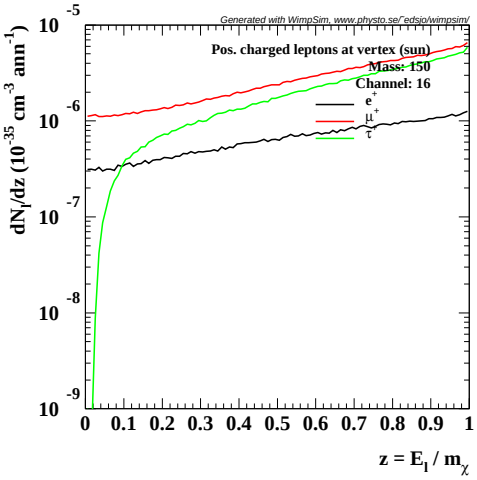
7.7.1 Neutrino fluxes at detector (Sun)



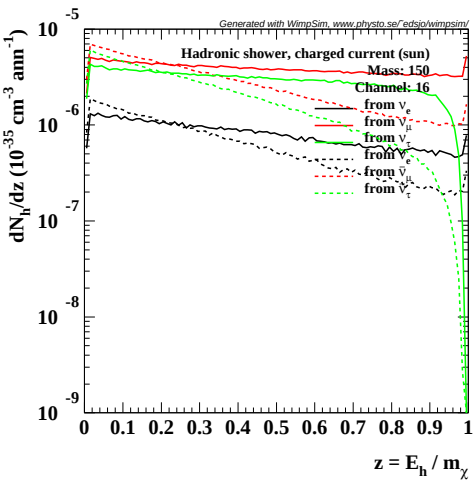


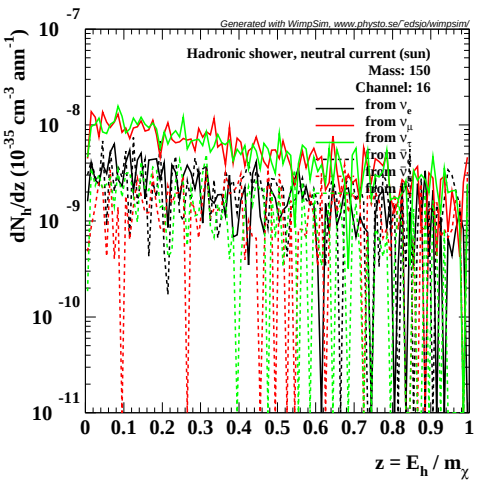
7.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



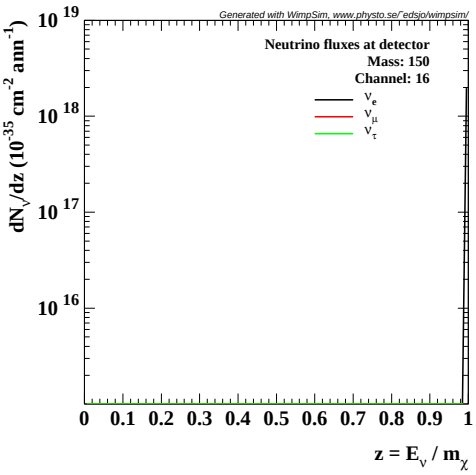


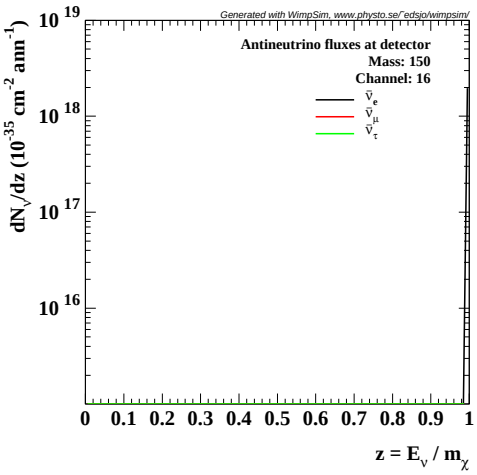
7.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



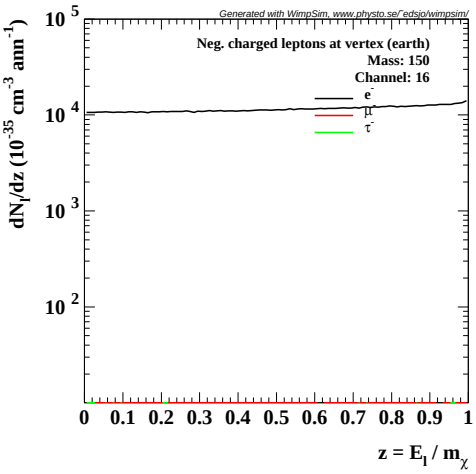


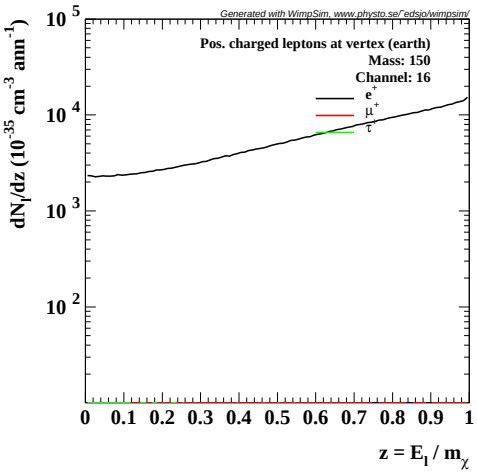
7.7.4 Neutrino fluxes at detector (Earth)



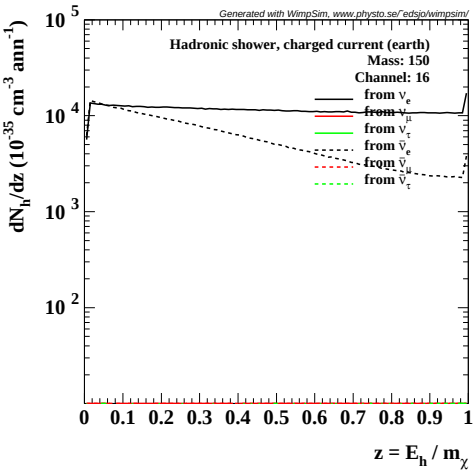


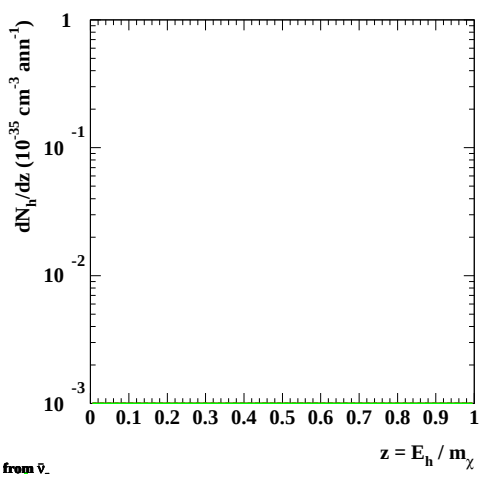
7.7.5 Charged leptons at neutrino-nucleon vertex (Earth)





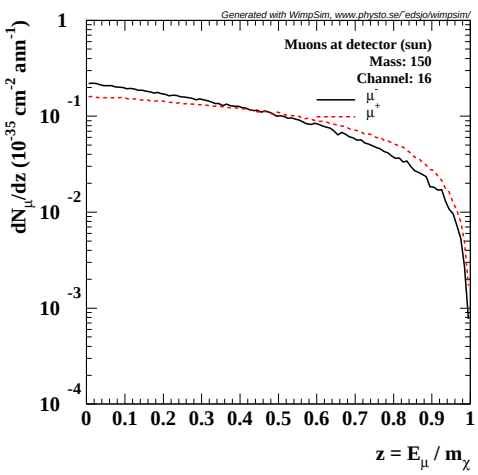
7.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)

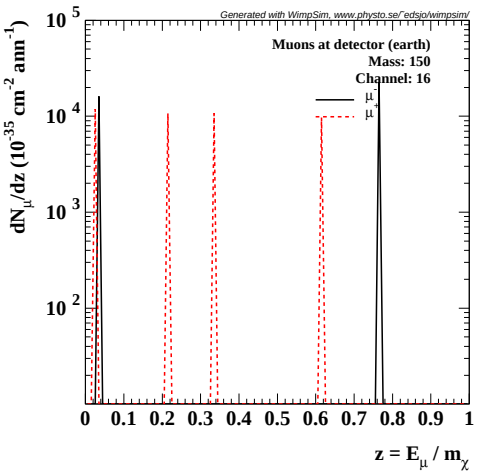




from $\bar{\nu}_\tau$

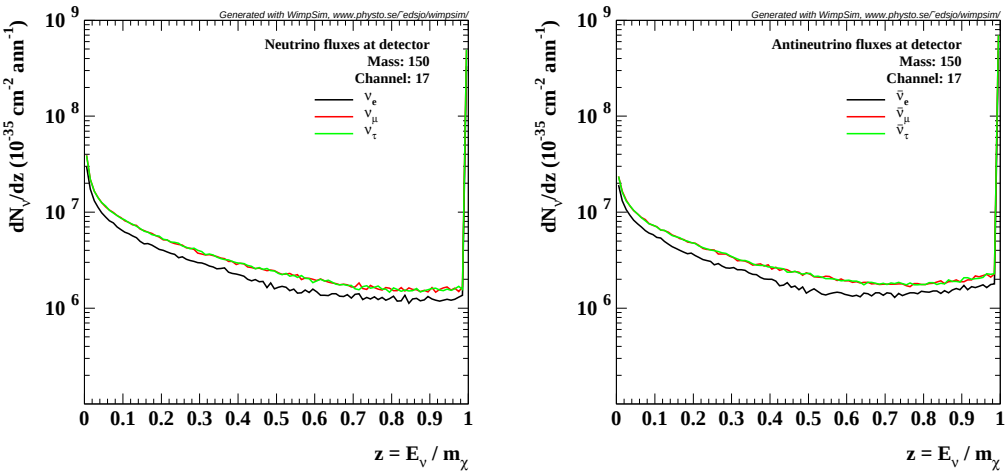
7.7.7 Muons at detector (Sun/Earth)



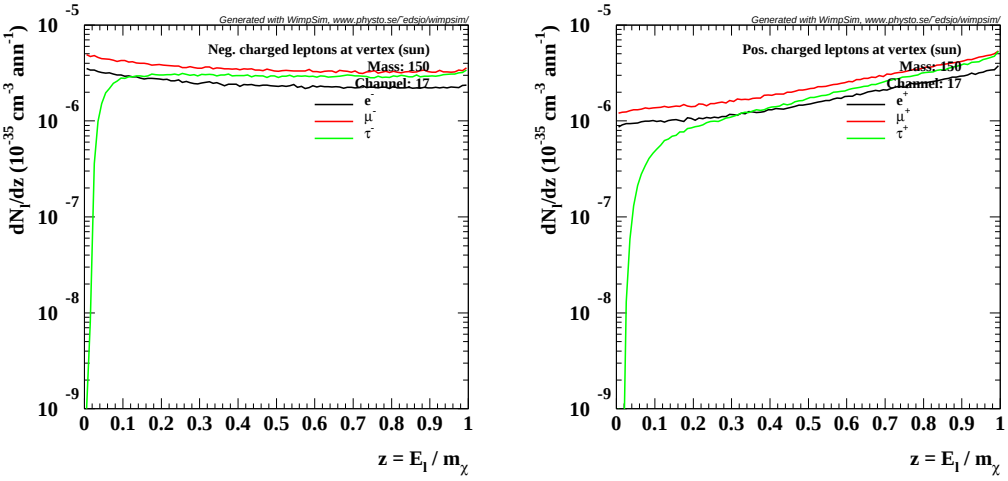


7.8 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

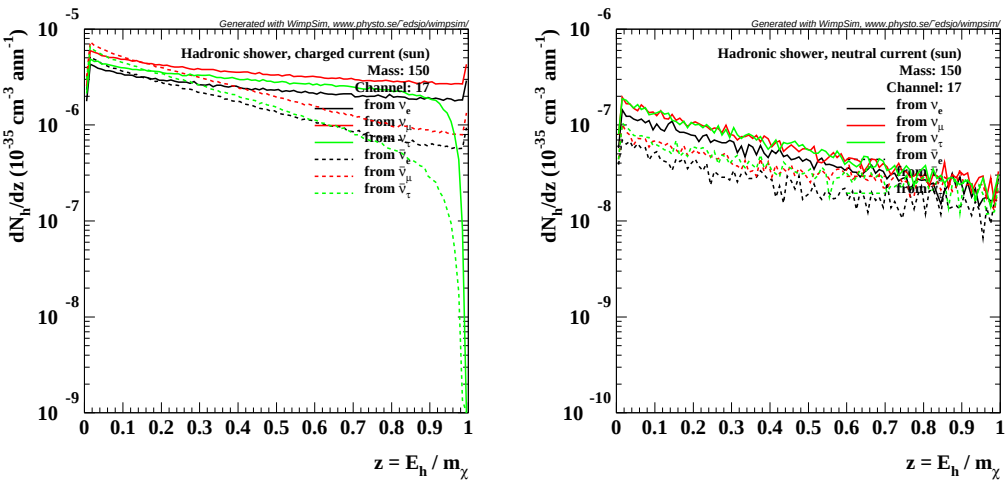
7.8.1 Neutrino fluxes at detector (Sun)



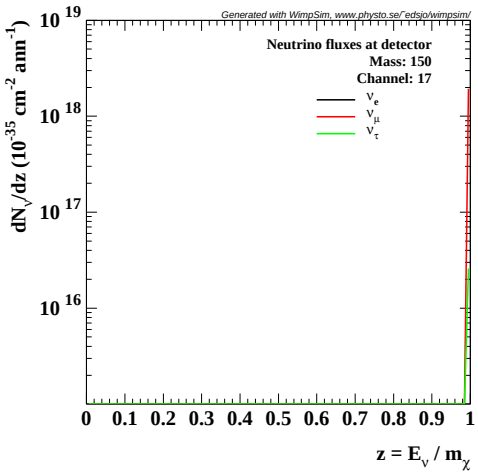
7.8.2 Charged leptons at neutrino-nucleon vertex (Sun)

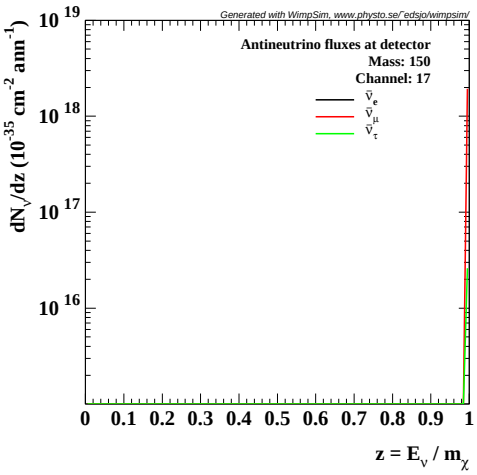


7.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)

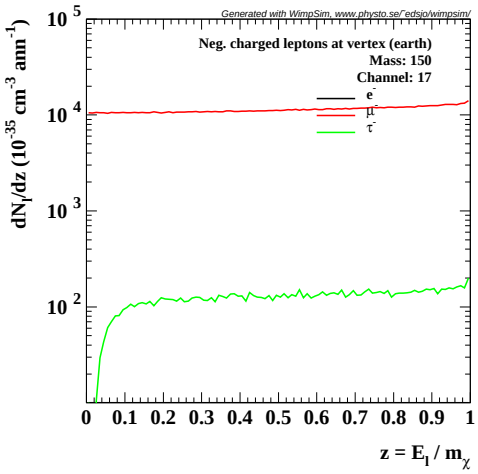


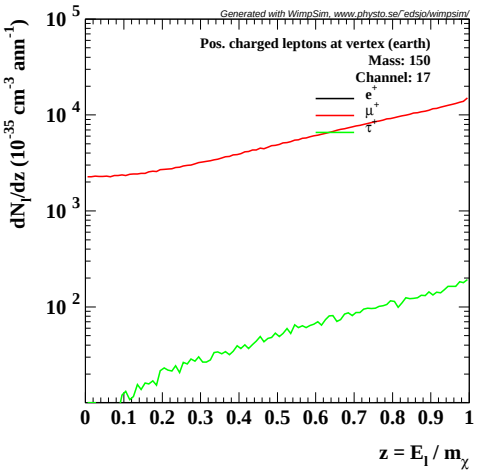
7.8.4 Neutrino fluxes at detector (Earth)



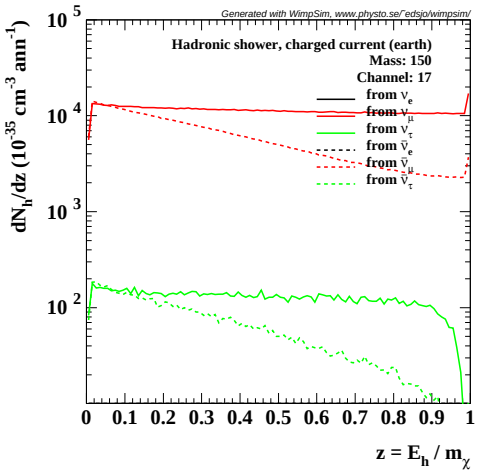


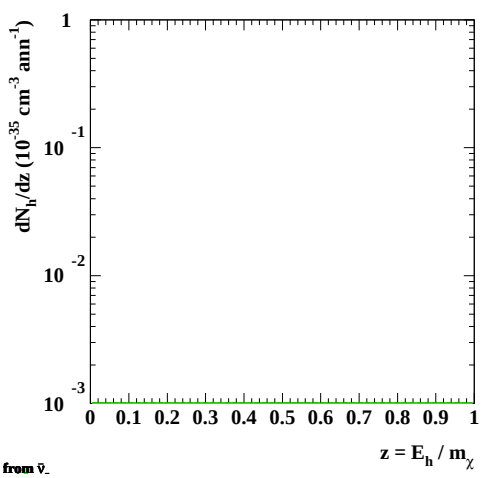
7.8.5 Charged leptons at neutrino-nucleon vertex (Earth)



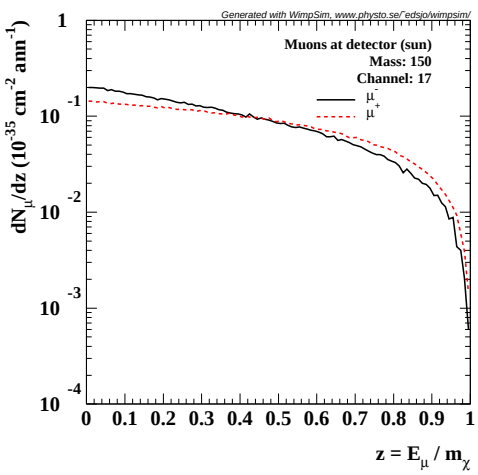


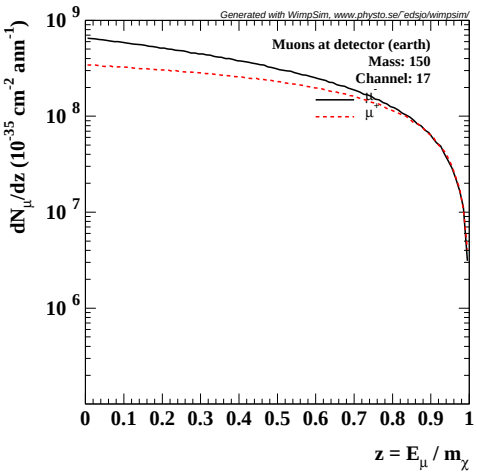
7.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





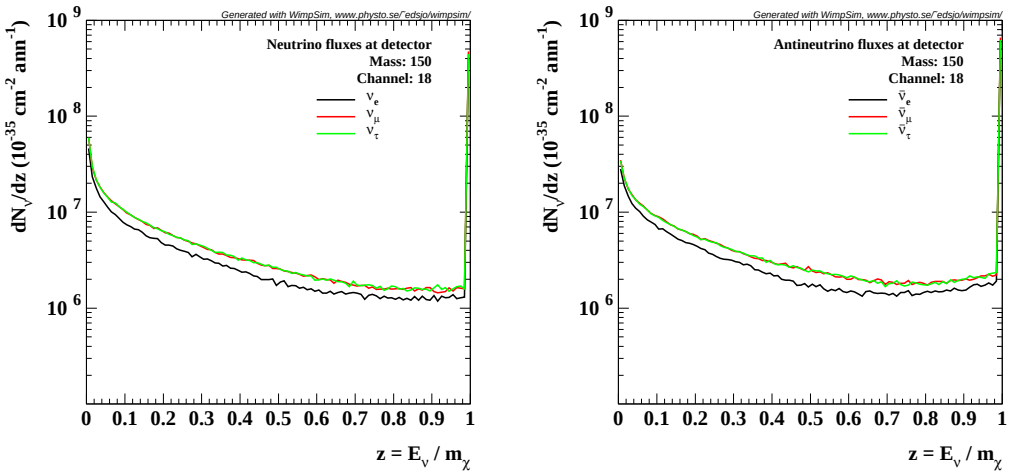
7.8.7 Muons at detector (Sun/Earth)



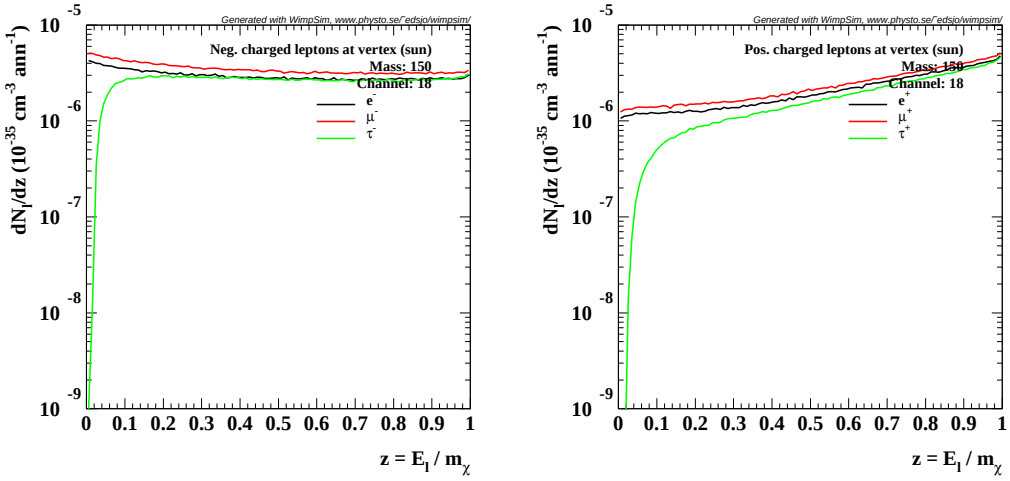


7.9 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

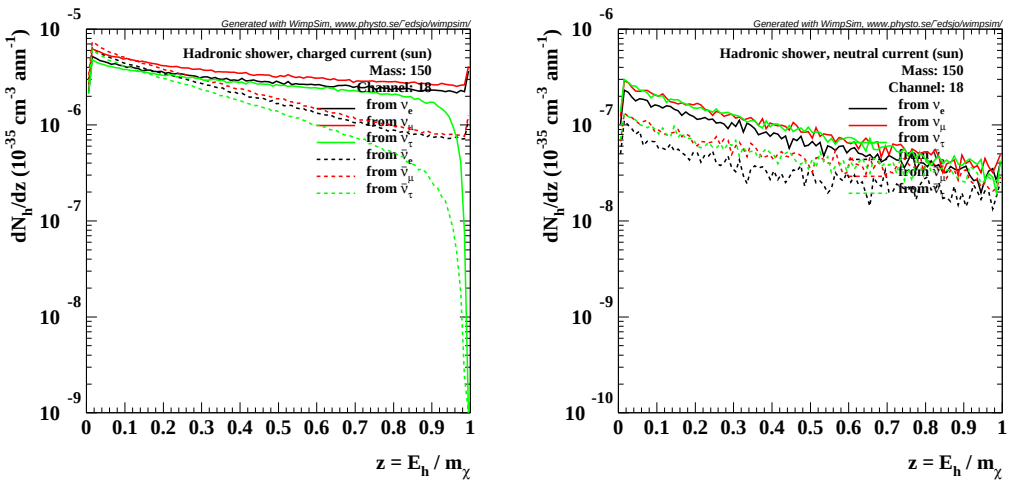
7.9.1 Neutrino fluxes at detector (Sun)



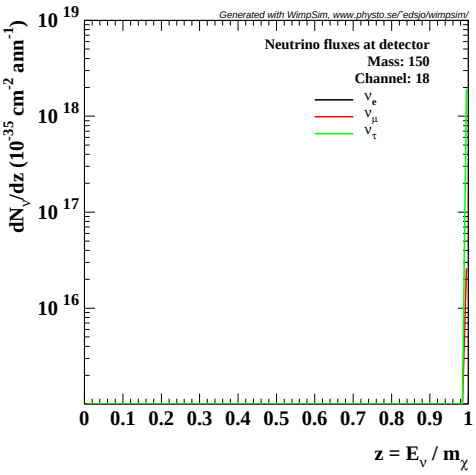
7.9.2 Charged leptons at neutrino-nucleon vertex (Sun)

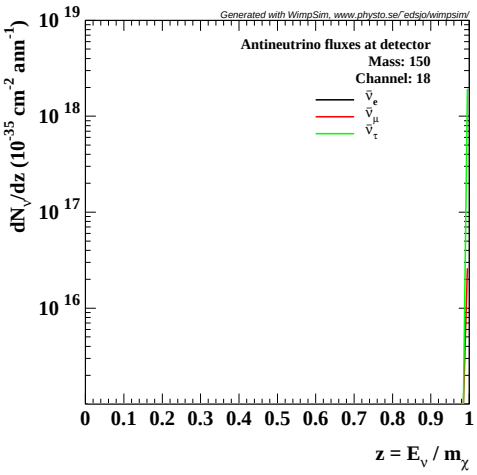


7.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

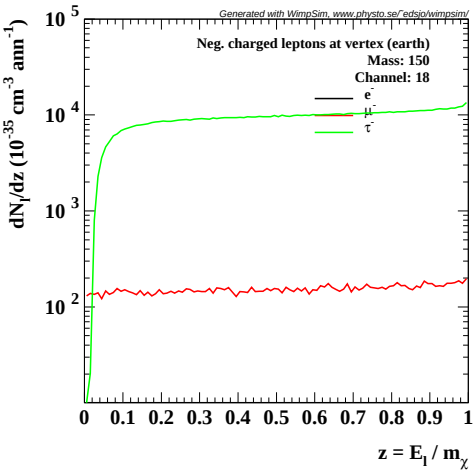


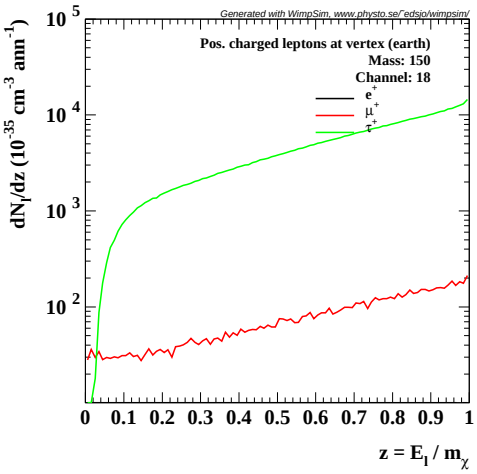
7.9.4 Neutrino fluxes at detector (Earth)



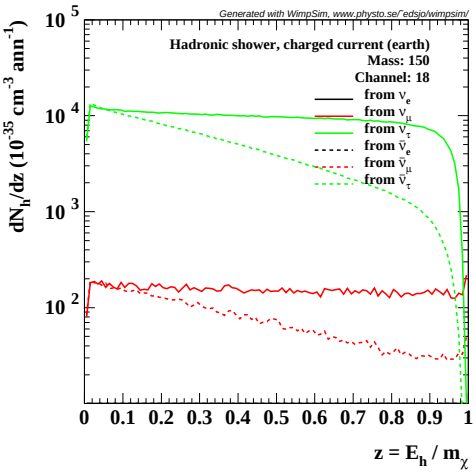


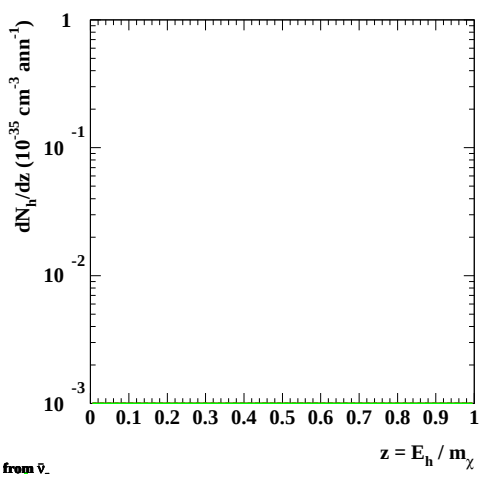
7.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



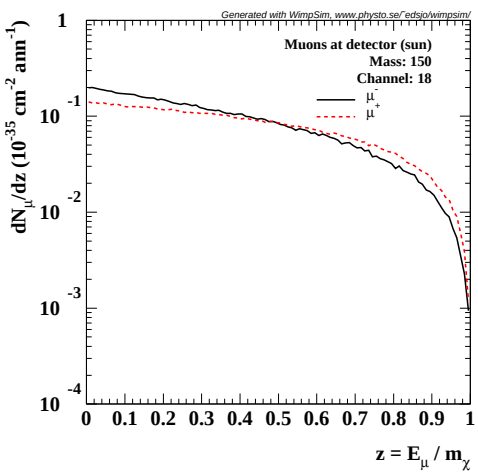


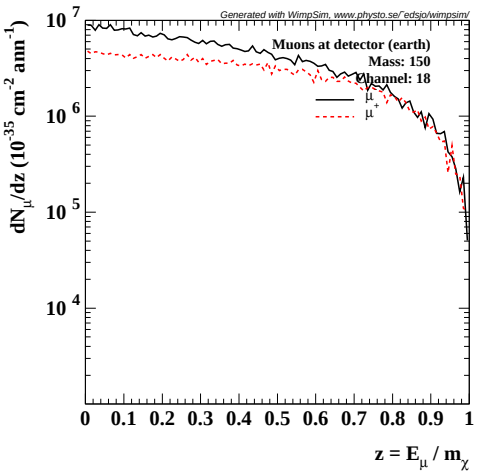
7.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





7.9.7 Muons at detector (Sun/Earth)

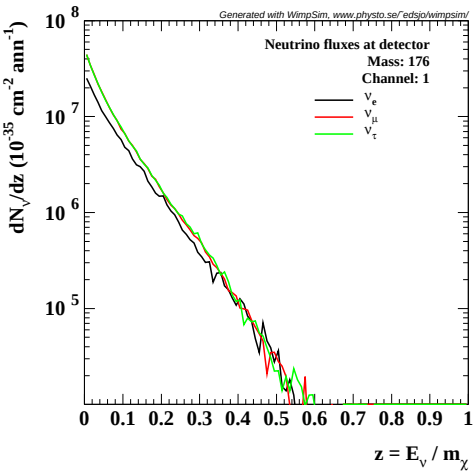


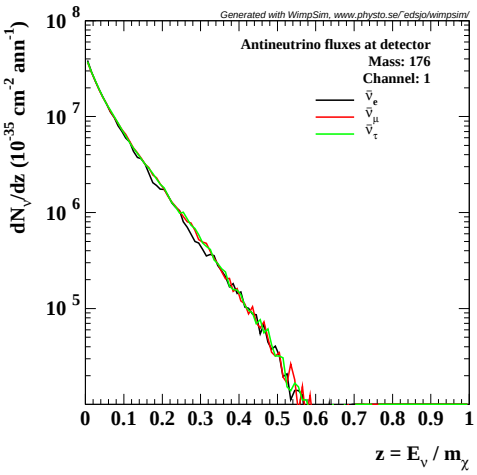


8 Mass 176

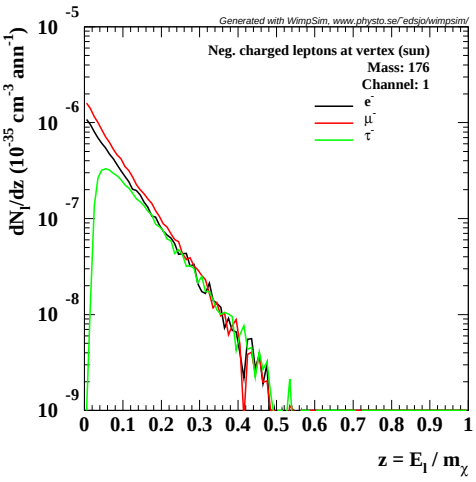
8.1 Channel 1 – $c\bar{c}$

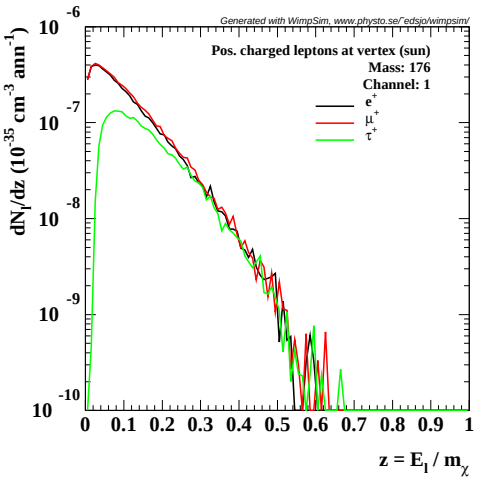
8.1.1 Neutrino fluxes at detector (Sun)



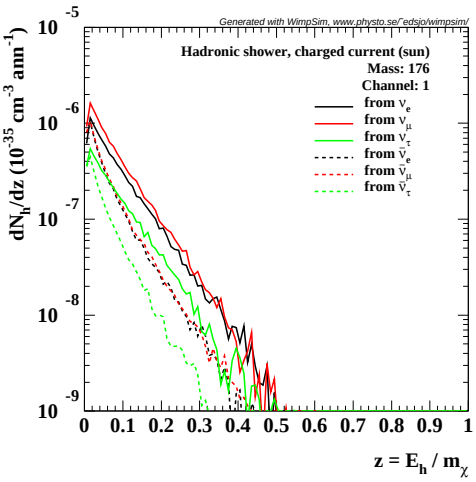


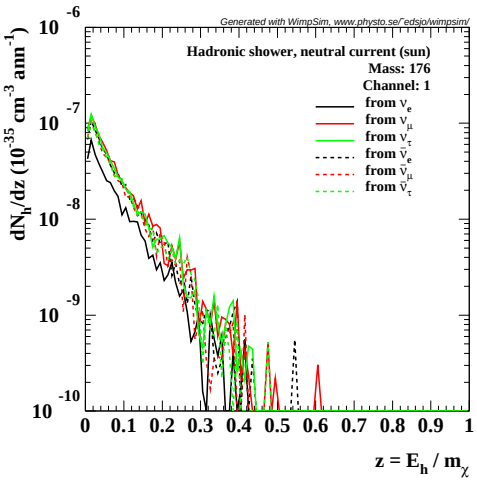
8.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



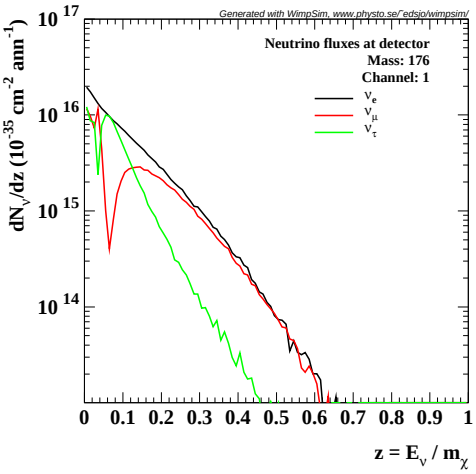


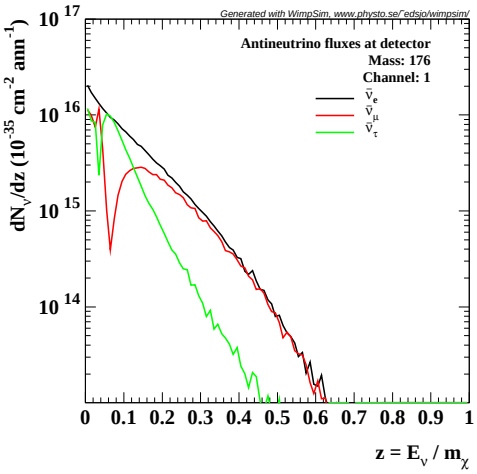
8.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



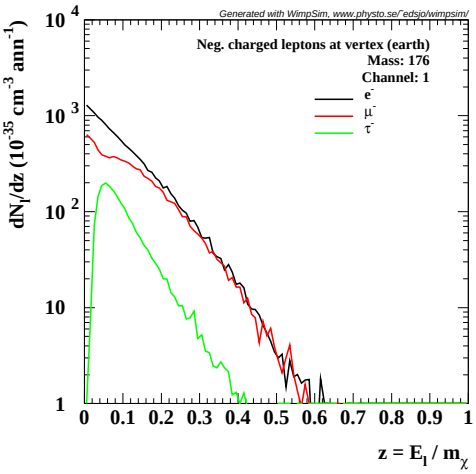


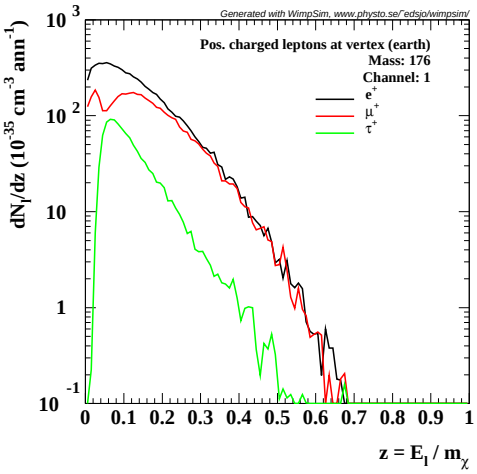
8.1.4 Neutrino fluxes at detector (Earth)



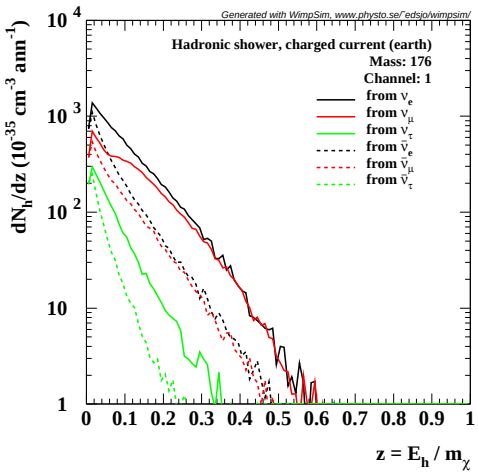


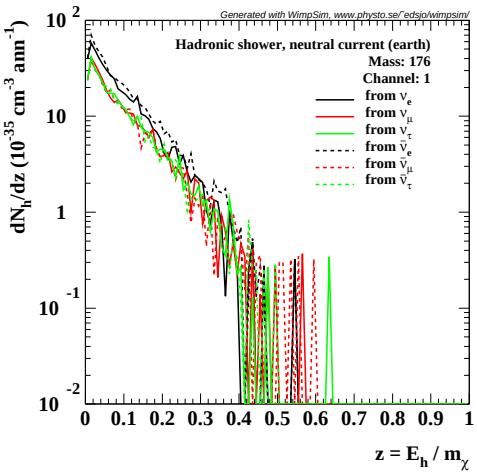
8.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



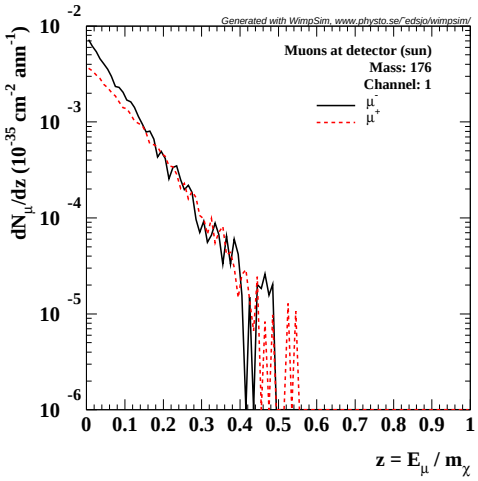


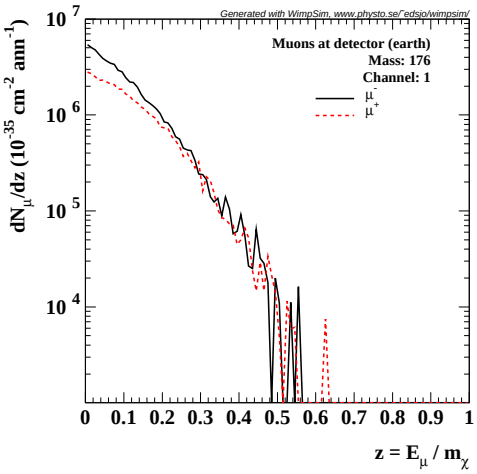
8.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





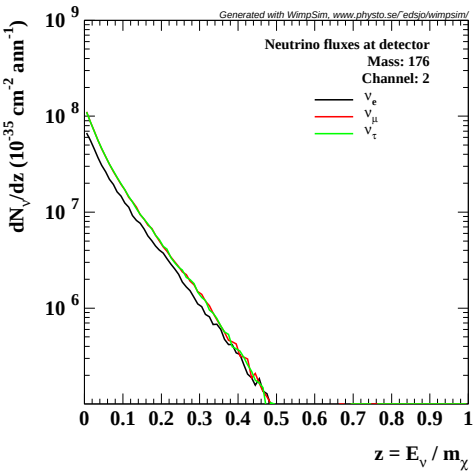
8.1.7 Muons at detector (Sun/Earth)

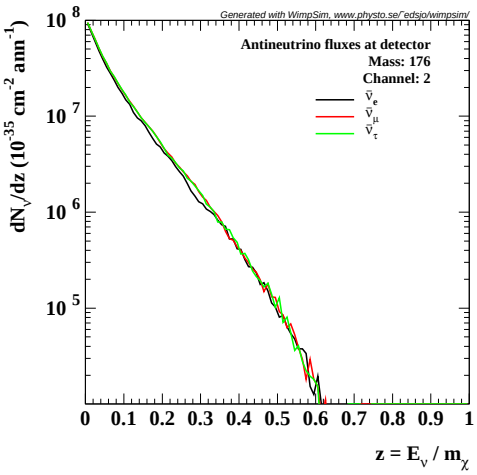




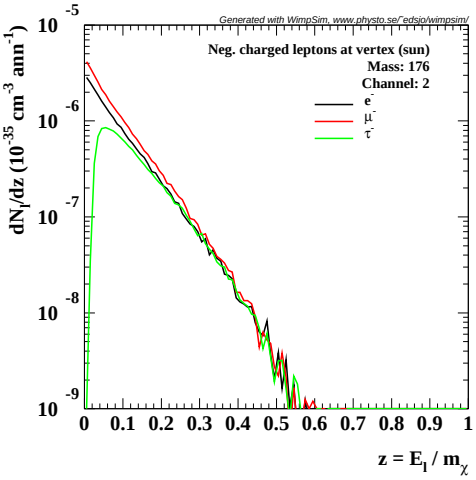
8.2 Channel 2 – $b\bar{b}$

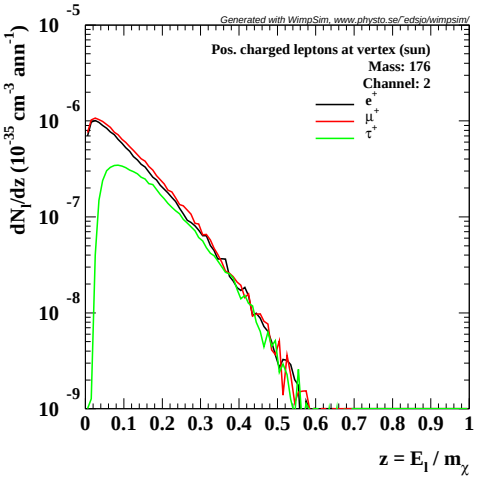
8.2.1 Neutrino fluxes at detector (Sun)



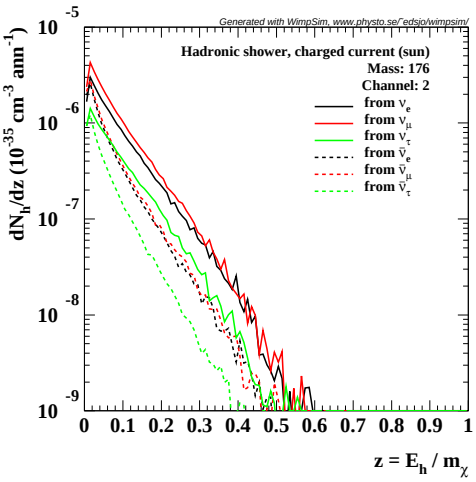


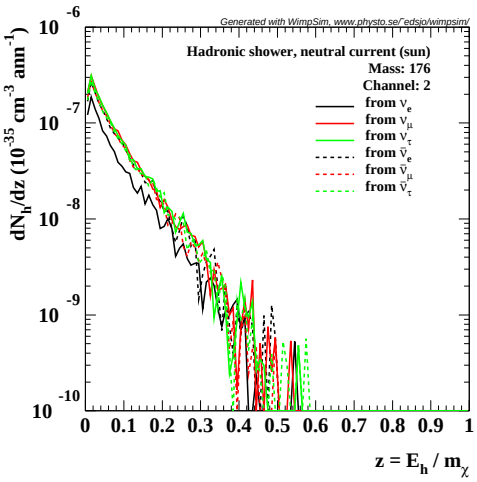
8.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



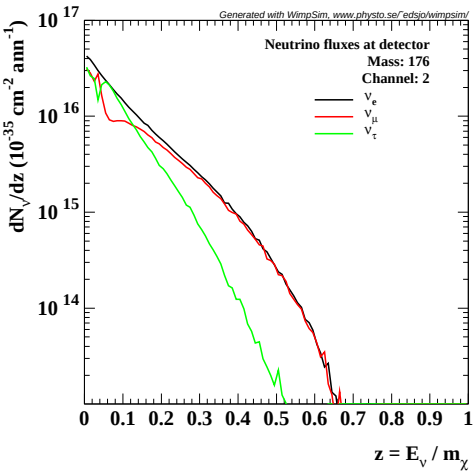


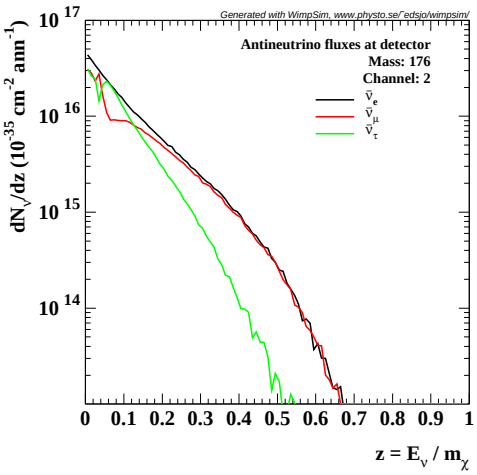
8.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



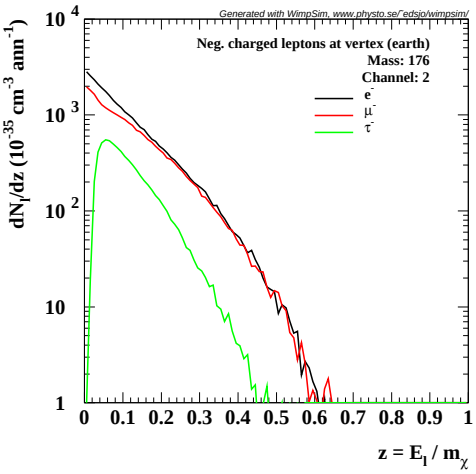


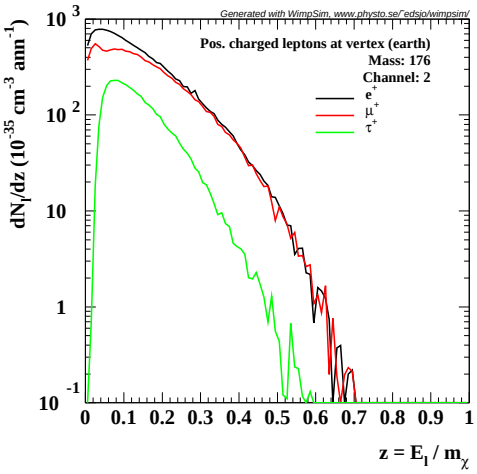
8.2.4 Neutrino fluxes at detector (Earth)



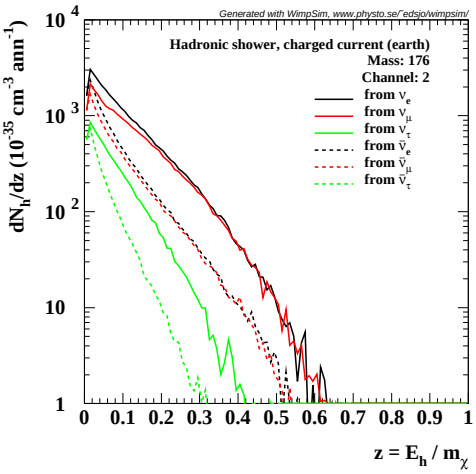


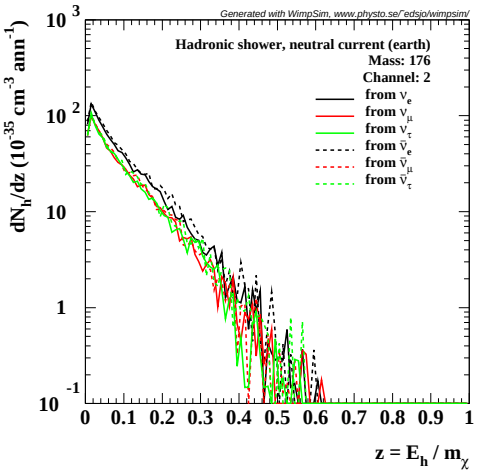
8.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



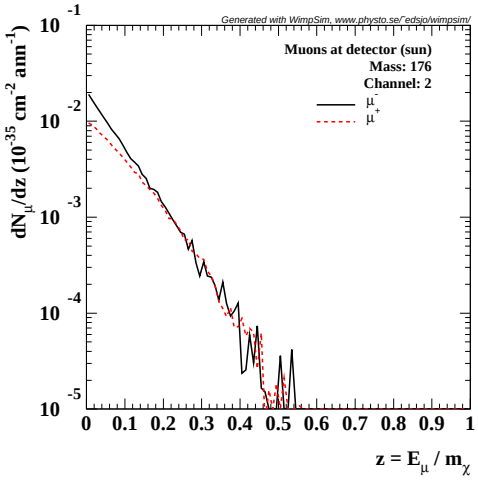


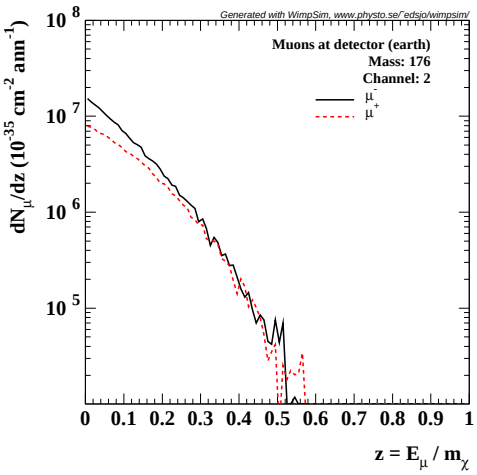
8.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





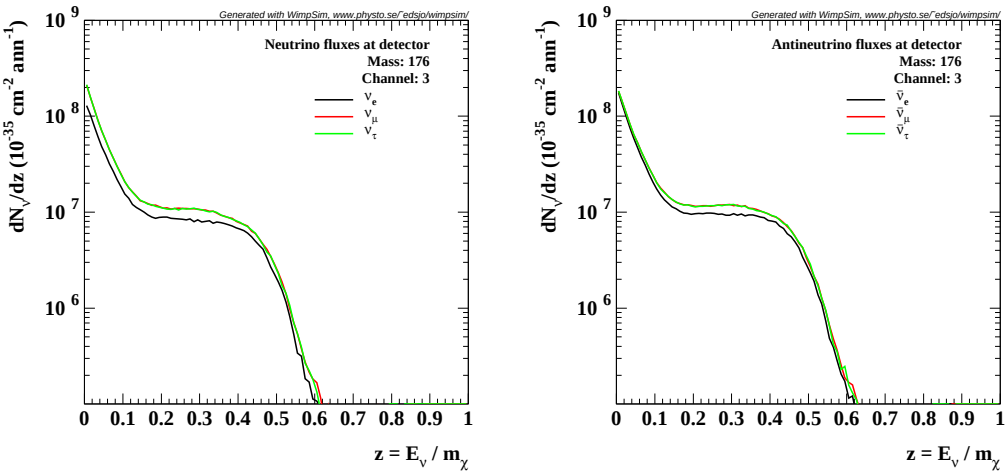
8.2.7 Muons at detector (Sun/Earth)



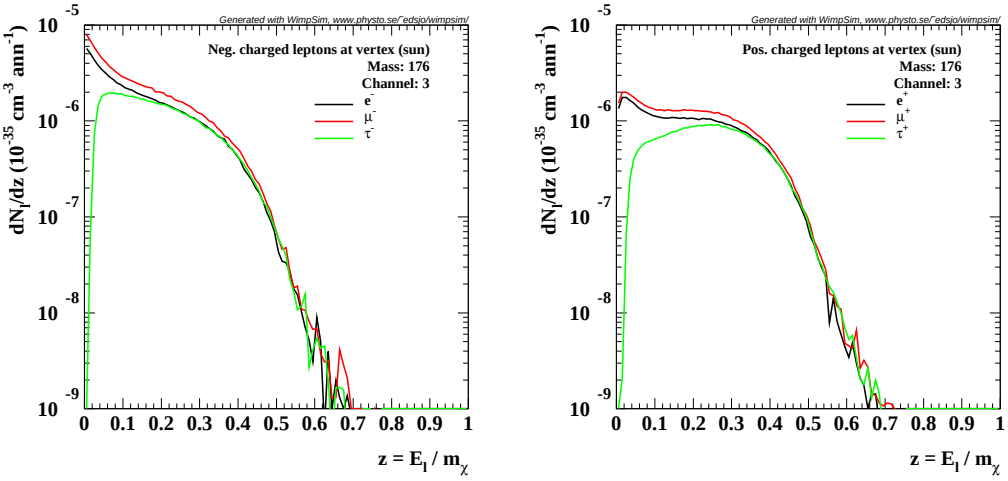


8.3 Channel 3 – $t\bar{t}$

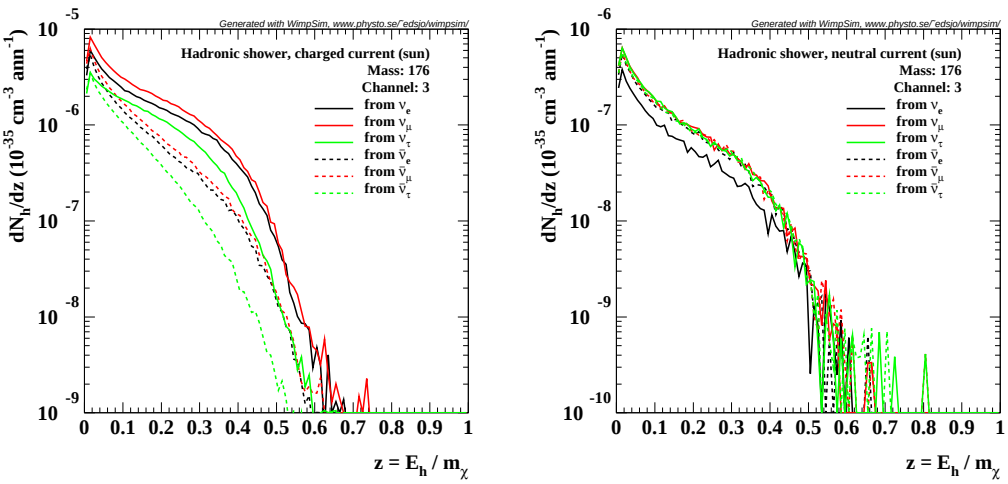
8.3.1 Neutrino fluxes at detector (Sun)



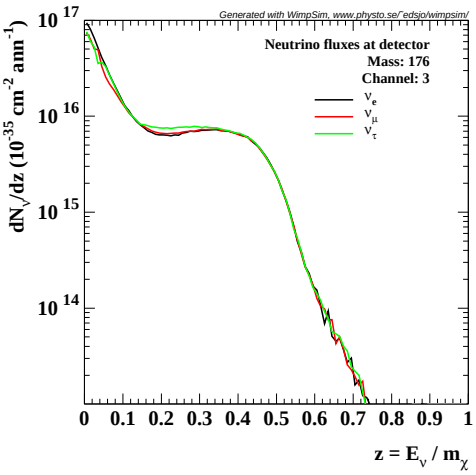
8.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

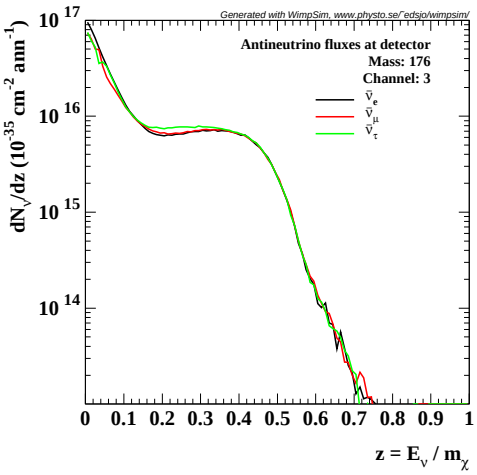


8.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

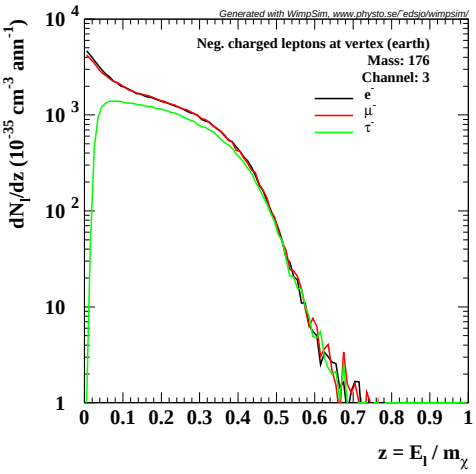


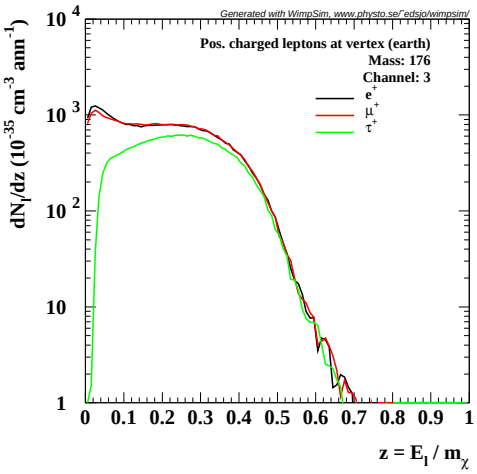
8.3.4 Neutrino fluxes at detector (Earth)



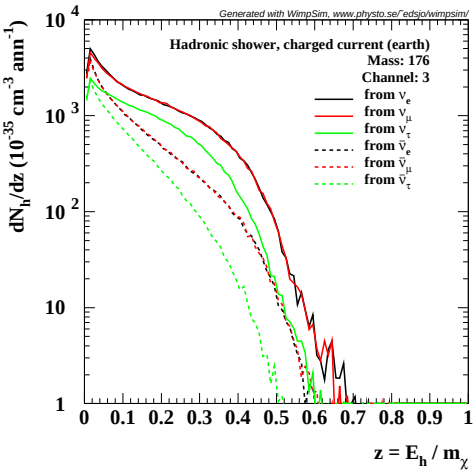


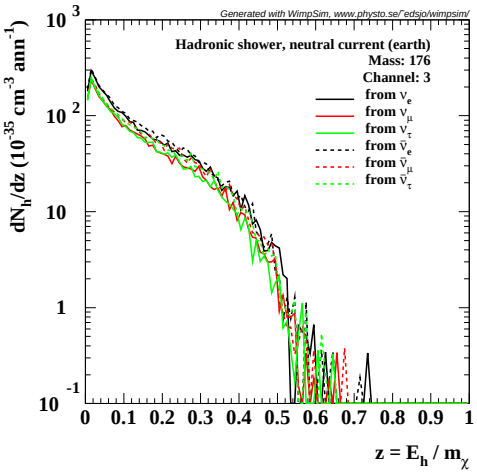
8.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



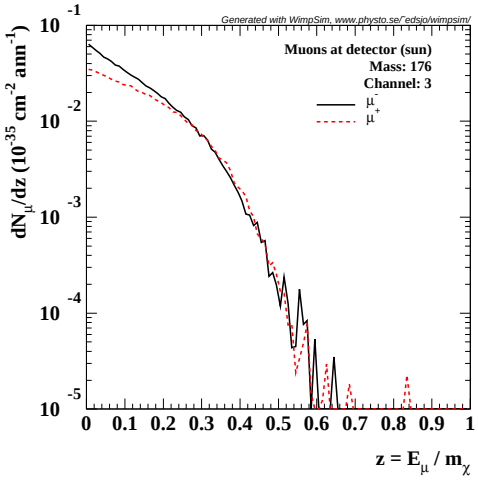


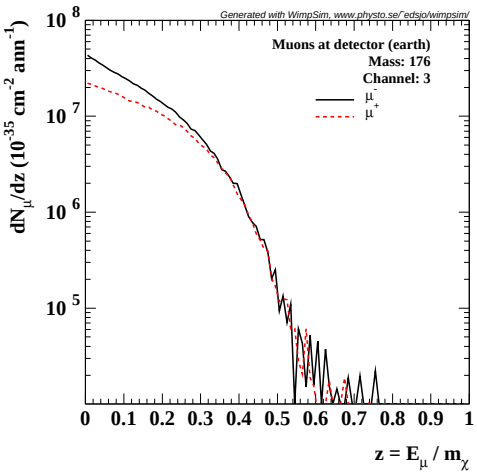
8.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





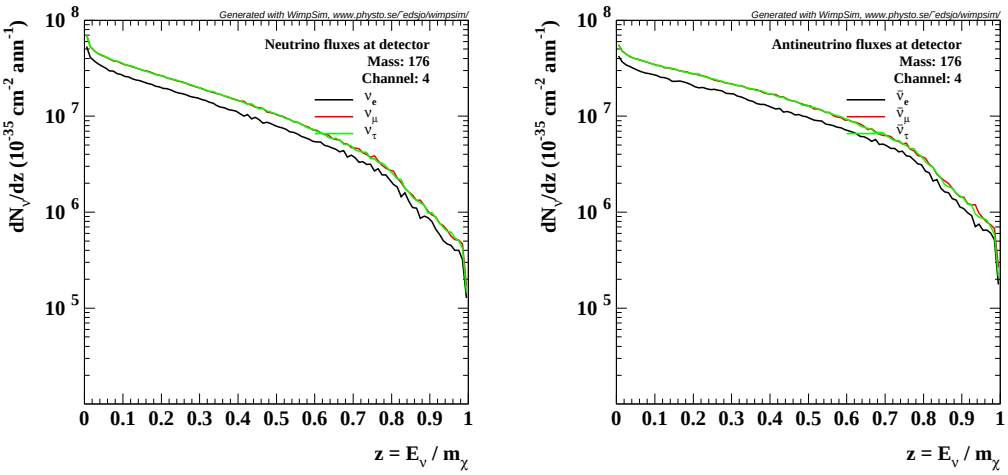
8.3.7 Muons at detector (Sun/Earth)



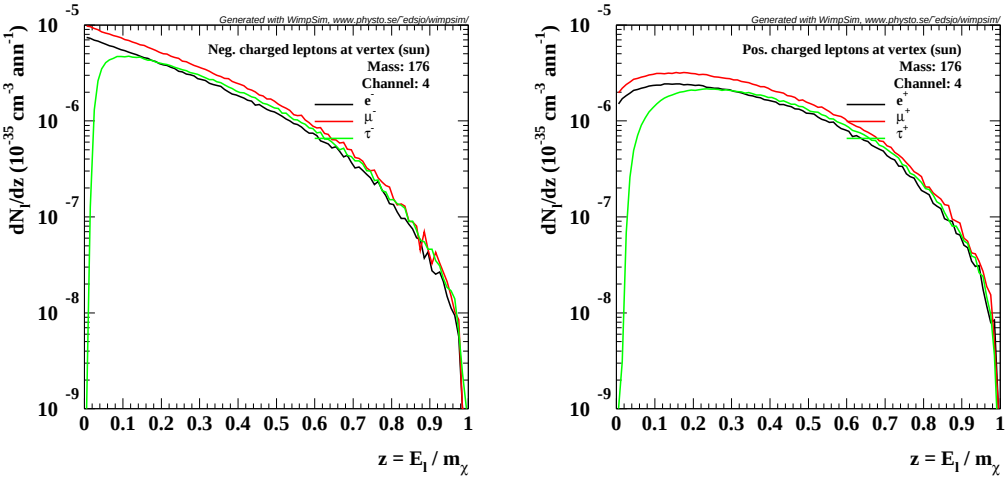


8.4 Channel 4 – $\tau^-\tau^+$

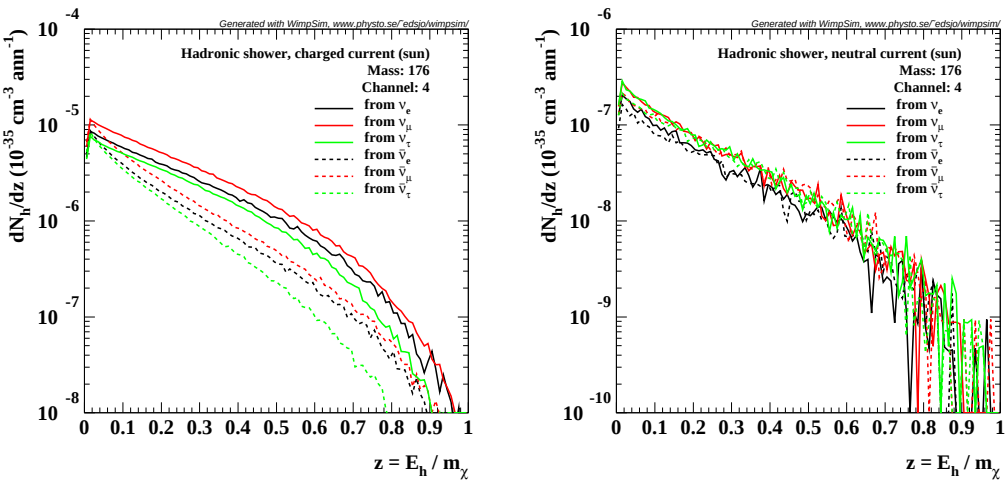
8.4.1 Neutrino fluxes at detector (Sun)



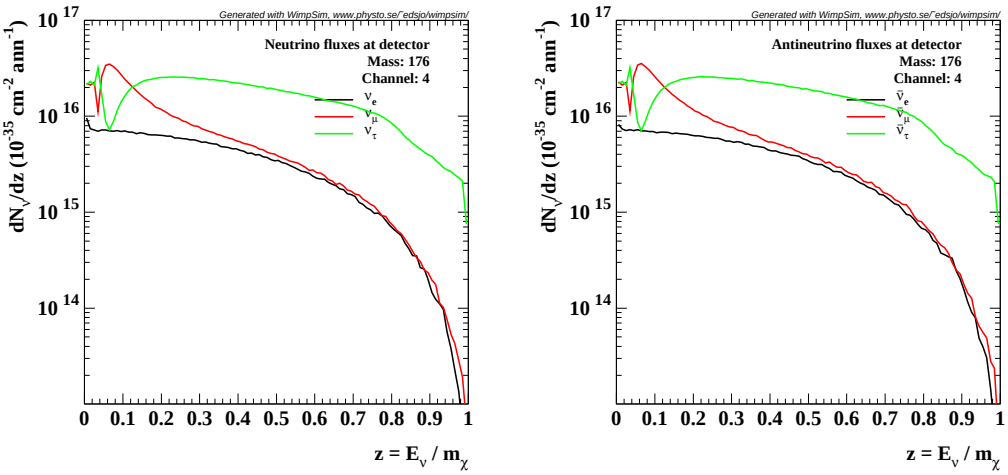
8.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



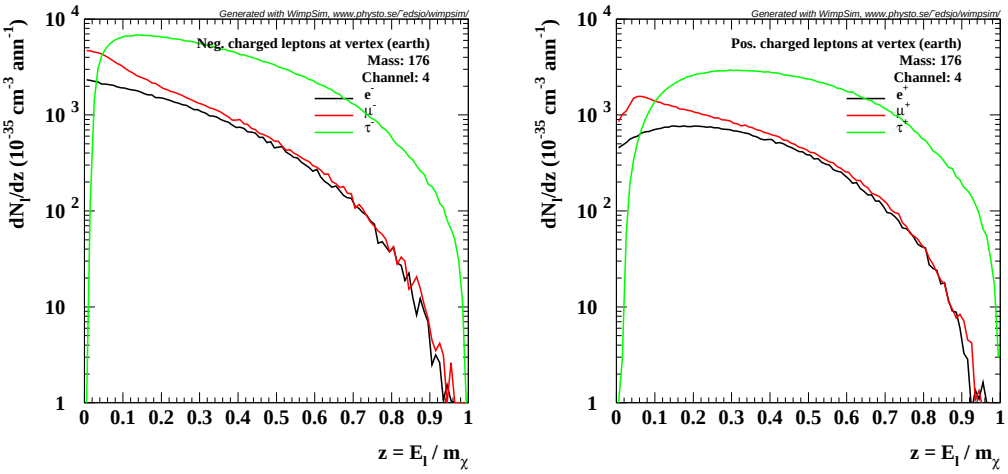
8.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



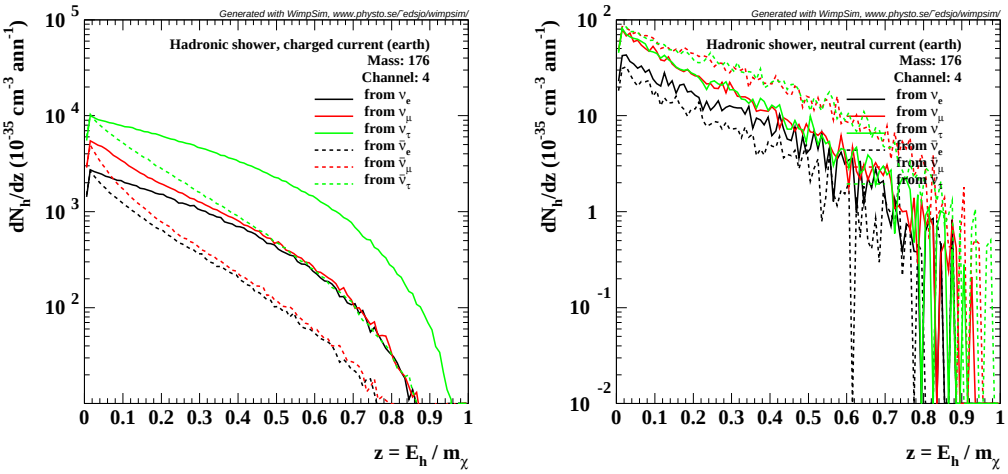
8.4.4 Neutrino fluxes at detector (Earth)



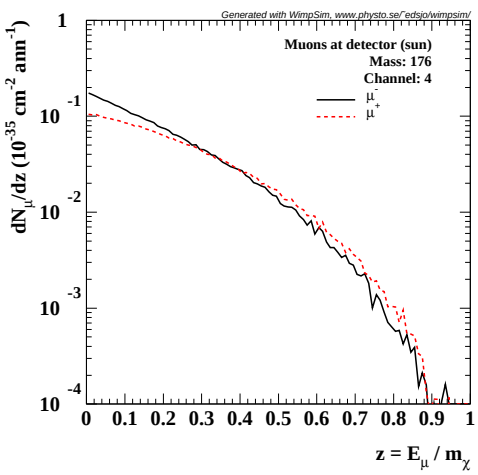
8.4.5 Charged leptons at neutrino-nucleon vertex (Earth)

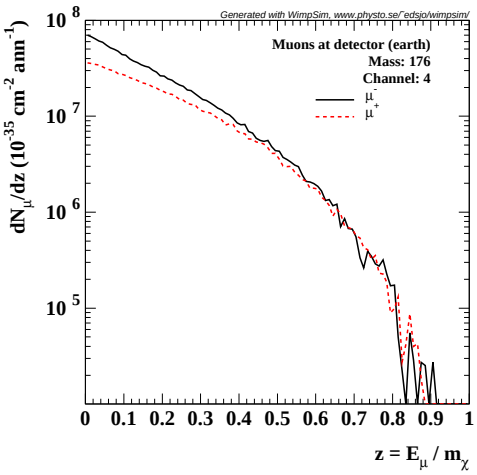


8.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)



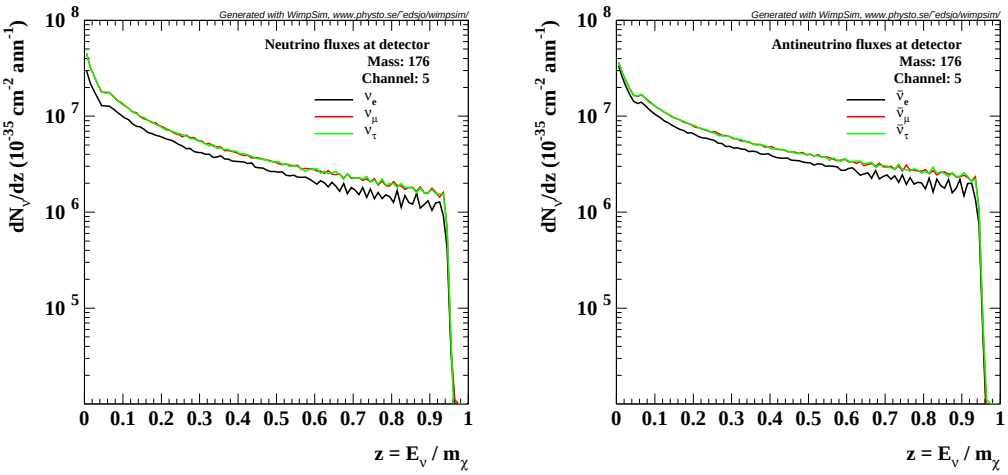
8.4.7 Muons at detector (Sun/Earth)



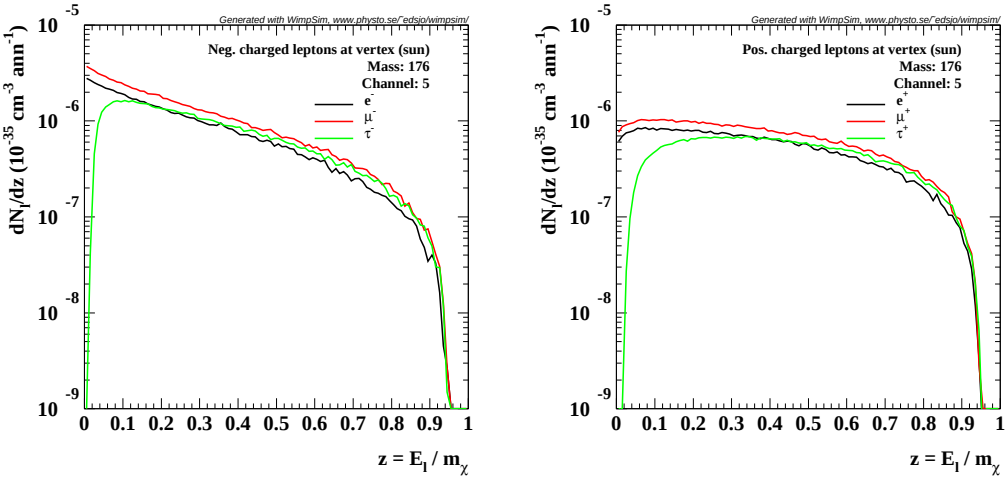


8.5 Channel 5 – W^-W^+

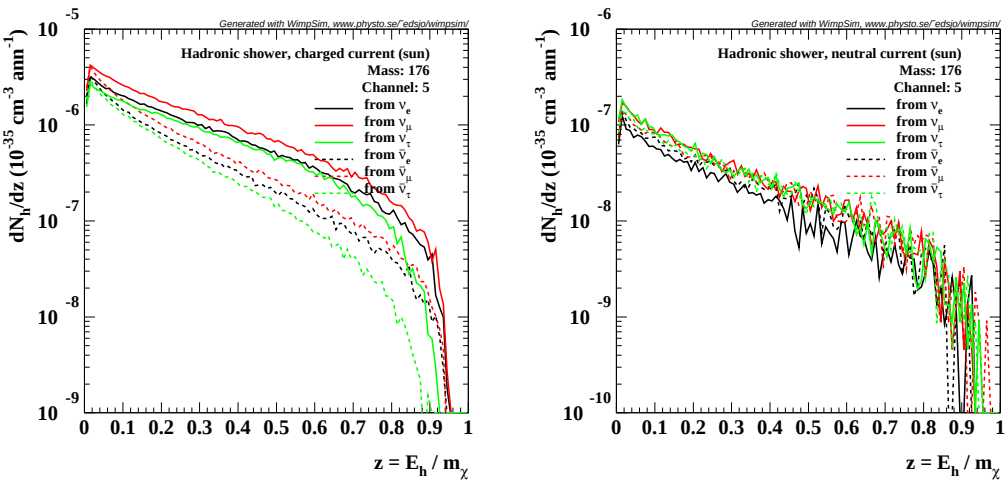
8.5.1 Neutrino fluxes at detector (Sun)



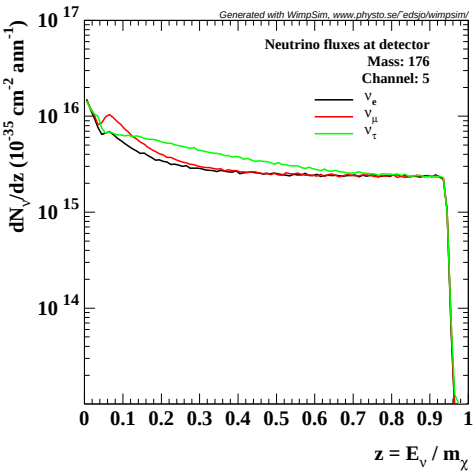
8.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

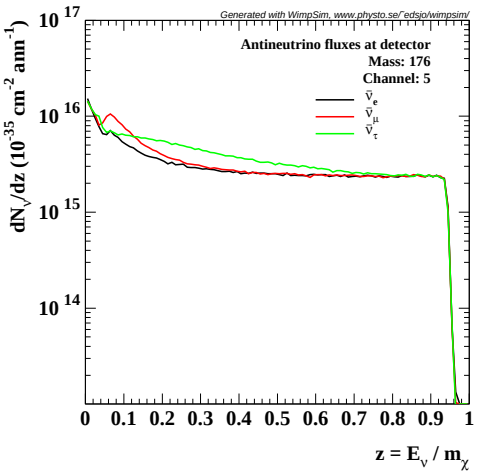


8.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

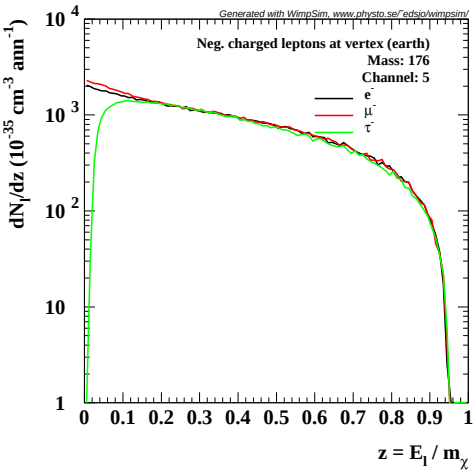


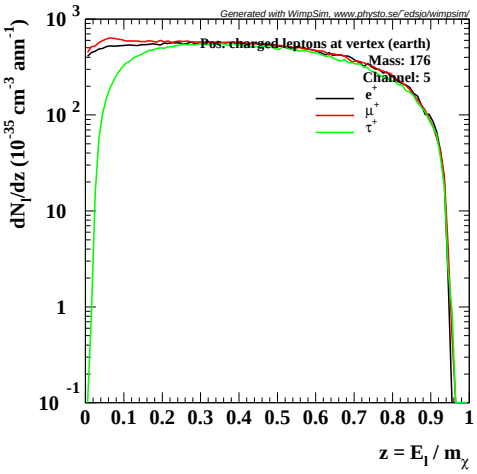
8.5.4 Neutrino fluxes at detector (Earth)



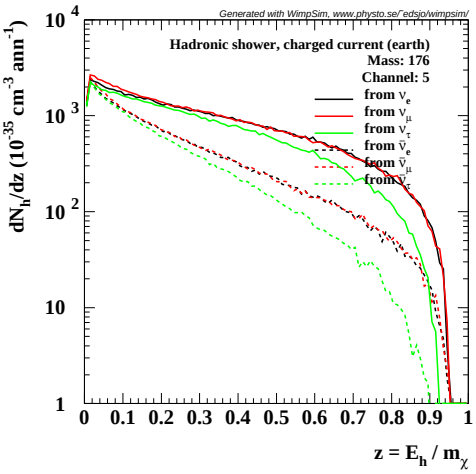


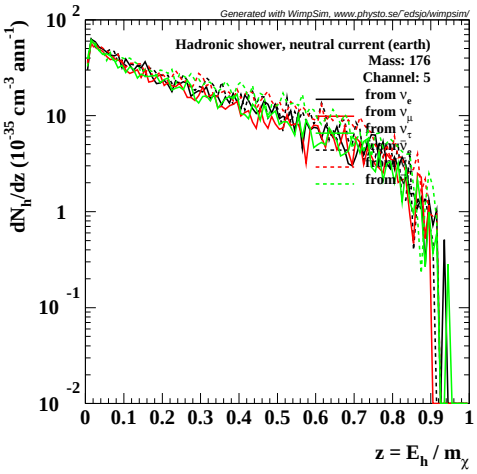
8.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



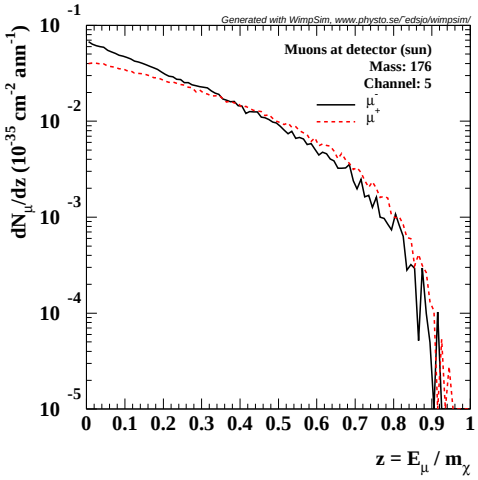


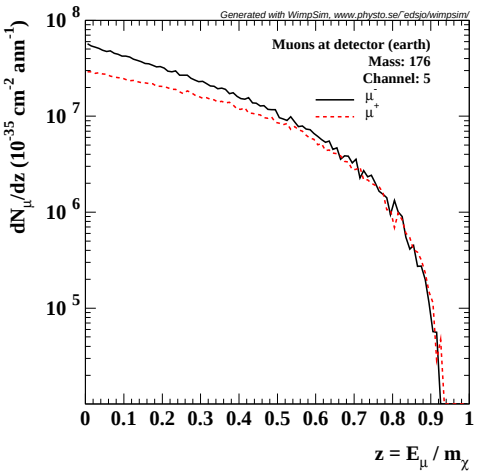
8.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





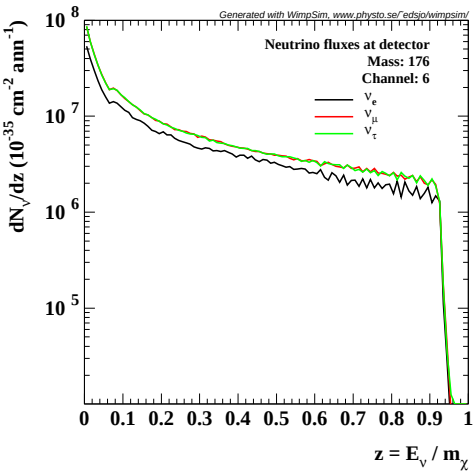
8.5.7 Muons at detector (Sun/Earth)

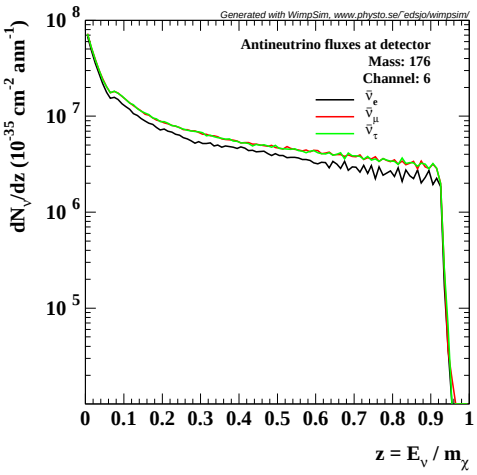




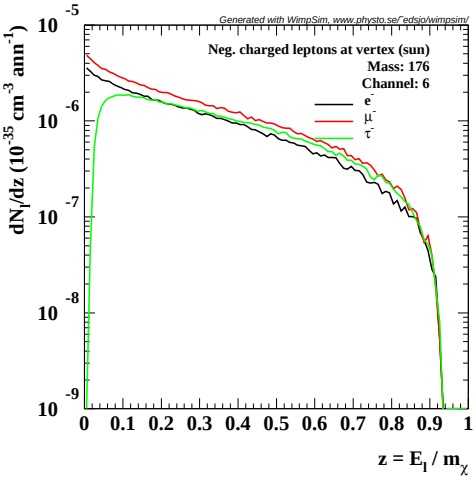
8.6 Channel 6 – Z^0Z^0

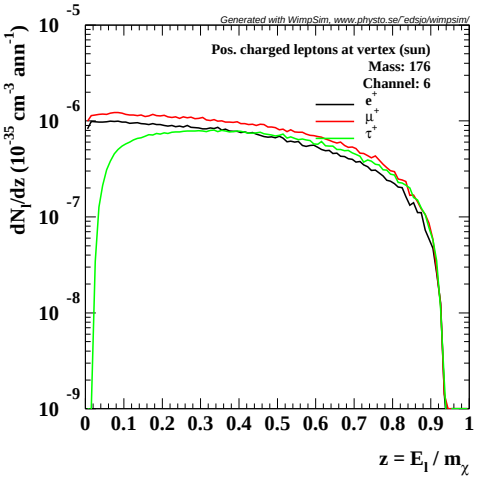
8.6.1 Neutrino fluxes at detector (Sun)



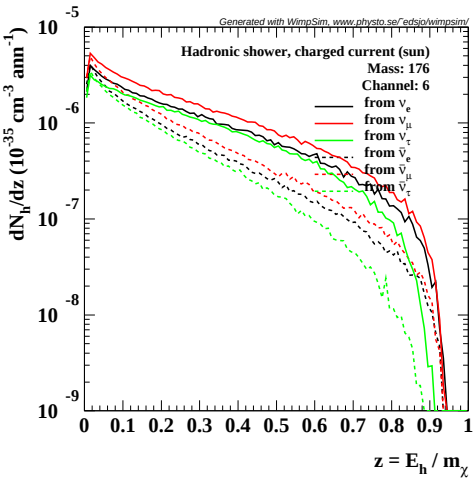


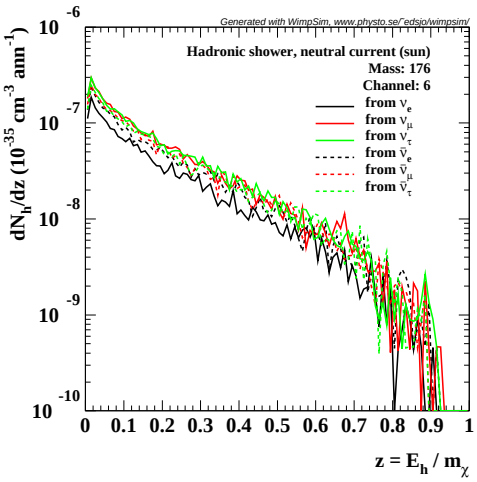
8.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



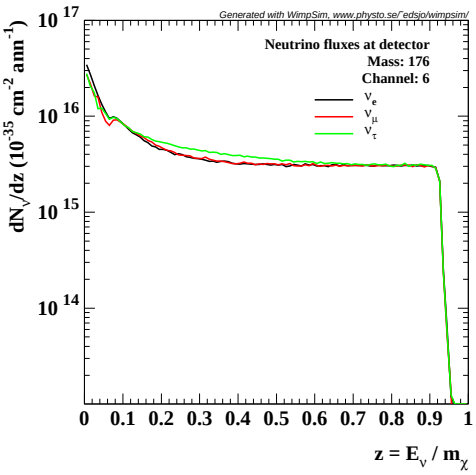


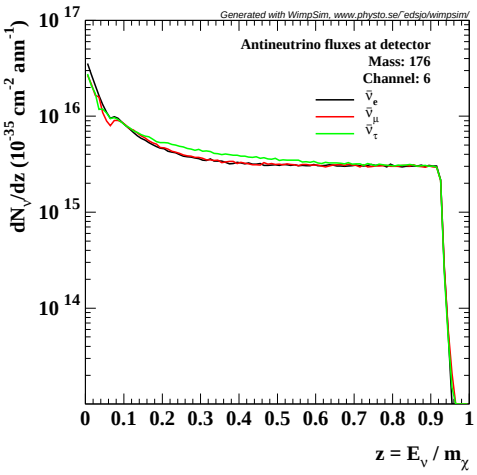
8.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



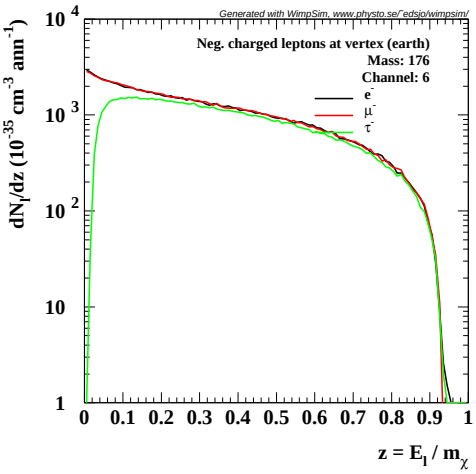


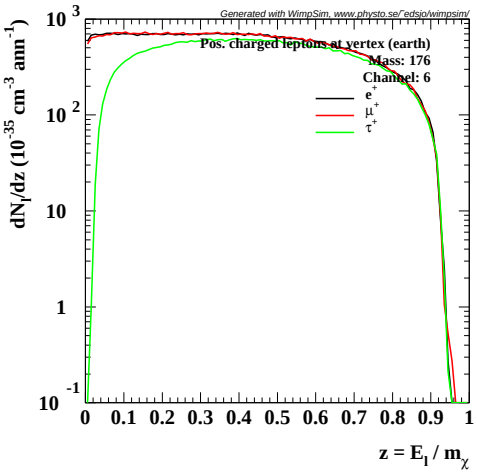
8.6.4 Neutrino fluxes at detector (Earth)



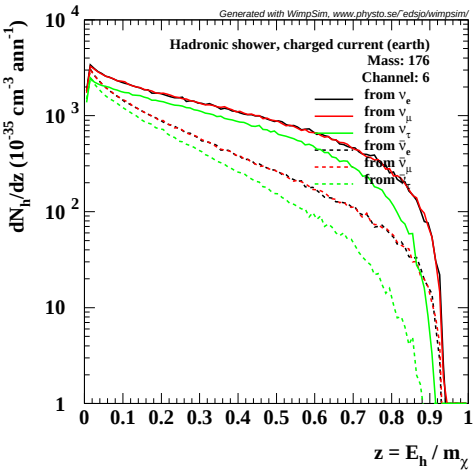


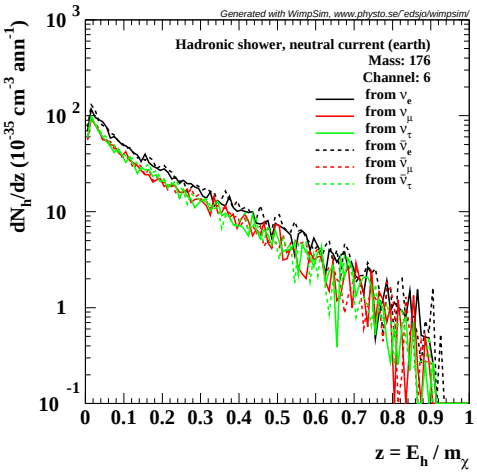
8.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



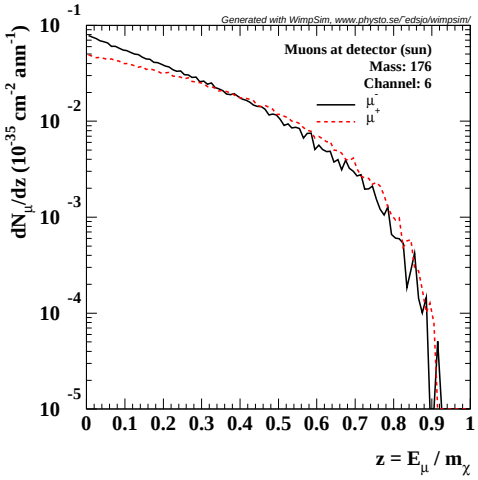


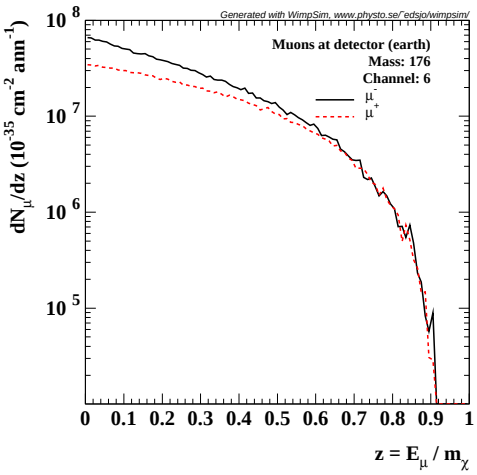
8.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





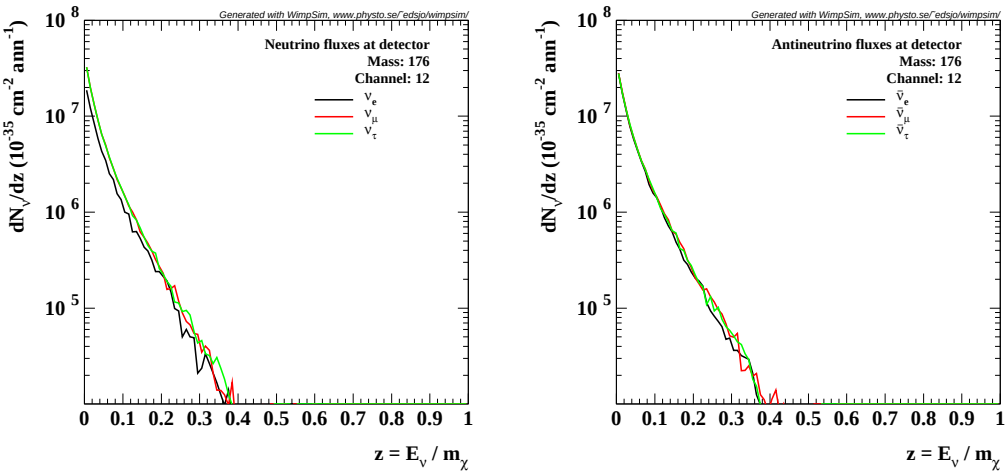
8.6.7 Muons at detector (Sun/Earth)



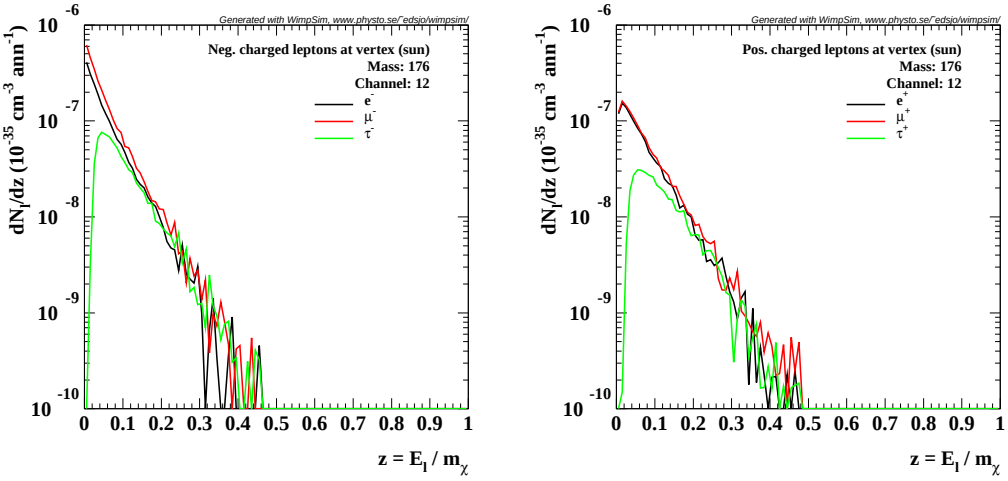


8.7 Channel 12 – gg

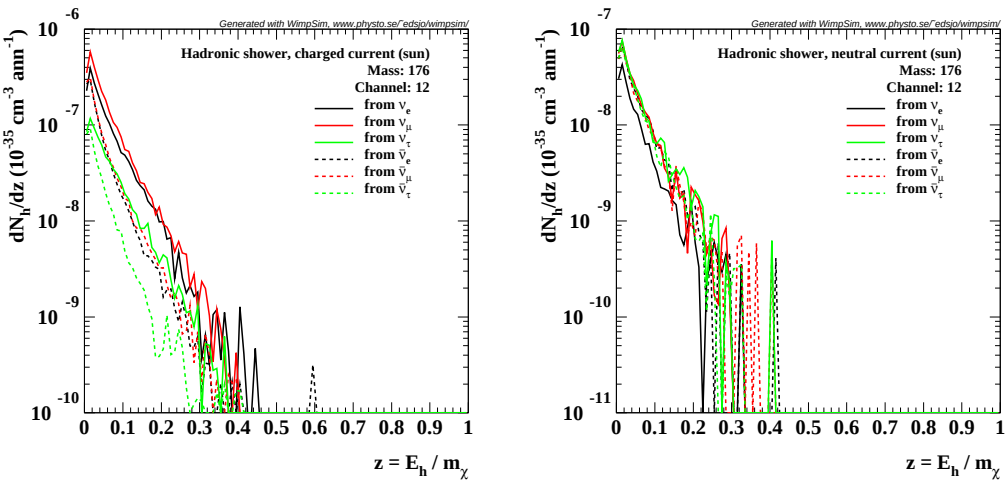
8.7.1 Neutrino fluxes at detector (Sun)



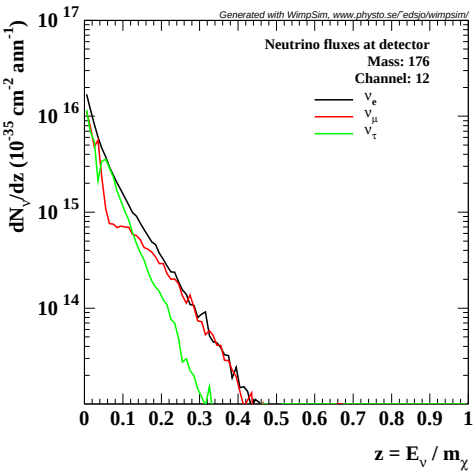
8.7.2 Charged leptons at neutrino-nucleon vertex (Sun)

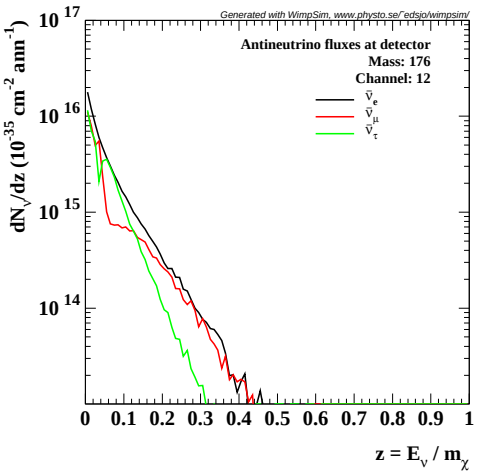


8.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

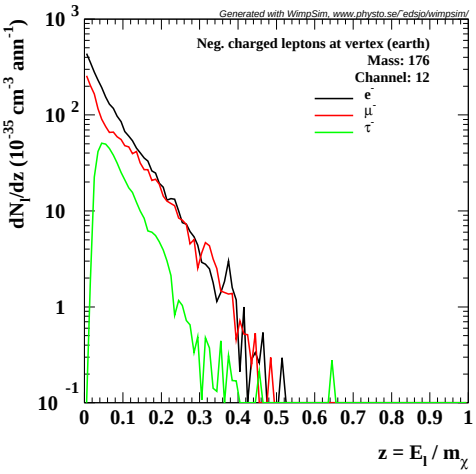


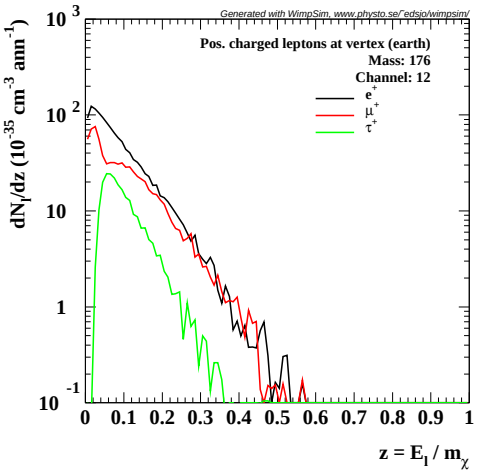
8.7.4 Neutrino fluxes at detector (Earth)



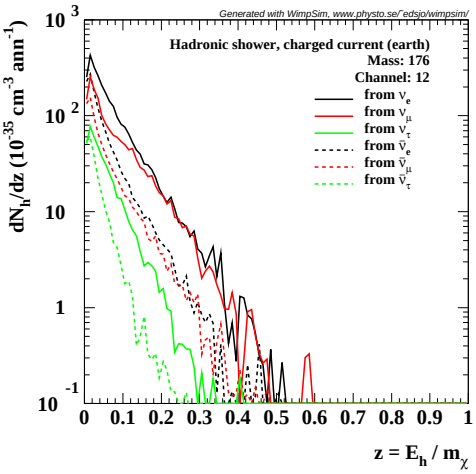


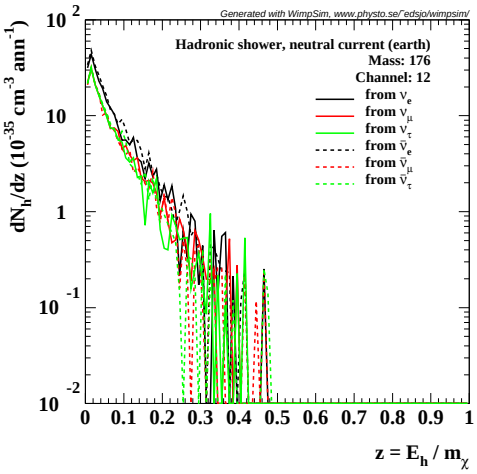
8.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



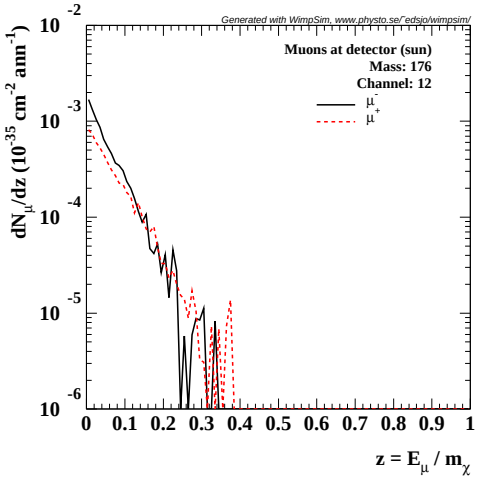


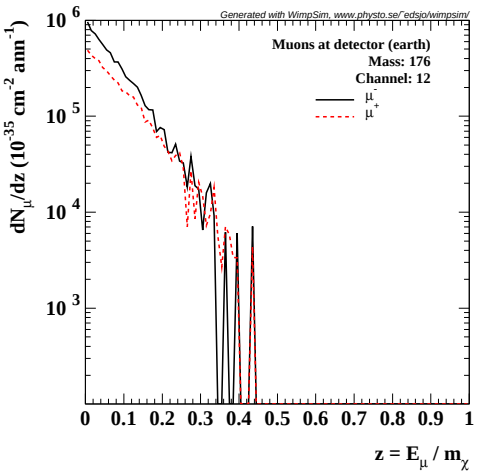
8.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





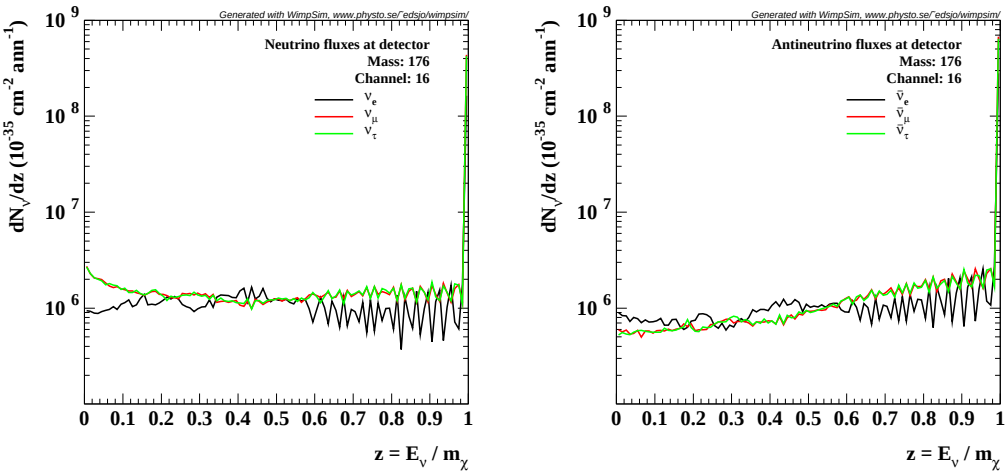
8.7.7 Muons at detector (Sun/Earth)



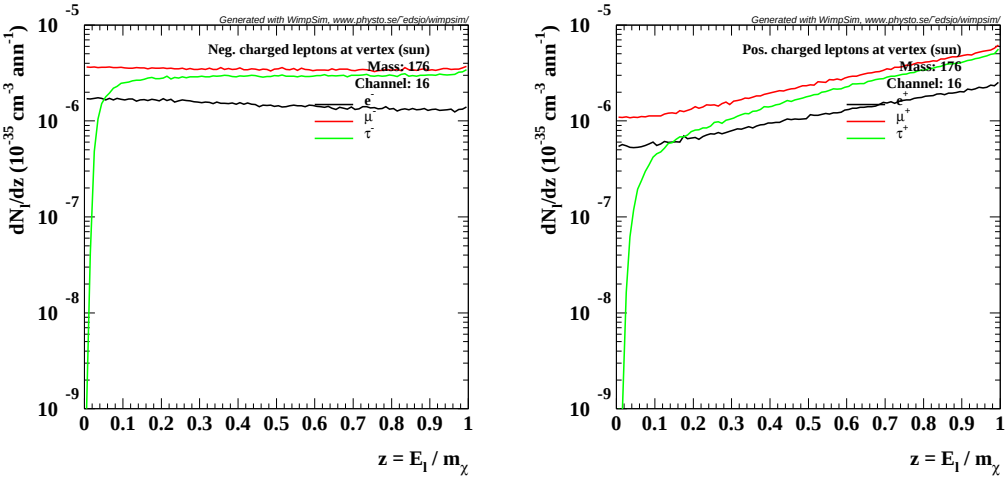


8.8 Channel 16 – $\nu_e\bar{\nu}_e$

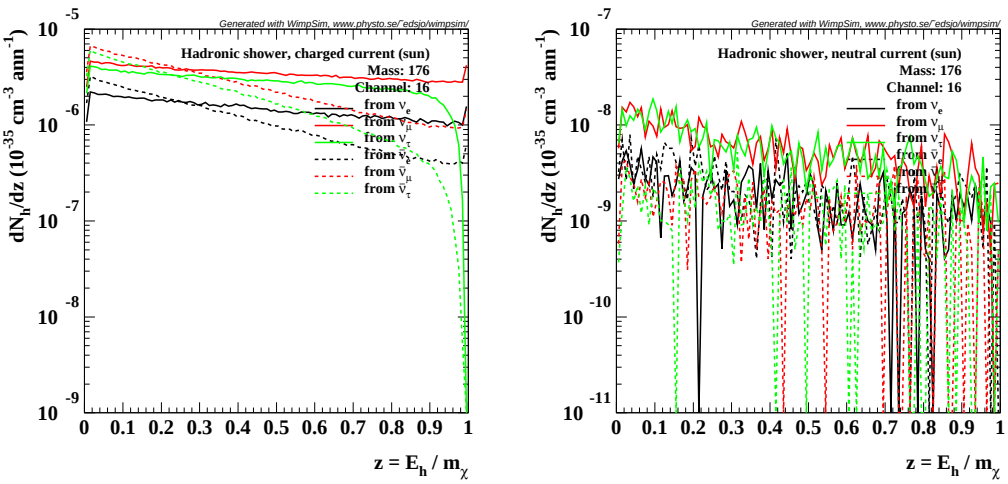
8.8.1 Neutrino fluxes at detector (Sun)



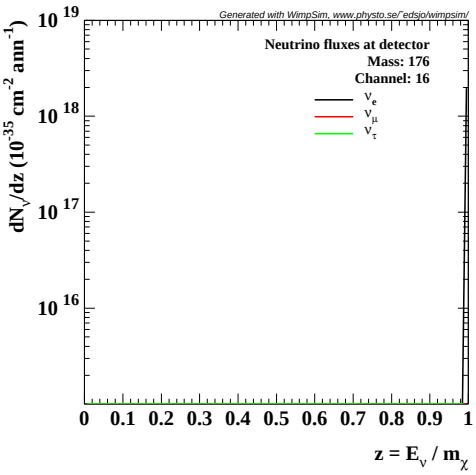
8.8.2 Charged leptons at neutrino-nucleon vertex (Sun)

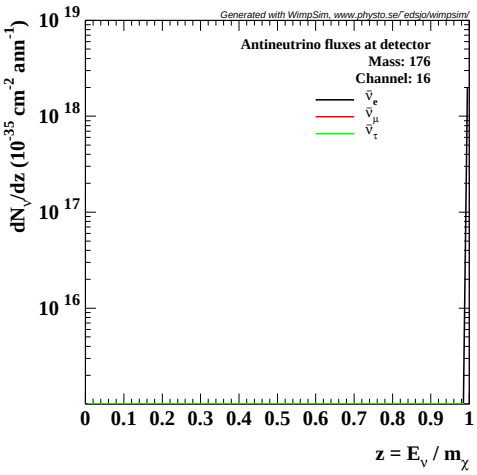


8.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)

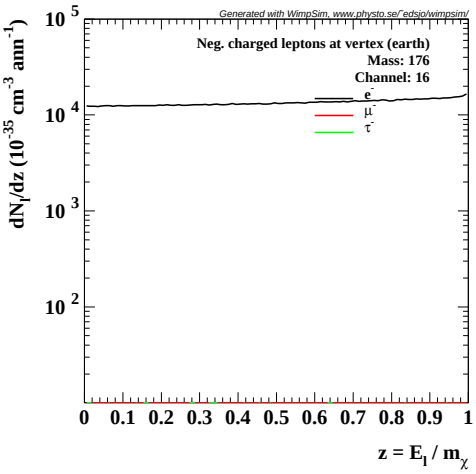


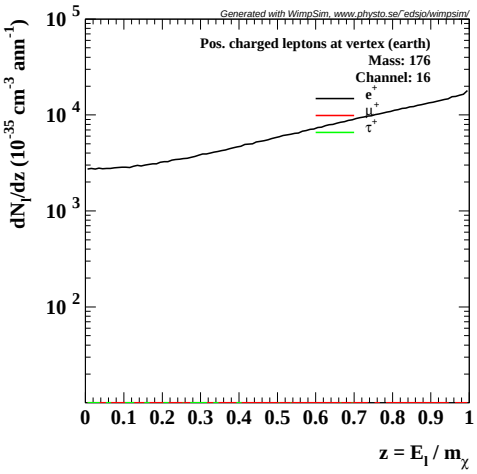
8.8.4 Neutrino fluxes at detector (Earth)



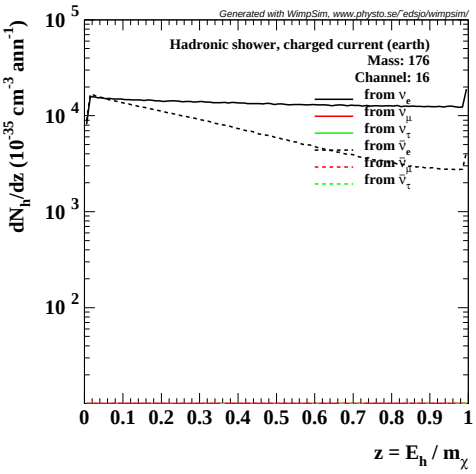


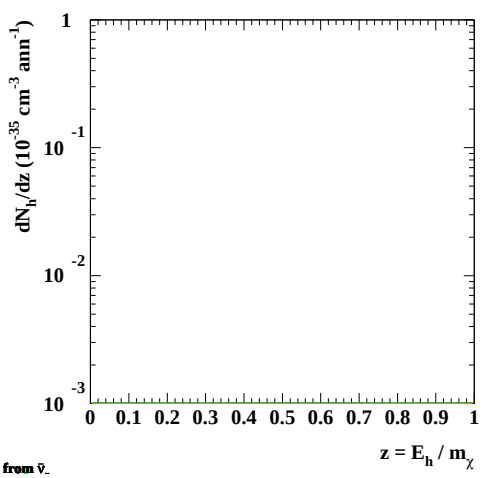
8.8.5 Charged leptons at neutrino-nucleon vertex (Earth)



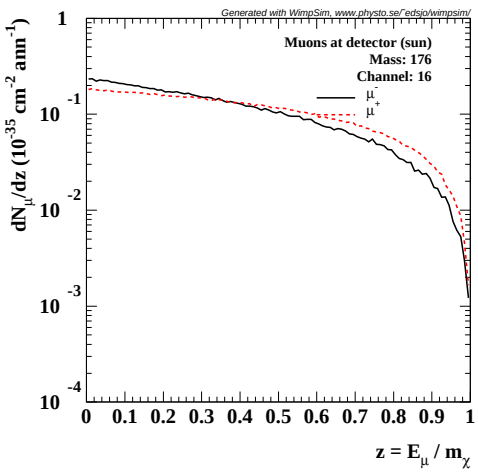


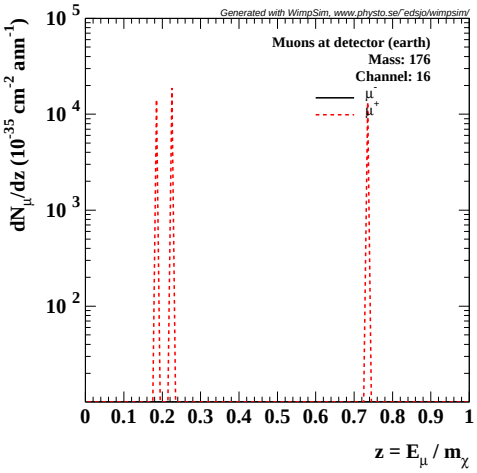
8.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





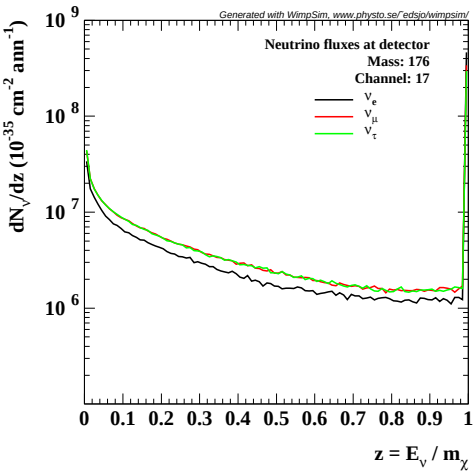
8.8.7 Muons at detector (Sun/Earth)

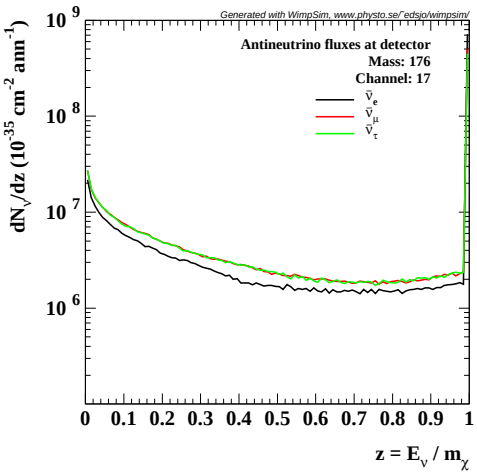




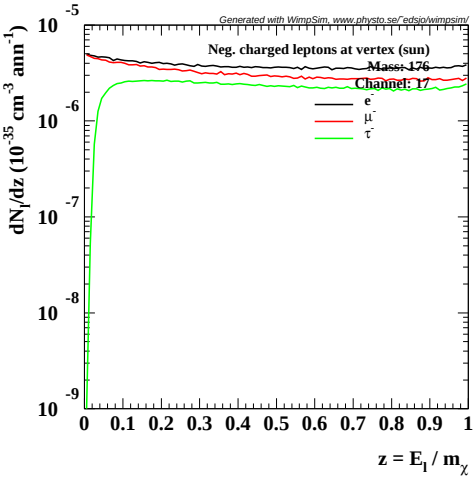
8.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

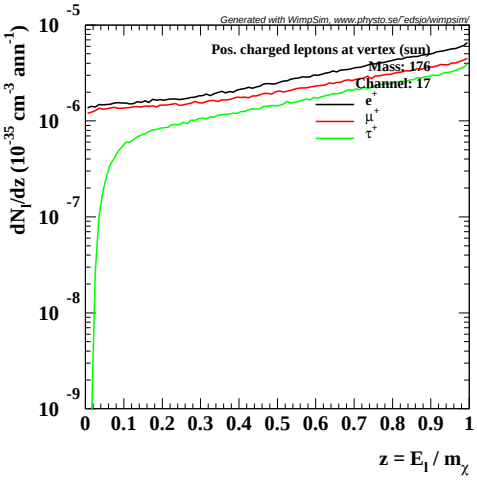
8.9.1 Neutrino fluxes at detector (Sun)



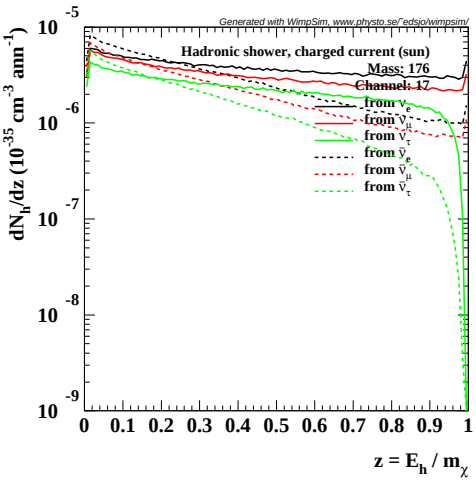


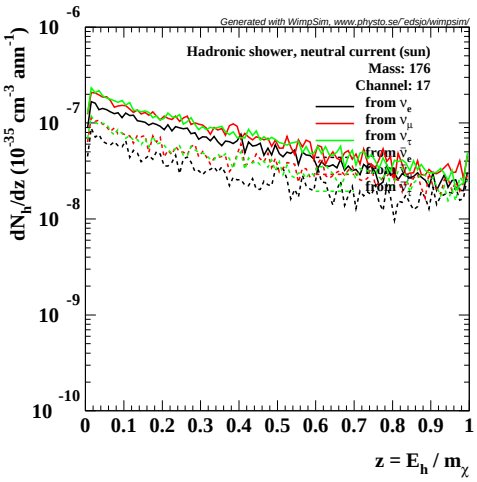
8.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



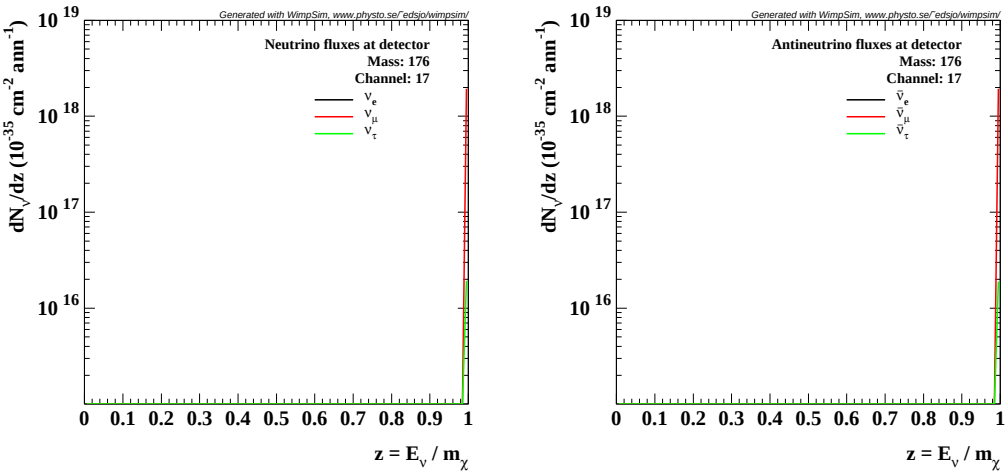


8.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

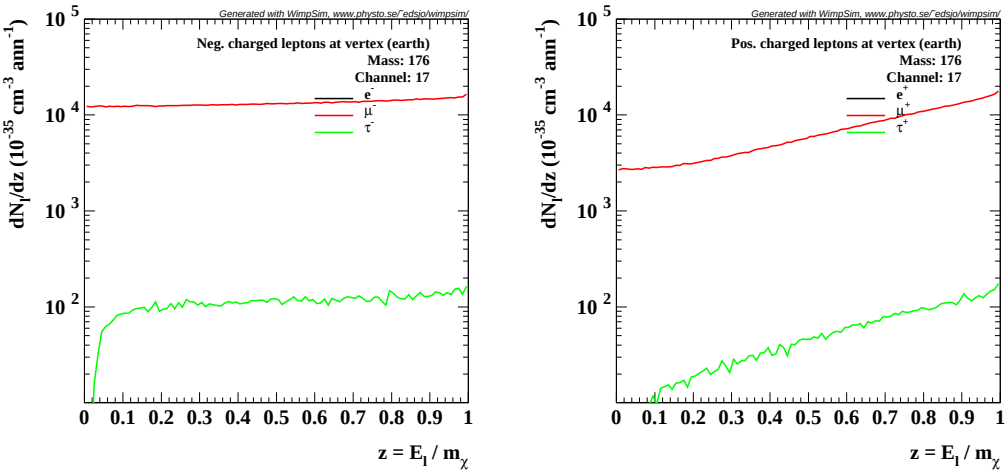




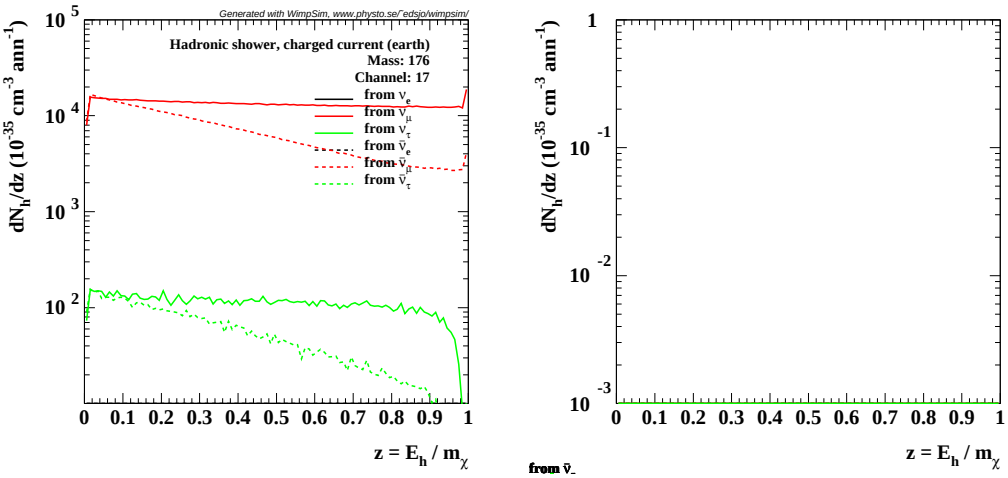
8.9.4 Neutrino fluxes at detector (Earth)



8.9.5 Charged leptons at neutrino-nucleon vertex (Earth)

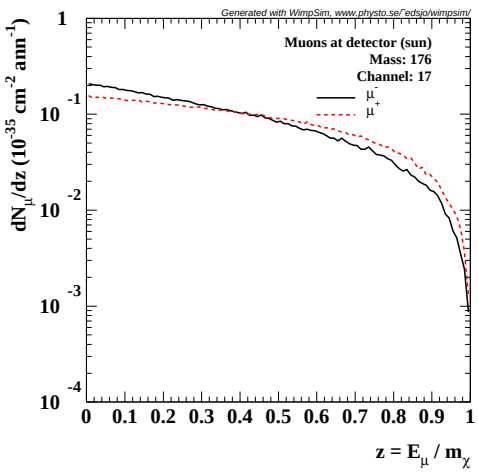


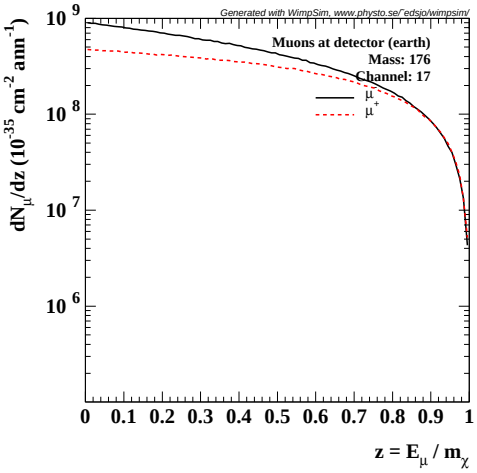
8.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

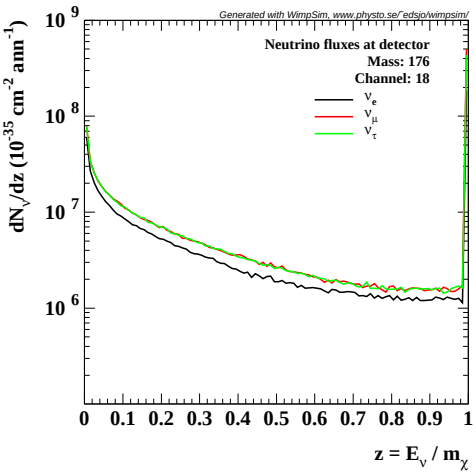
8.9.7 Muons at detector (Sun/Earth)

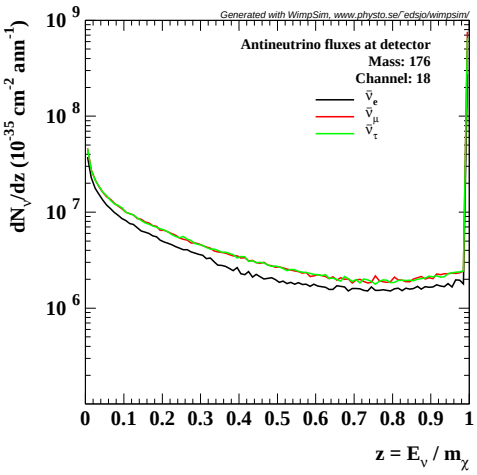




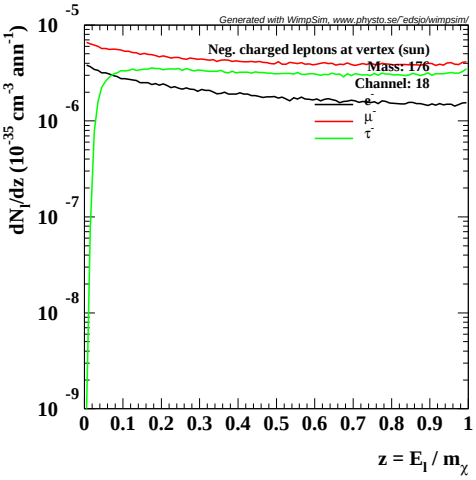
8.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

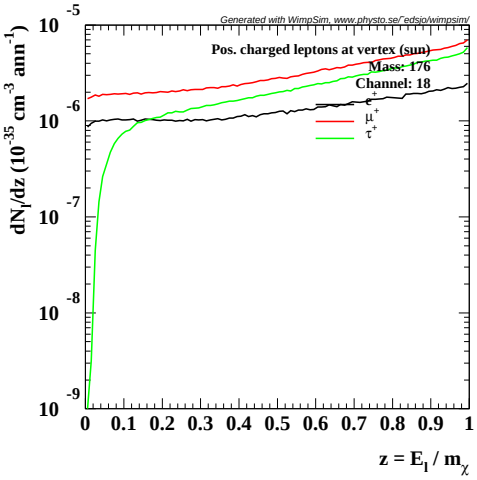
8.10.1 Neutrino fluxes at detector (Sun)



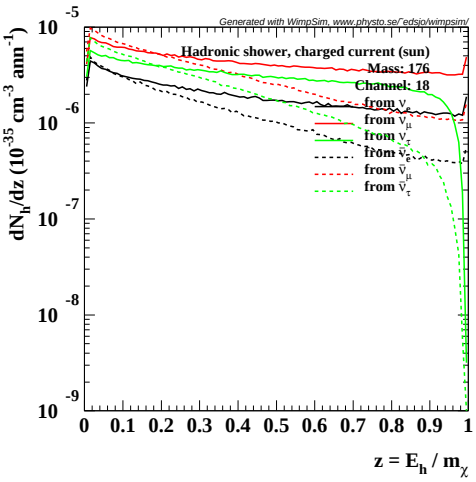


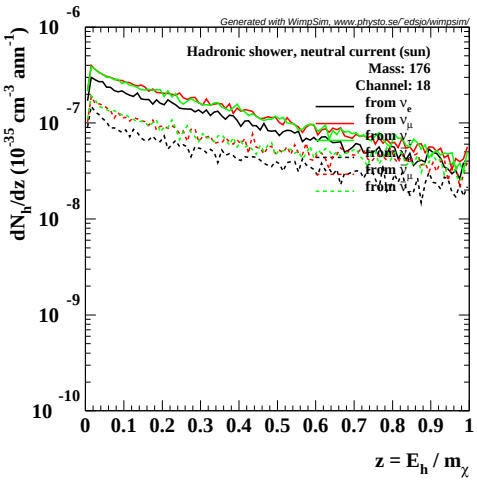
8.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



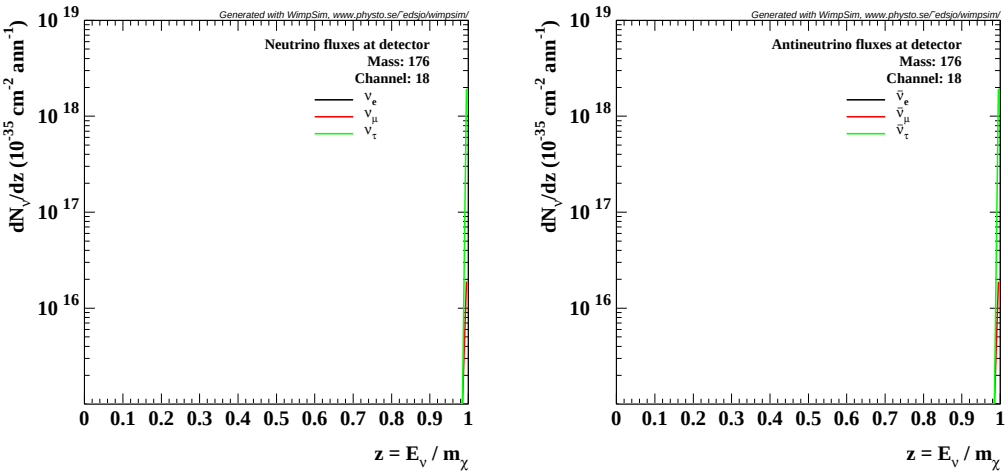


8.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)

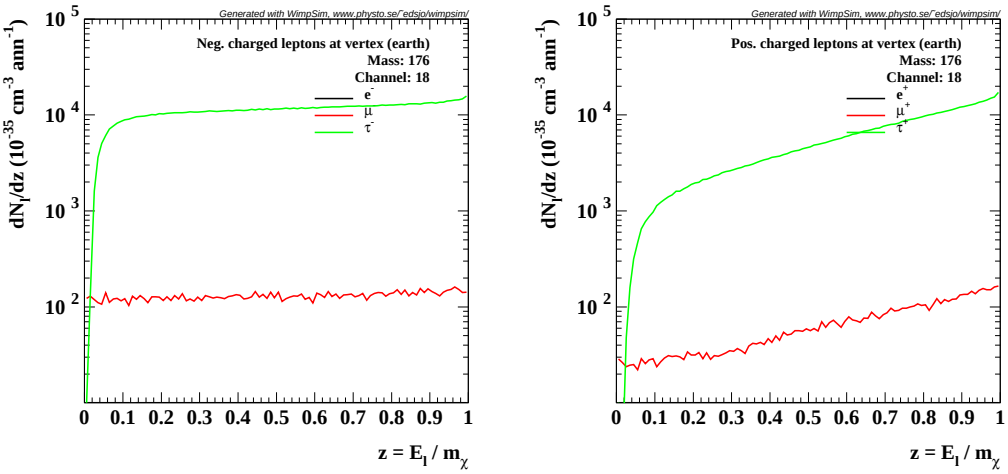




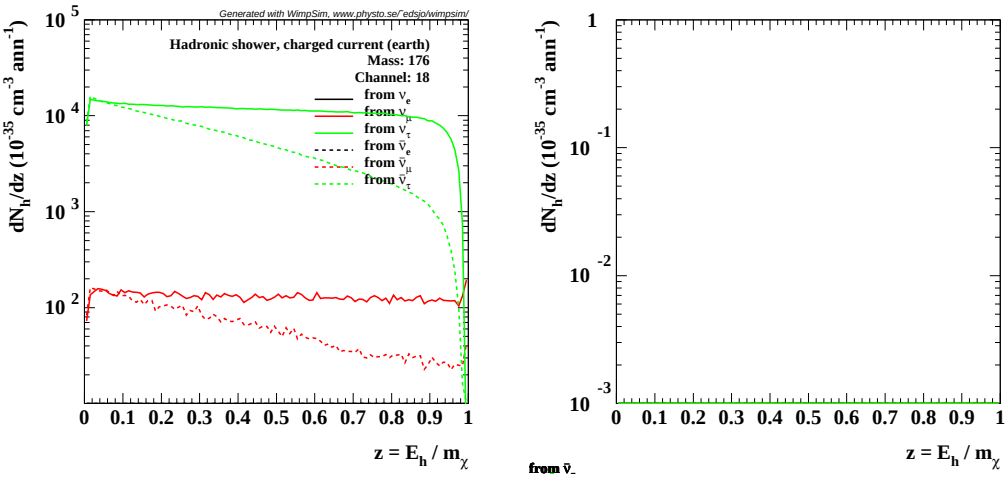
8.10.4 Neutrino fluxes at detector (Earth)



8.10.5 Charged leptons at neutrino-nucleon vertex (Earth)

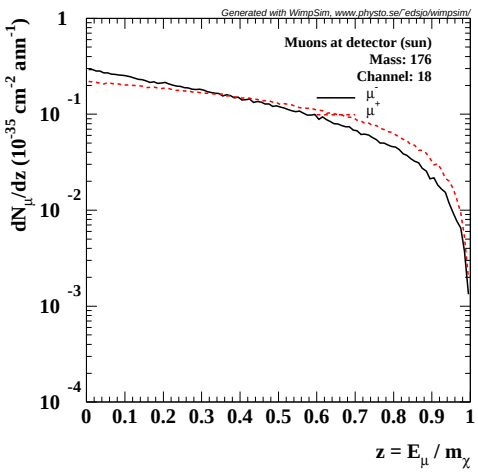


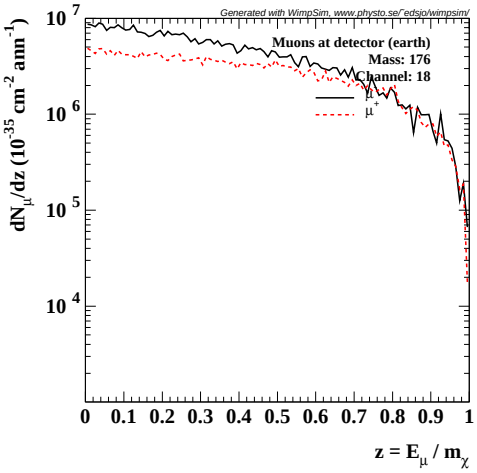
8.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

8.10.7 Muons at detector (Sun/Earth)

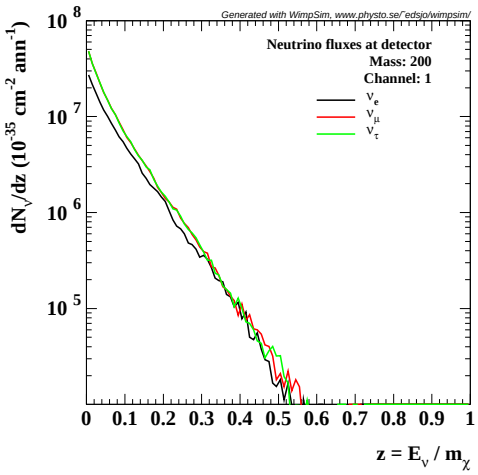


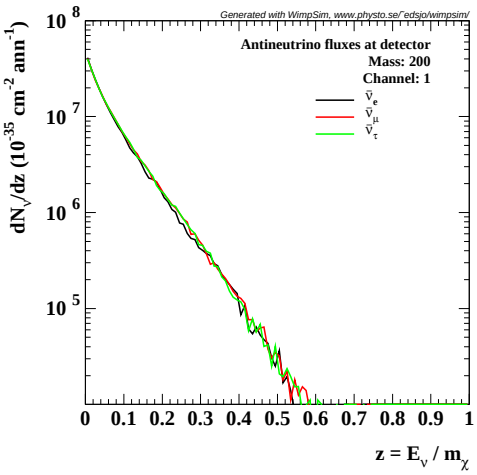


9 Mass 200

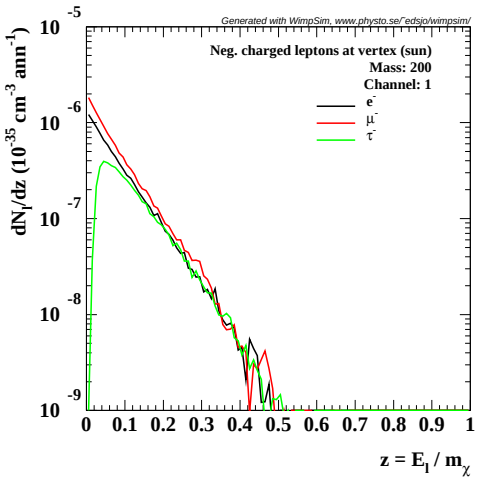
9.1 Channel 1 – $c\bar{c}$

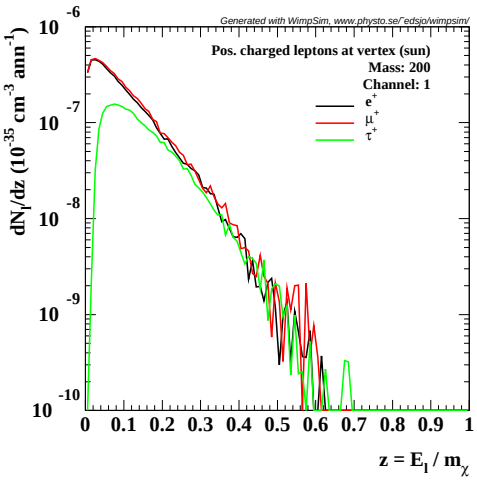
9.1.1 Neutrino fluxes at detector (Sun)



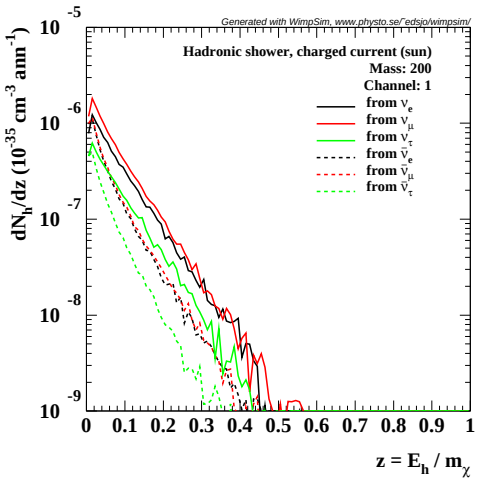


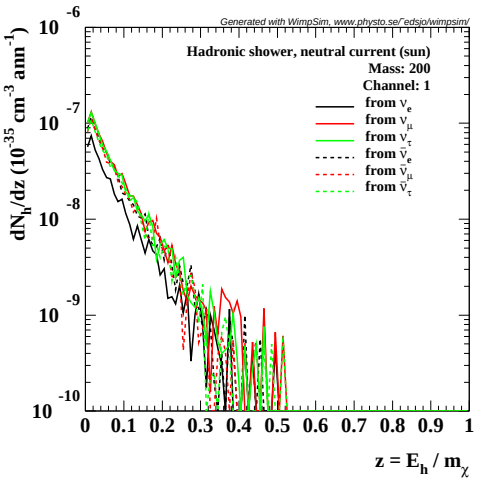
9.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



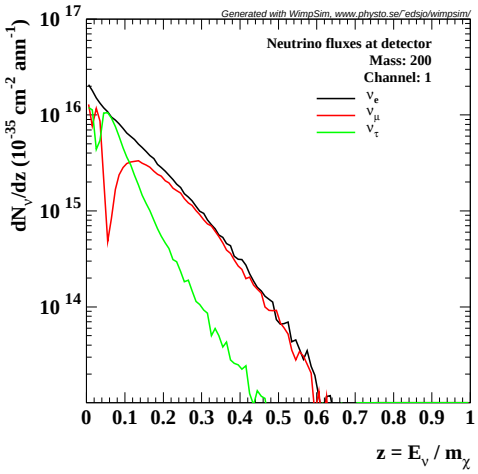


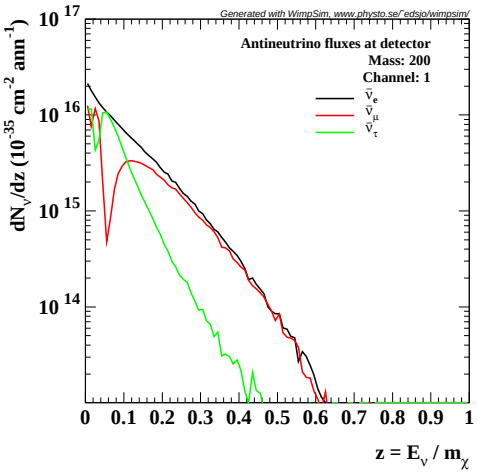
9.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



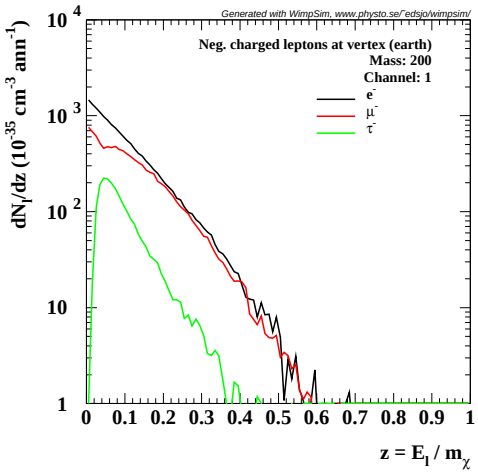


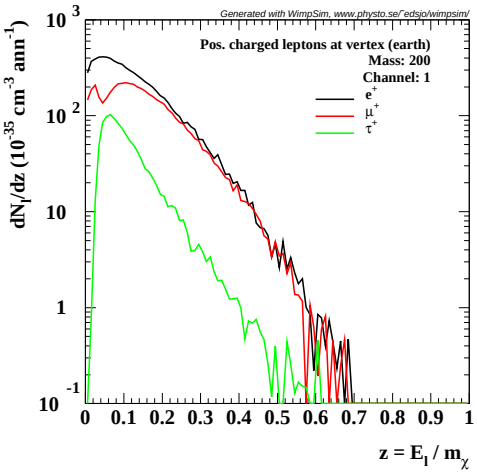
9.1.4 Neutrino fluxes at detector (Earth)



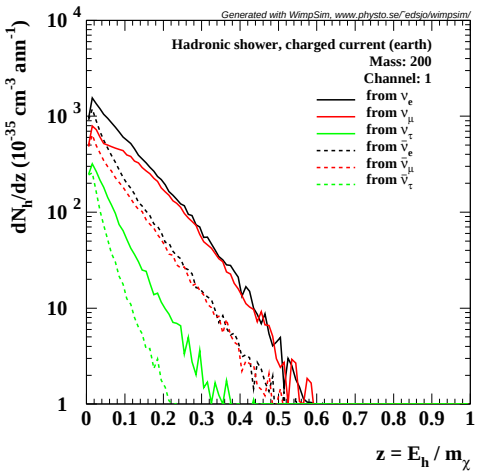


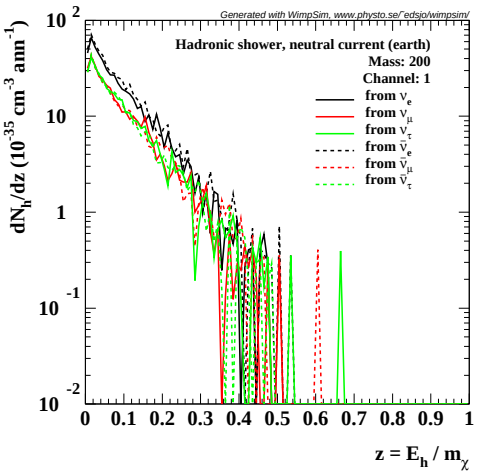
9.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



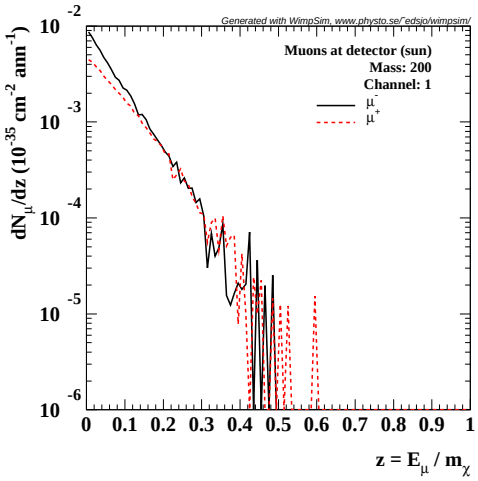


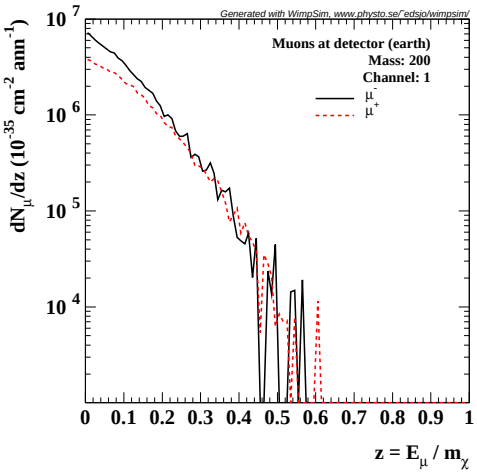
9.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





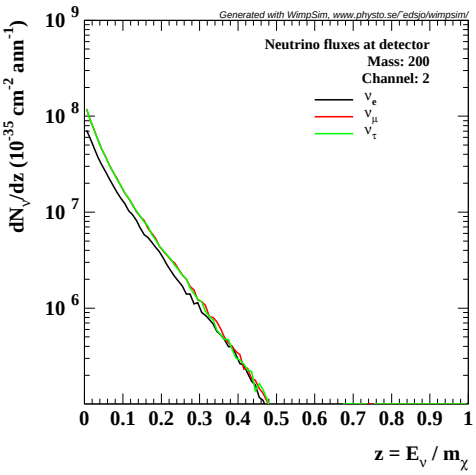
9.1.7 Muons at detector (Sun/Earth)

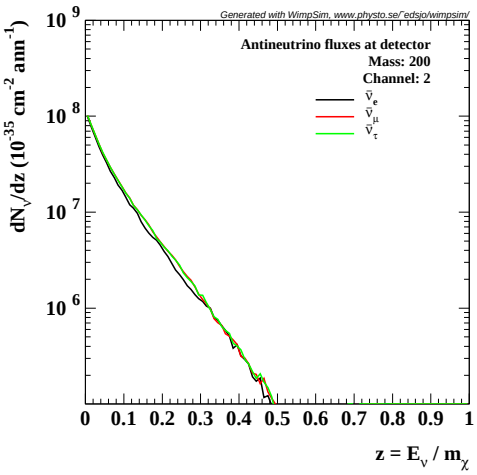




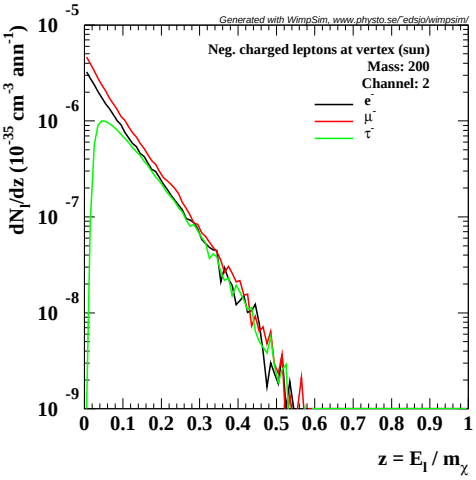
9.2 Channel 2 – $b\bar{b}$

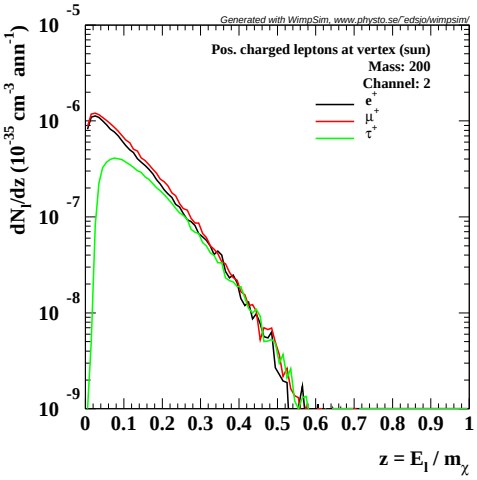
9.2.1 Neutrino fluxes at detector (Sun)



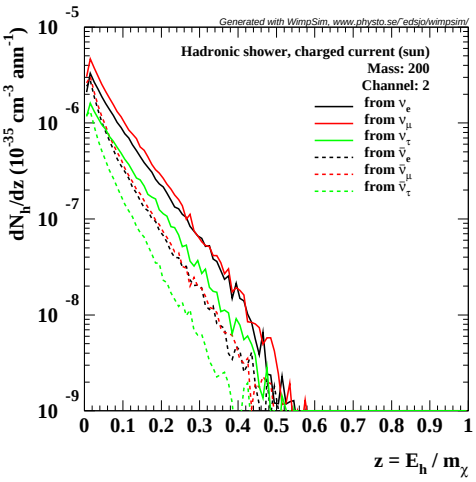


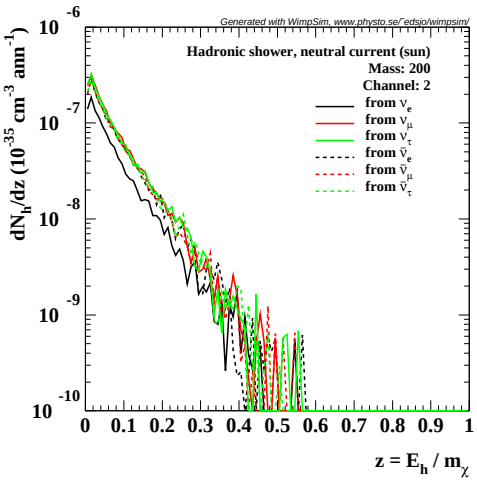
9.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



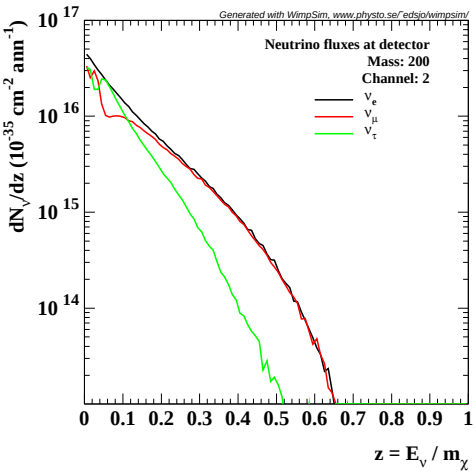


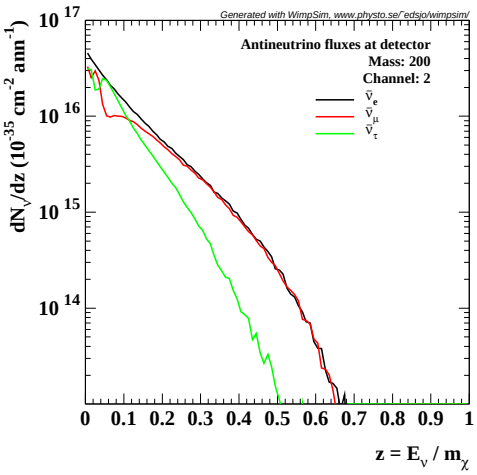
9.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



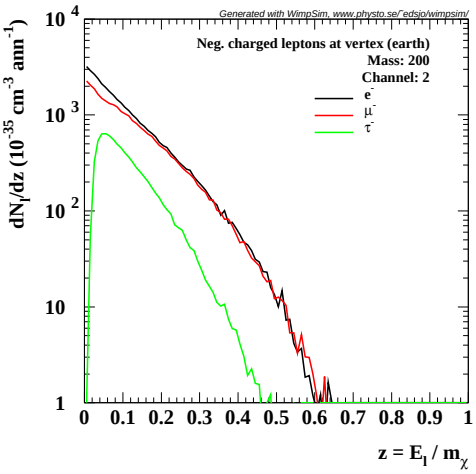


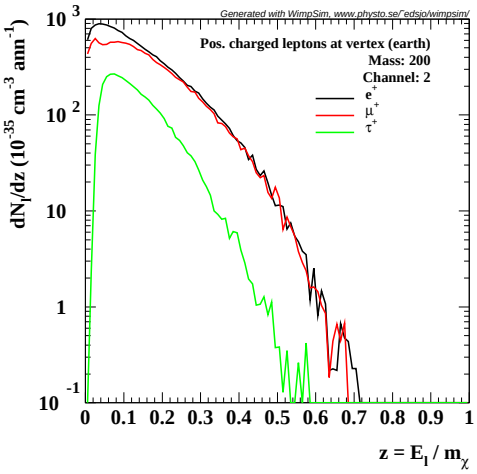
9.2.4 Neutrino fluxes at detector (Earth)



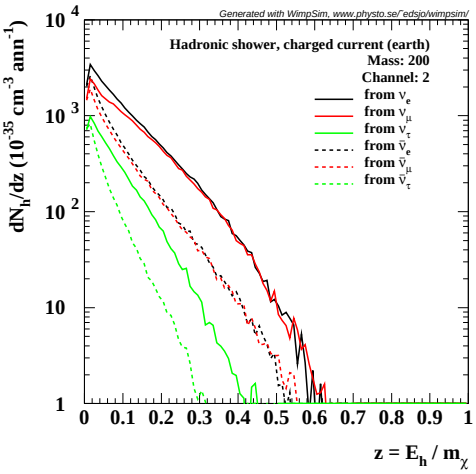


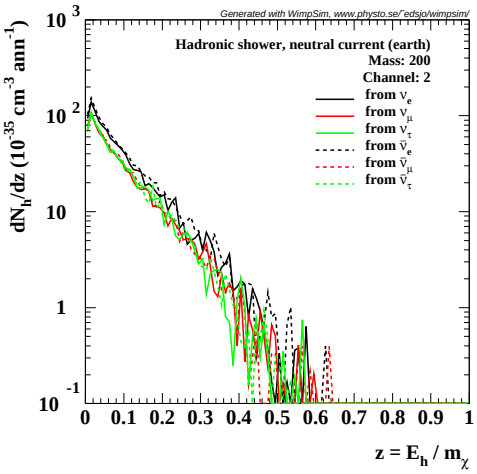
9.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



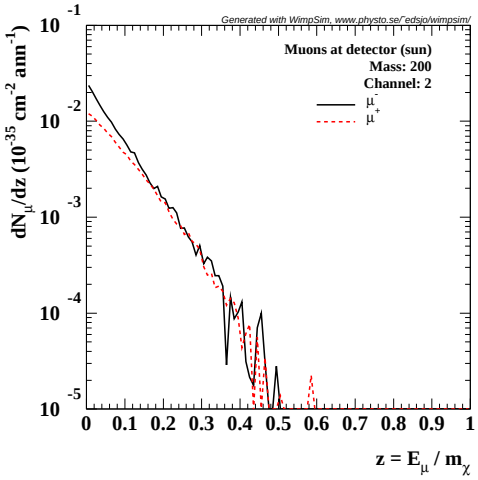


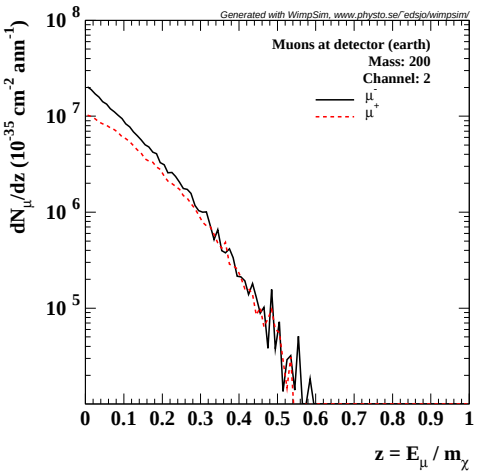
9.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





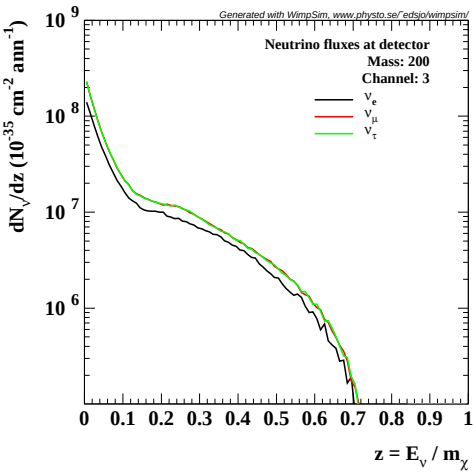
9.2.7 Muons at detector (Sun/Earth)

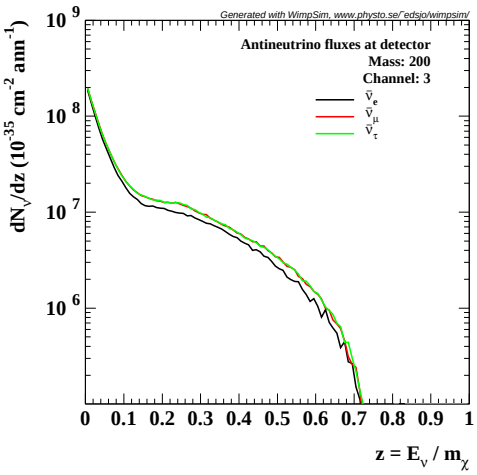




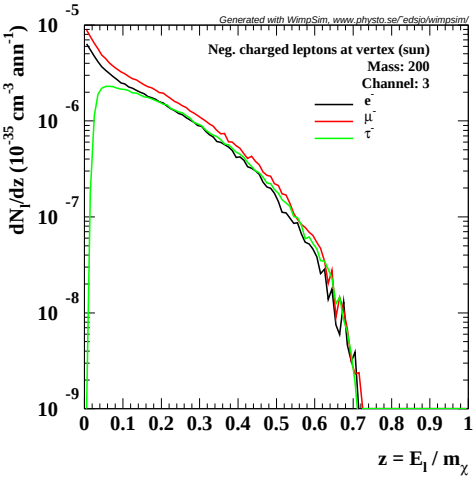
9.3 Channel 3 – $t\bar{t}$

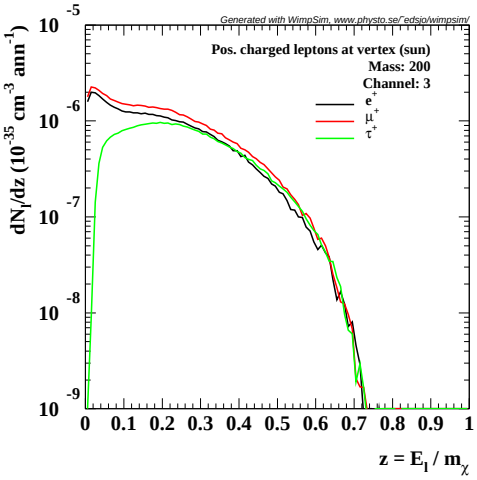
9.3.1 Neutrino fluxes at detector (Sun)



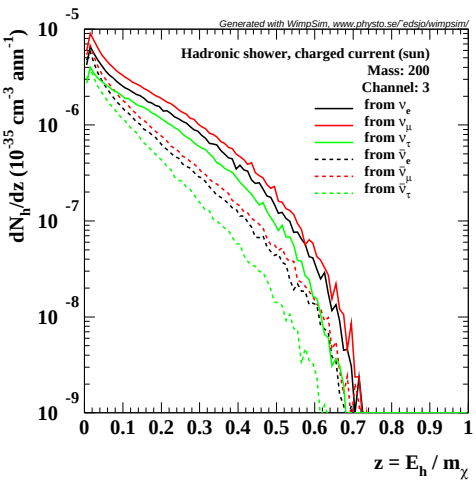


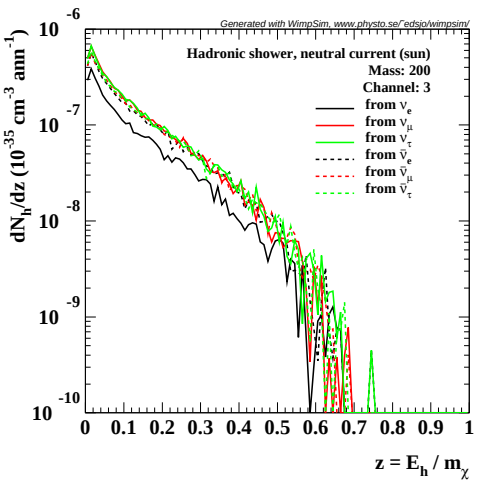
9.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



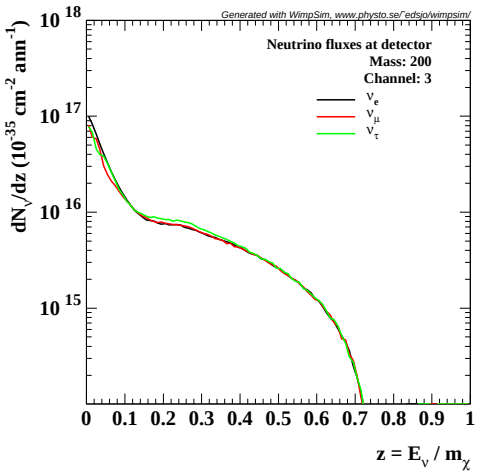


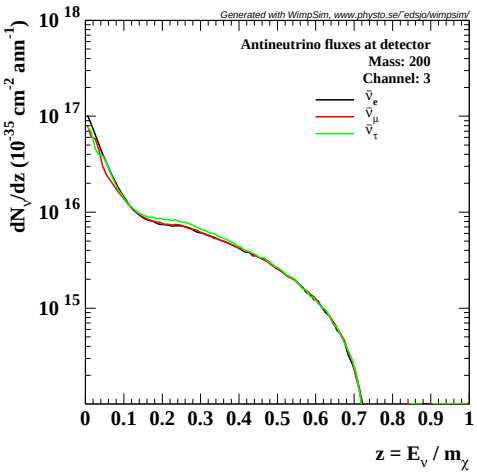
9.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



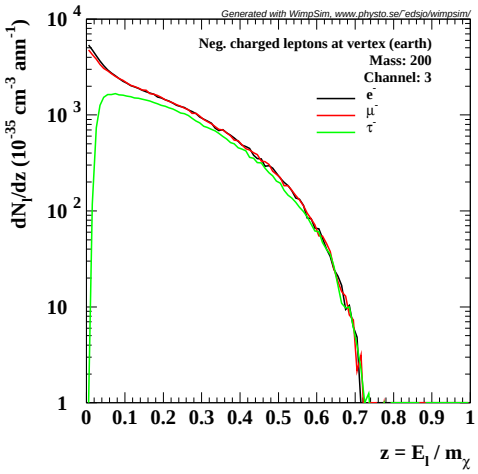


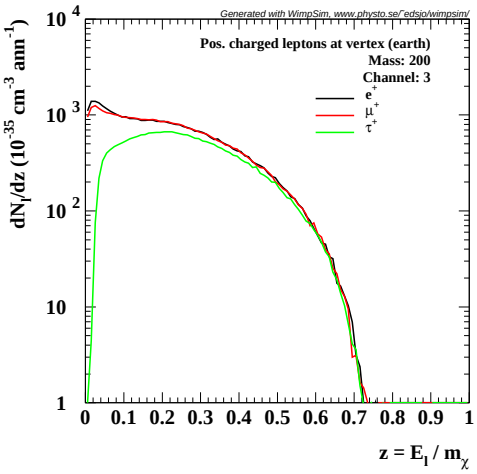
9.3.4 Neutrino fluxes at detector (Earth)



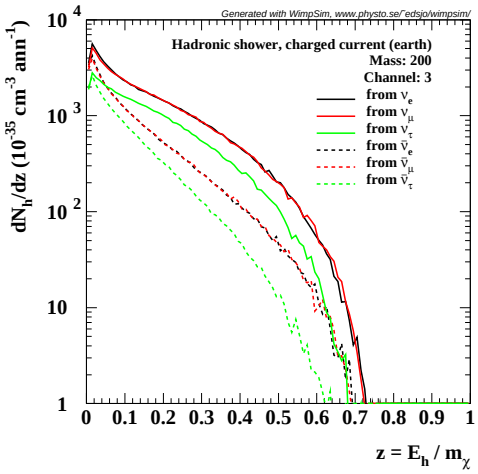


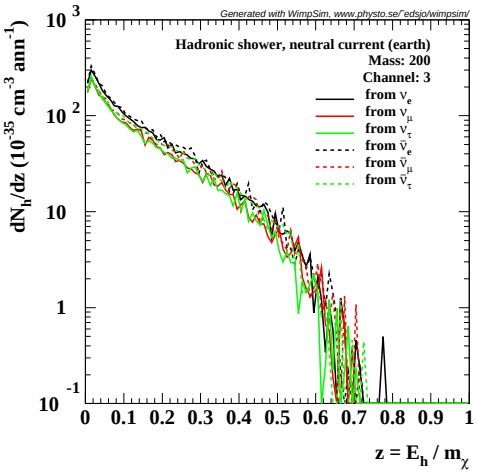
9.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



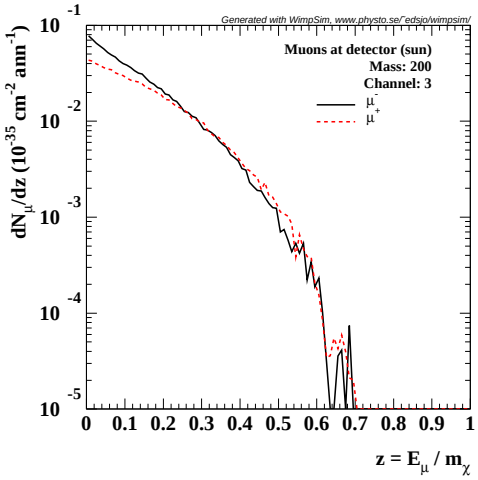


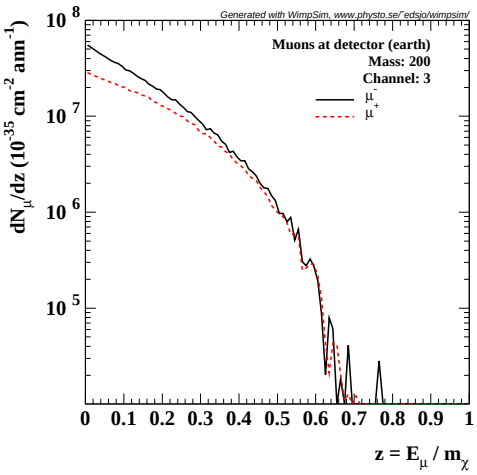
9.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





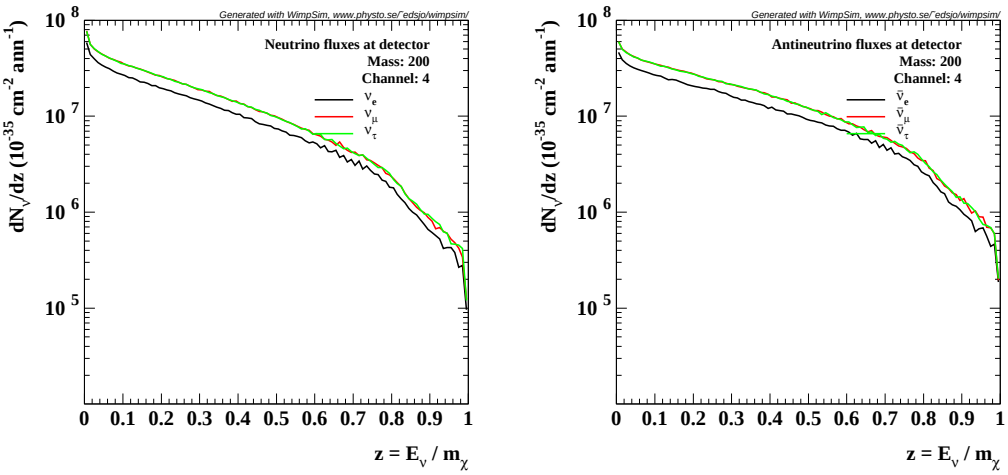
9.3.7 Muons at detector (Sun/Earth)



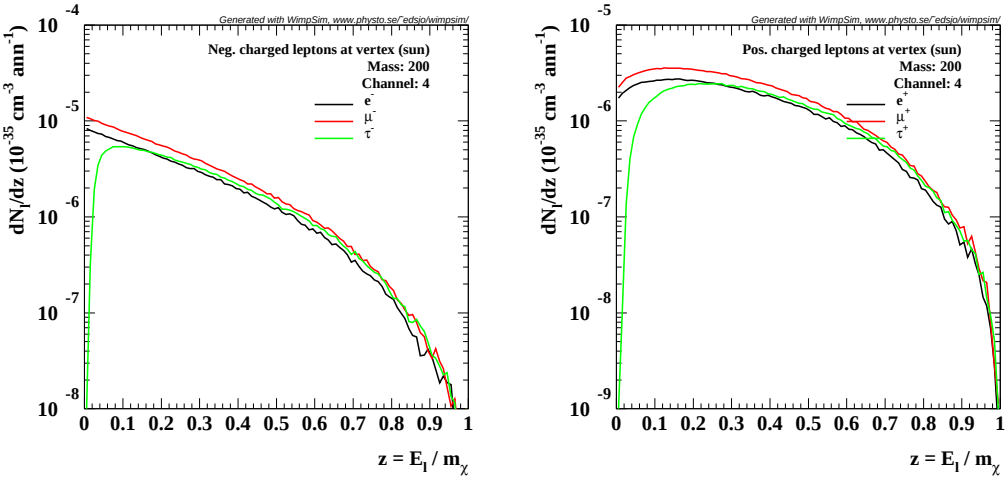


9.4 Channel 4 – $\tau^-\tau^+$

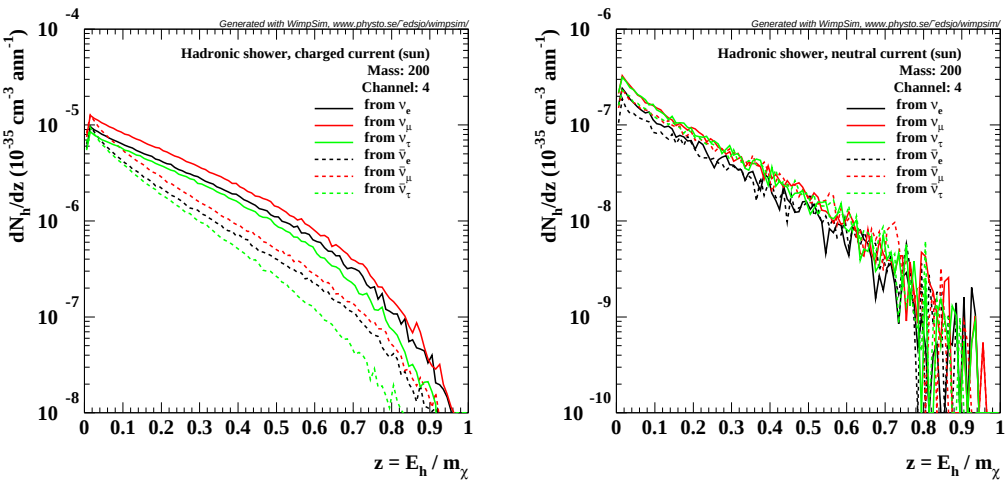
9.4.1 Neutrino fluxes at detector (Sun)



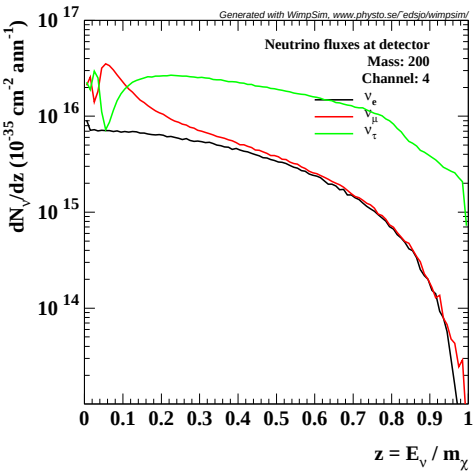
9.4.2 Charged leptons at neutrino-nucleon vertex (Sun)

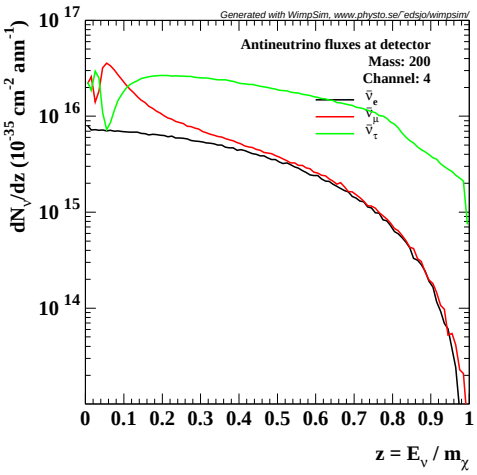


9.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)

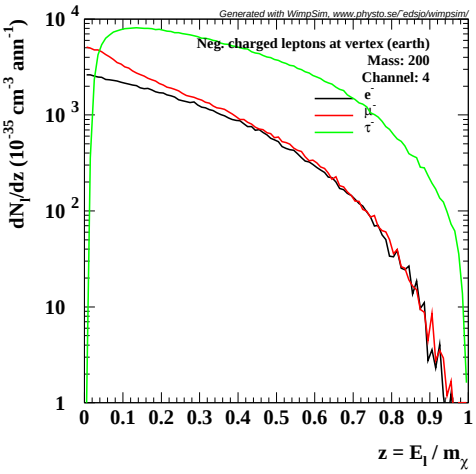


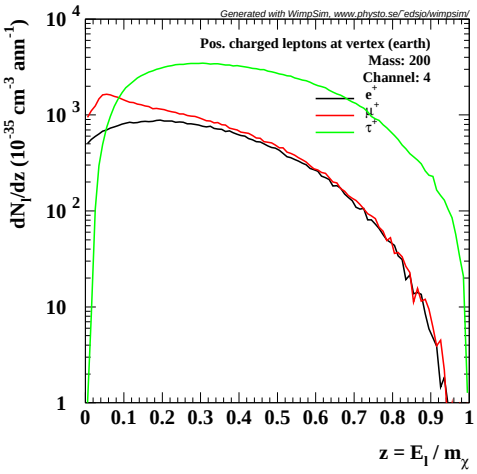
9.4.4 Neutrino fluxes at detector (Earth)



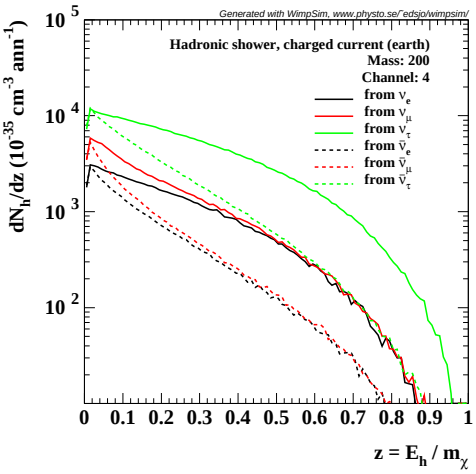


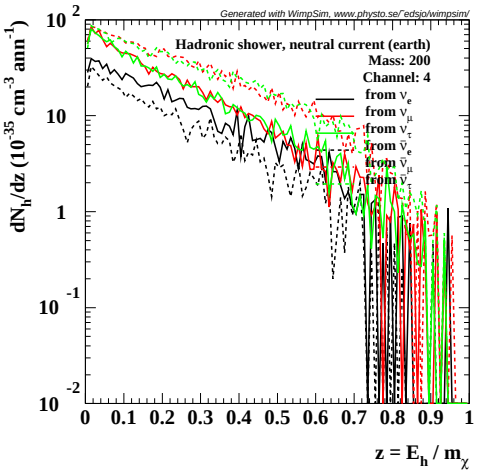
9.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



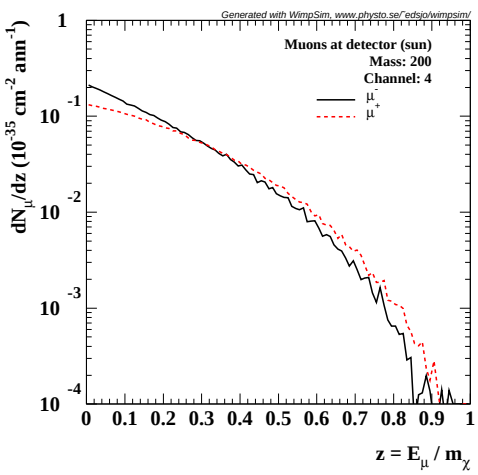


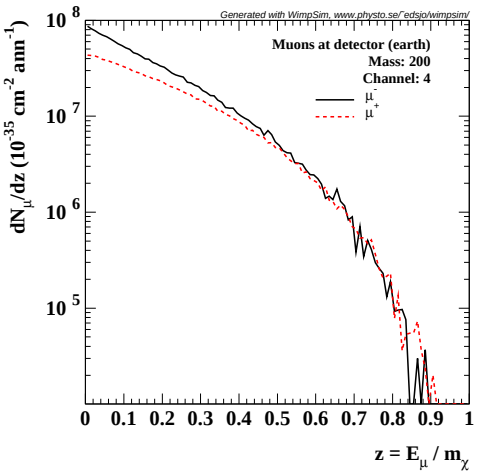
9.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





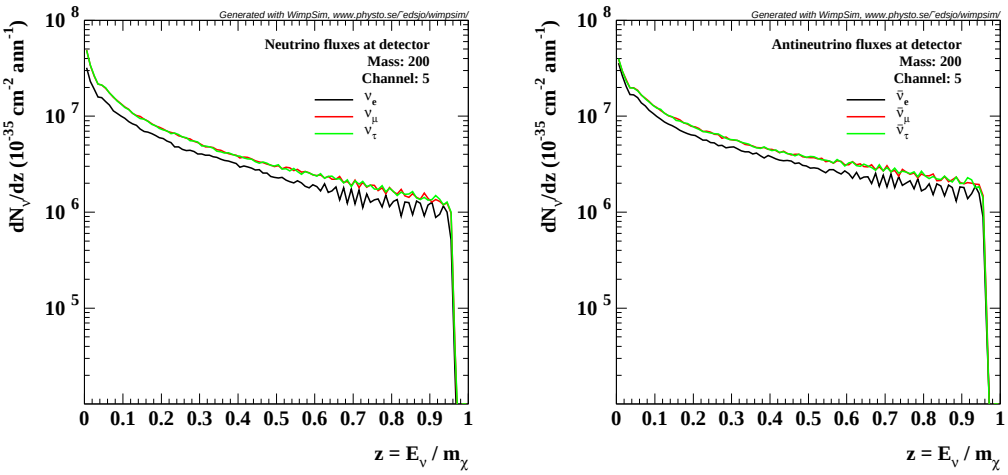
9.4.7 Muons at detector (Sun/Earth)



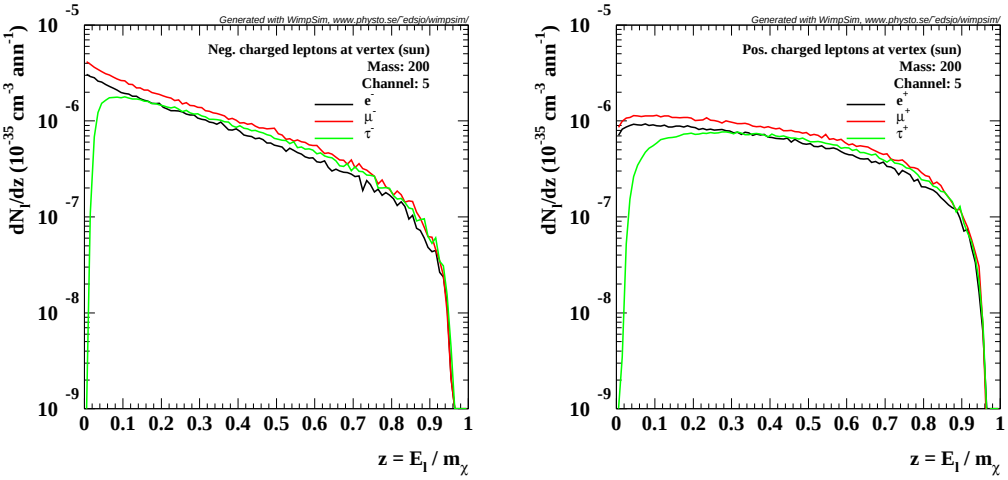


9.5 Channel 5 – W^-W^+

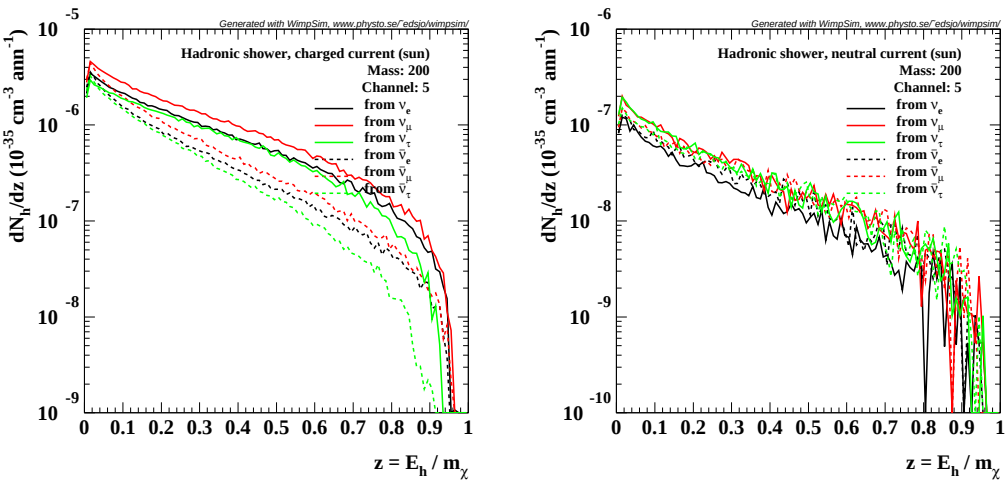
9.5.1 Neutrino fluxes at detector (Sun)



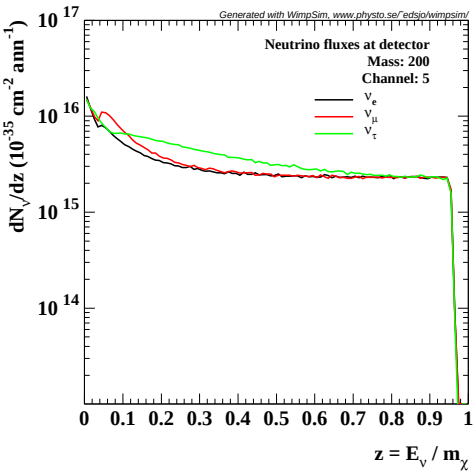
9.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

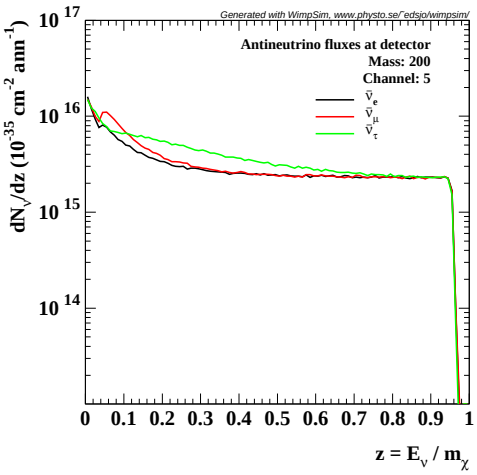


9.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

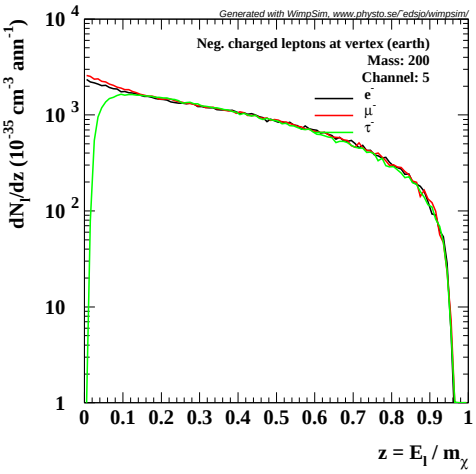


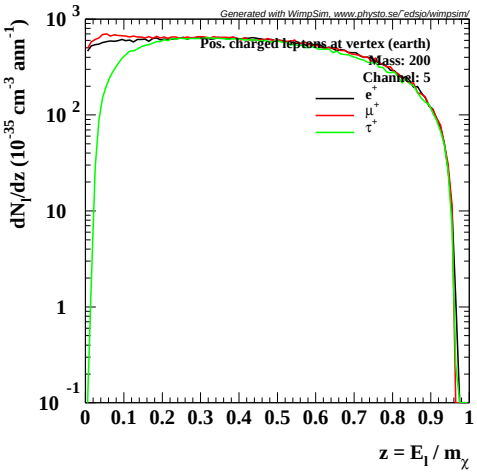
9.5.4 Neutrino fluxes at detector (Earth)



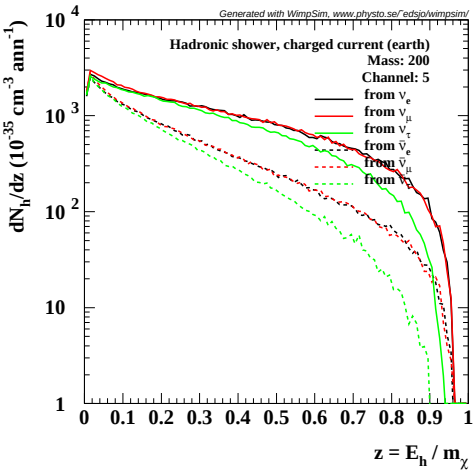


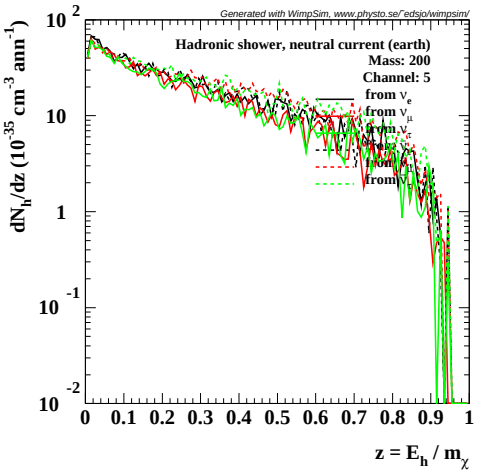
9.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



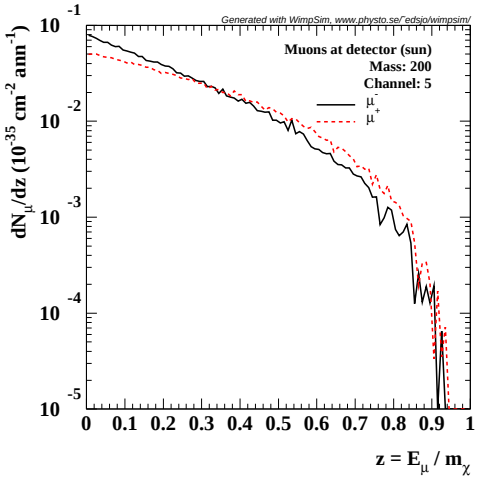


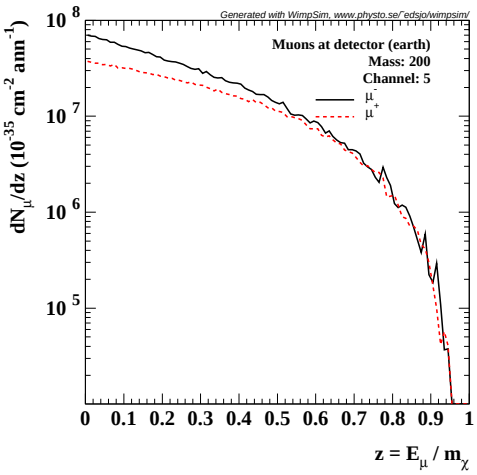
9.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





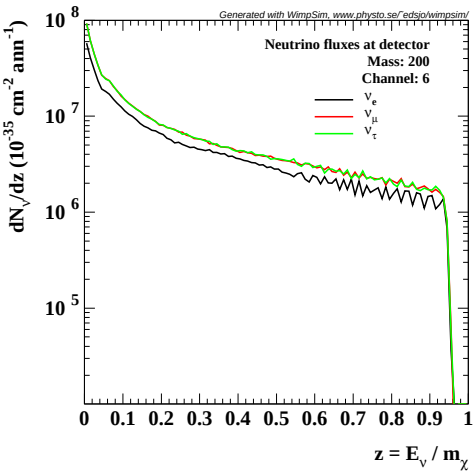
9.5.7 Muons at detector (Sun/Earth)

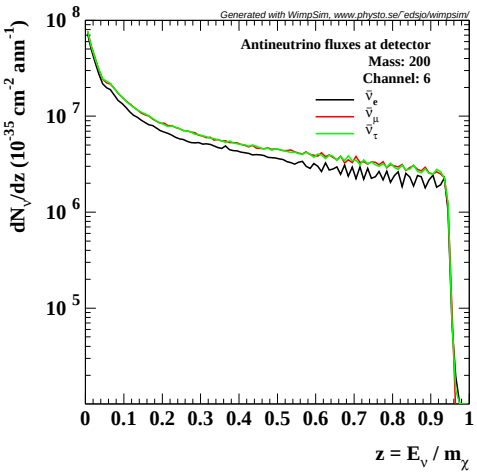




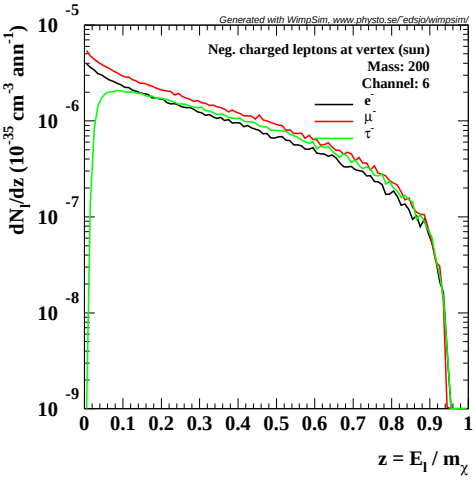
9.6 Channel 6 – Z^0Z^0

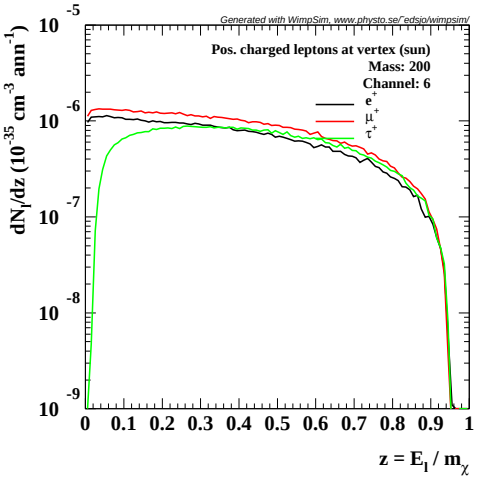
9.6.1 Neutrino fluxes at detector (Sun)



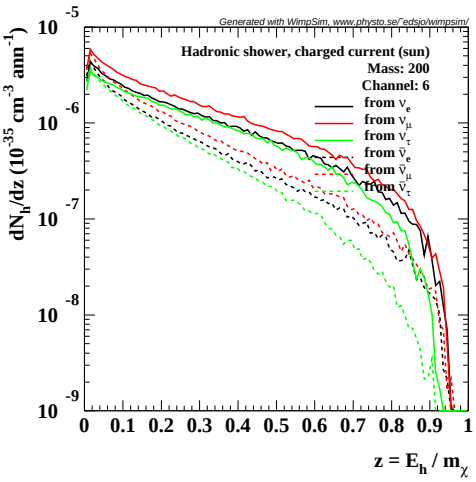


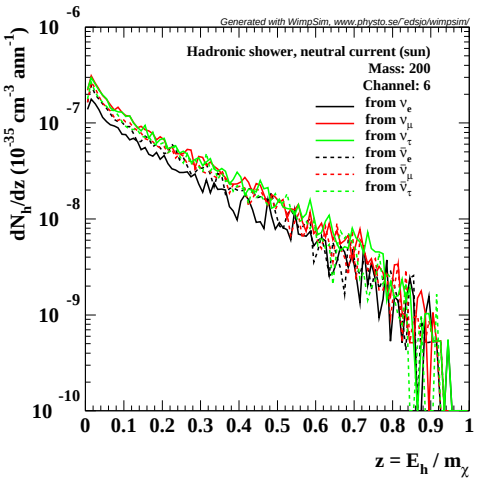
9.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



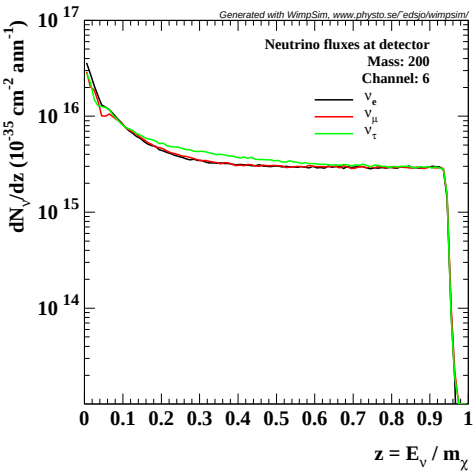


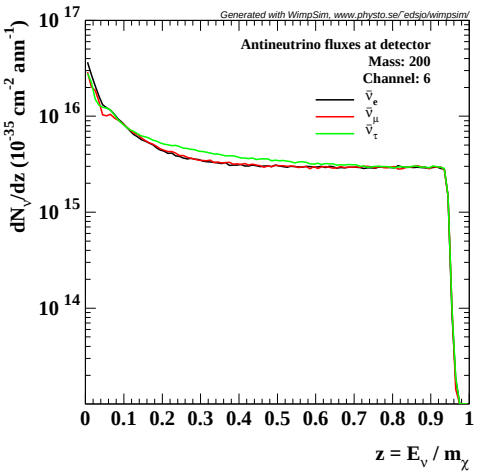
9.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



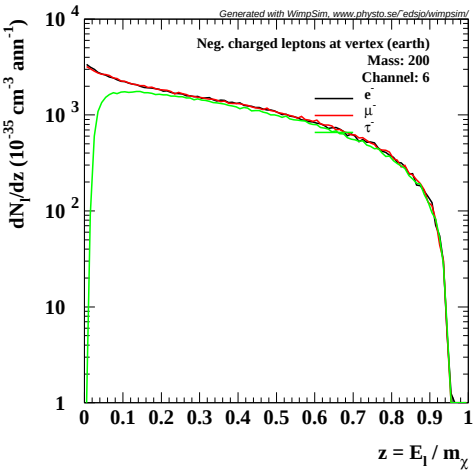


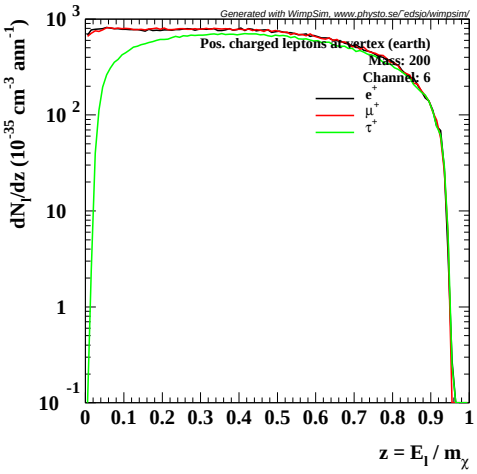
9.6.4 Neutrino fluxes at detector (Earth)



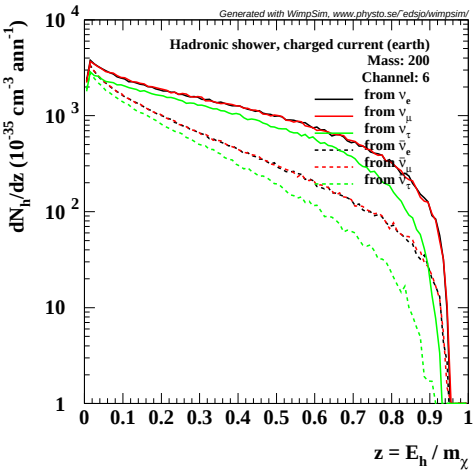


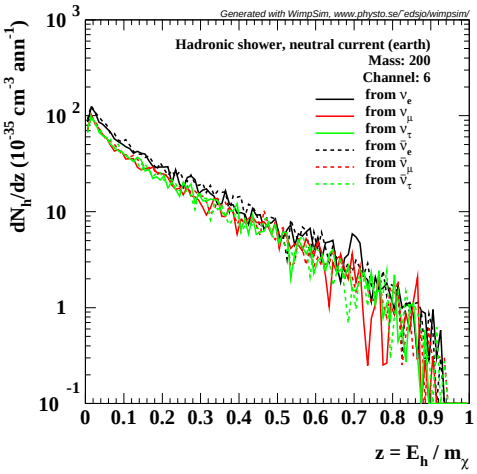
9.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



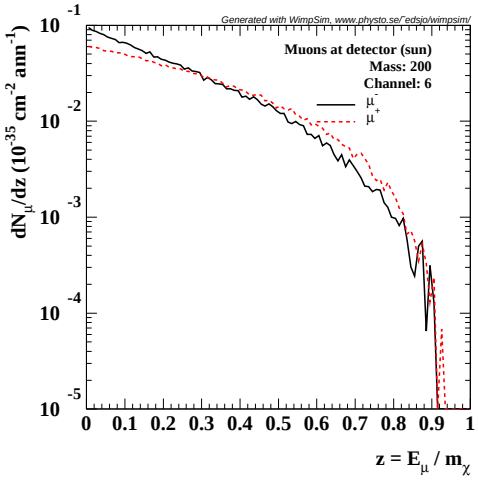


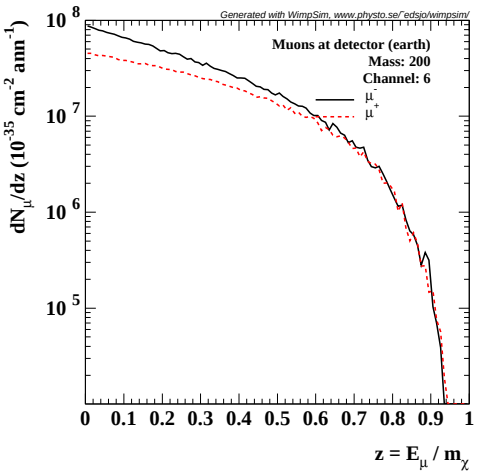
9.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





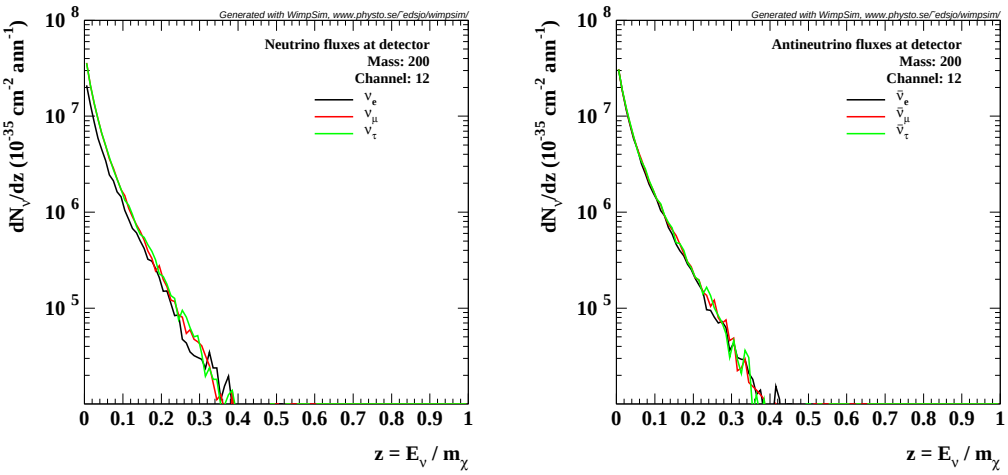
9.6.7 Muons at detector (Sun/Earth)



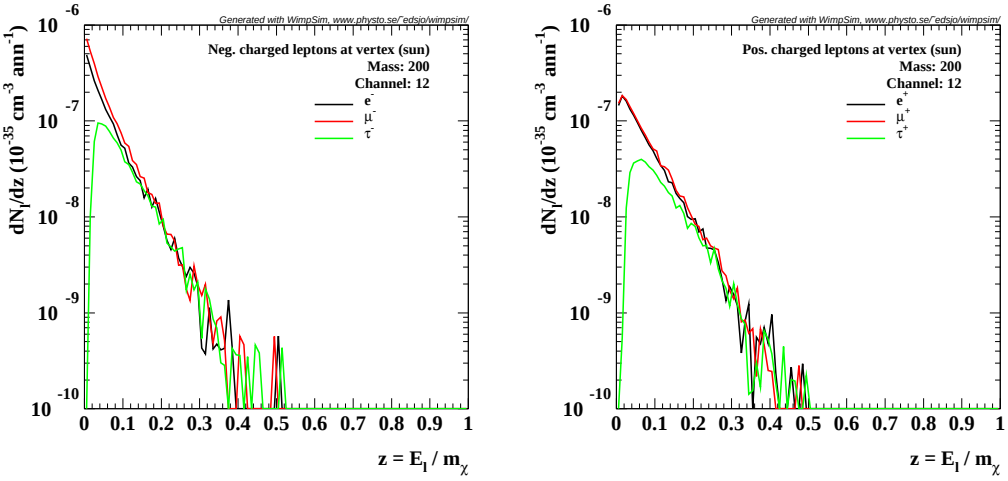


9.7 Channel 12 – gg

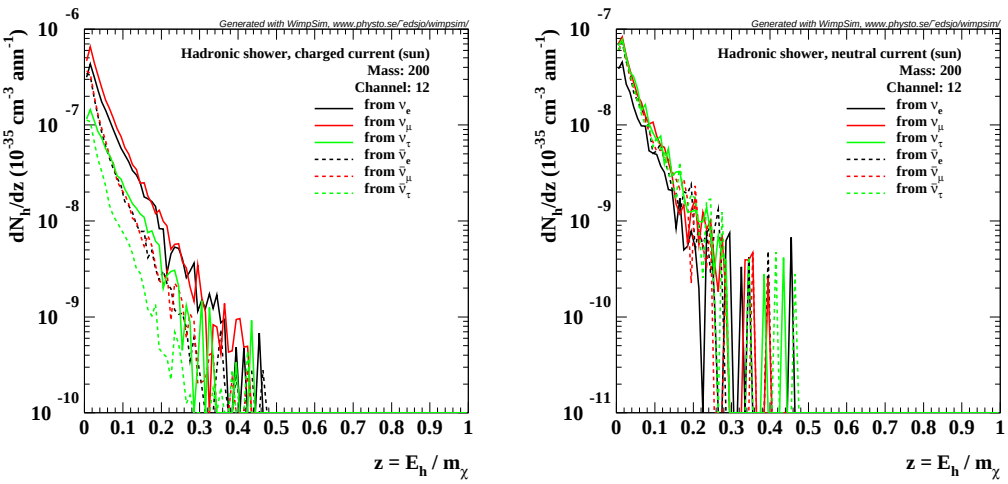
9.7.1 Neutrino fluxes at detector (Sun)



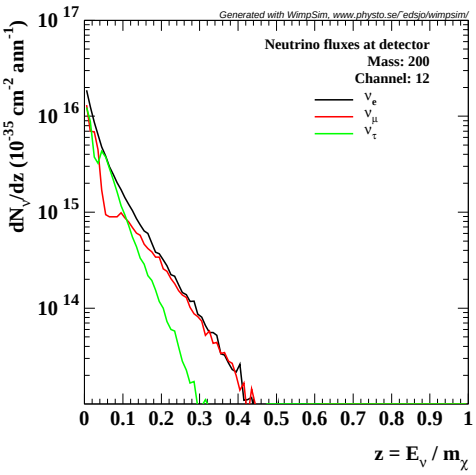
9.7.2 Charged leptons at neutrino-nucleon vertex (Sun)

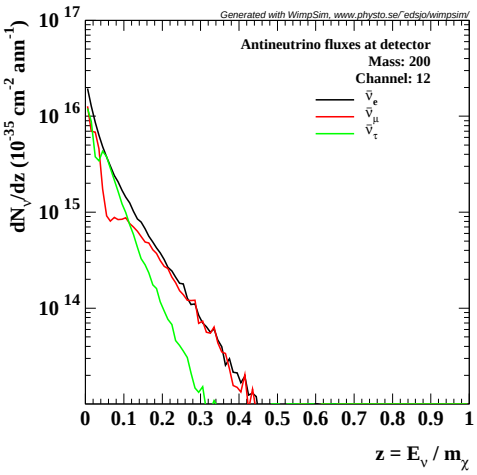


9.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)

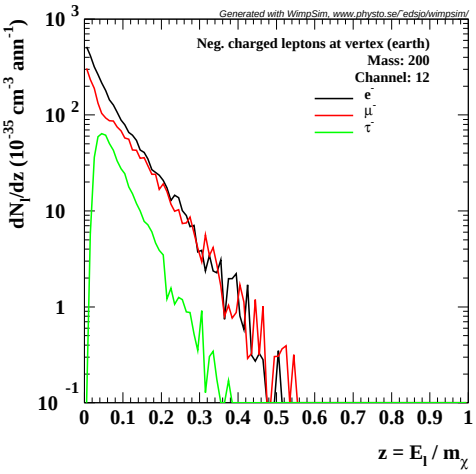


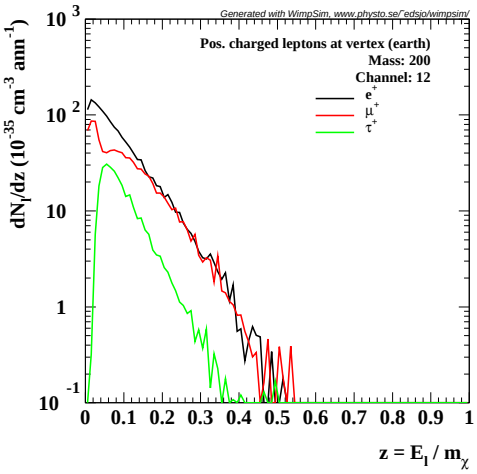
9.7.4 Neutrino fluxes at detector (Earth)



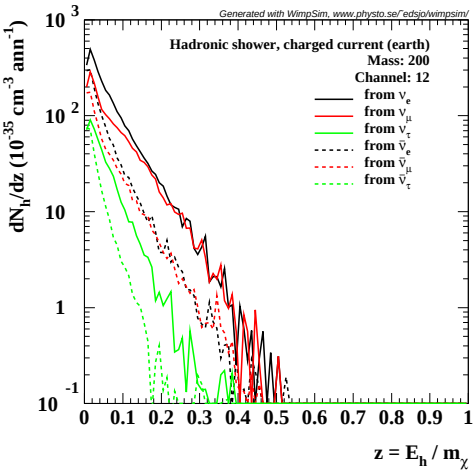


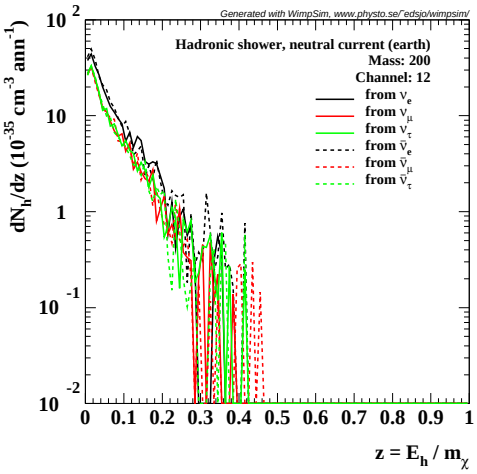
9.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



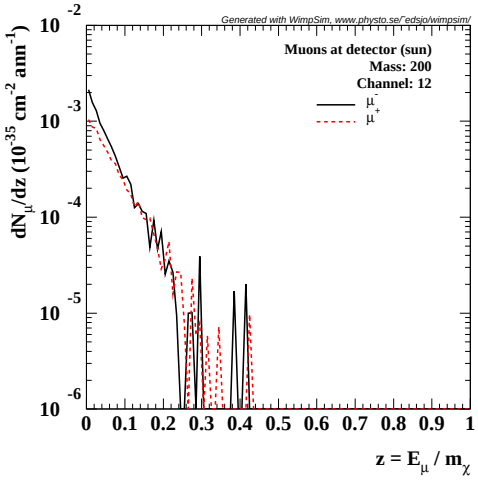


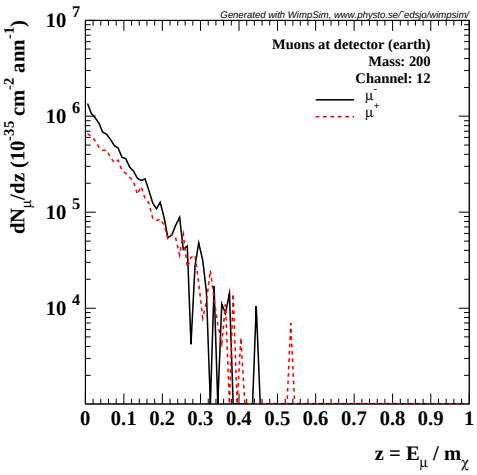
9.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





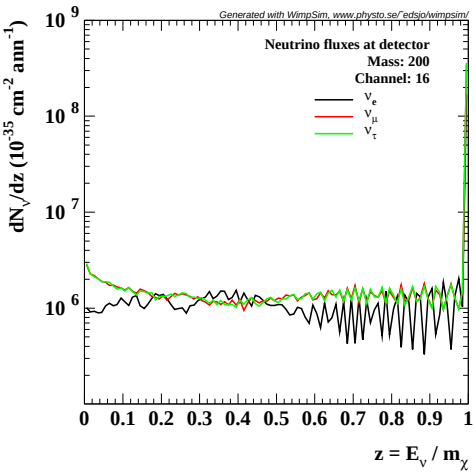
9.7.7 Muons at detector (Sun/Earth)

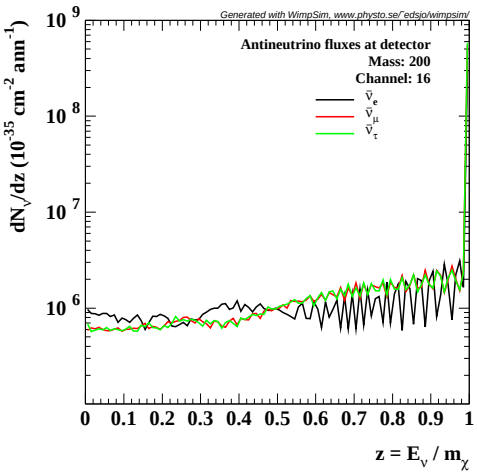




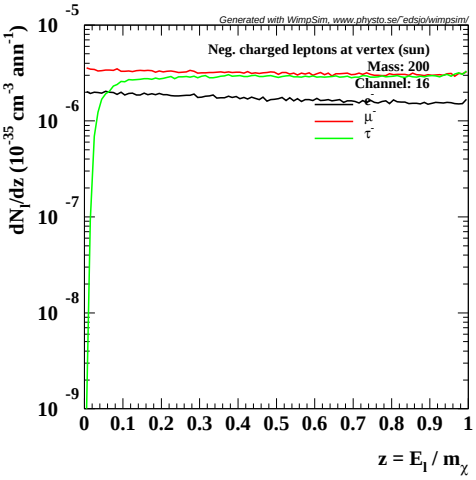
9.8 Channel 16 – $\nu_e\bar{\nu}_e$

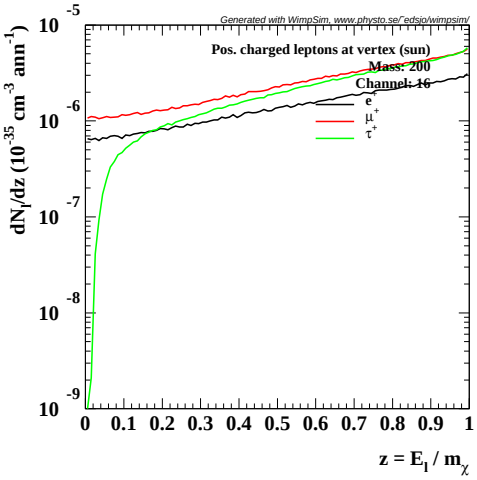
9.8.1 Neutrino fluxes at detector (Sun)



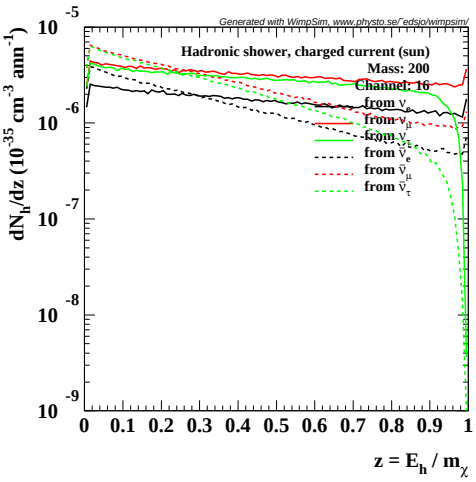


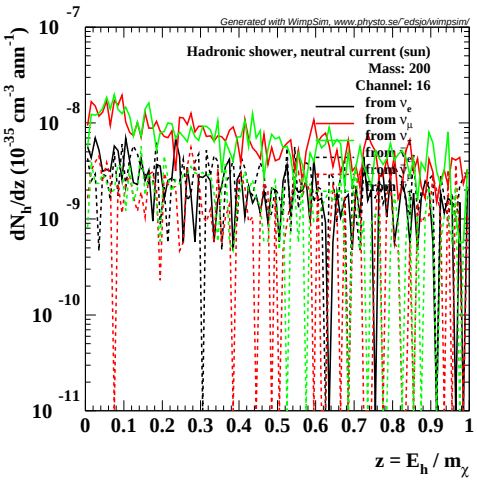
9.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



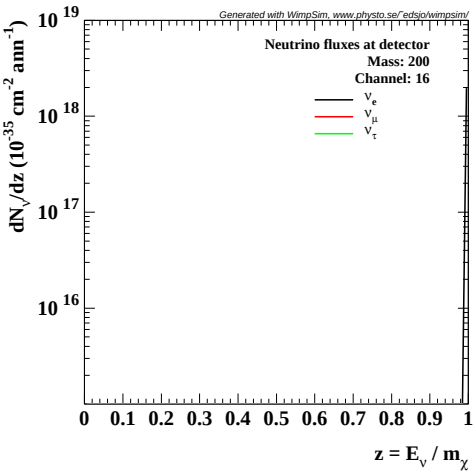


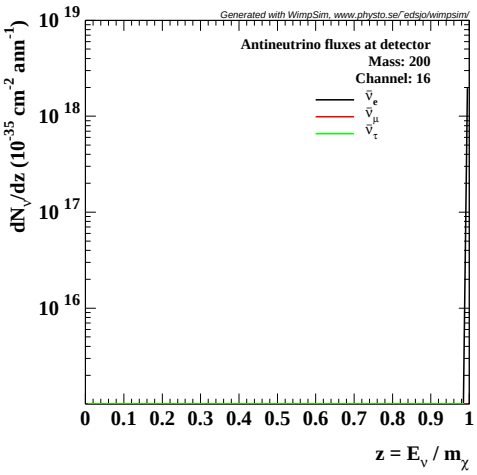
9.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



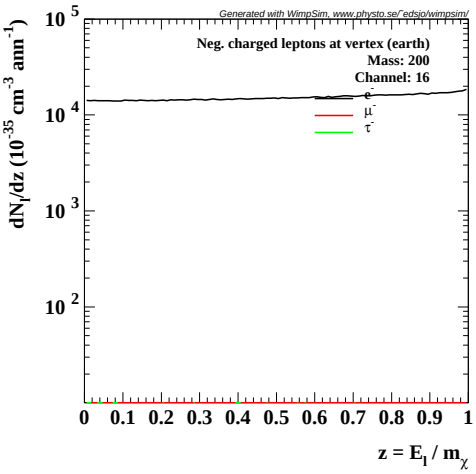


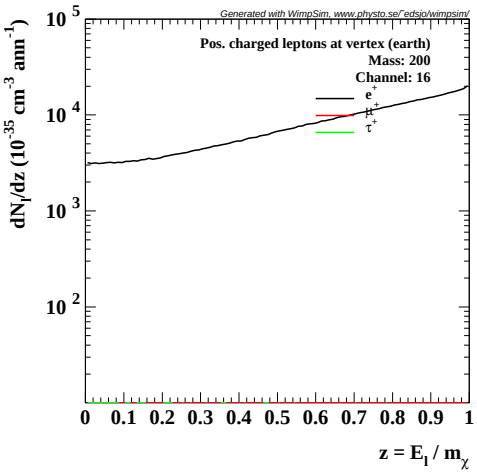
9.8.4 Neutrino fluxes at detector (Earth)



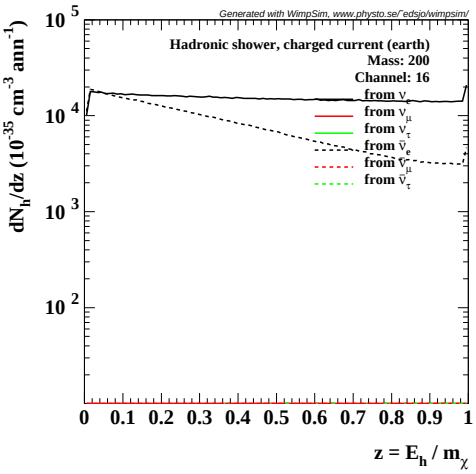


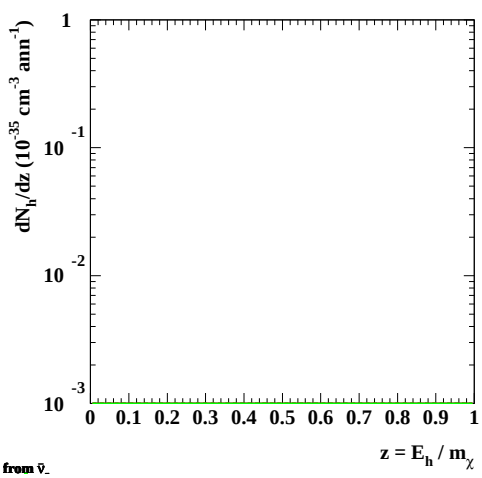
9.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





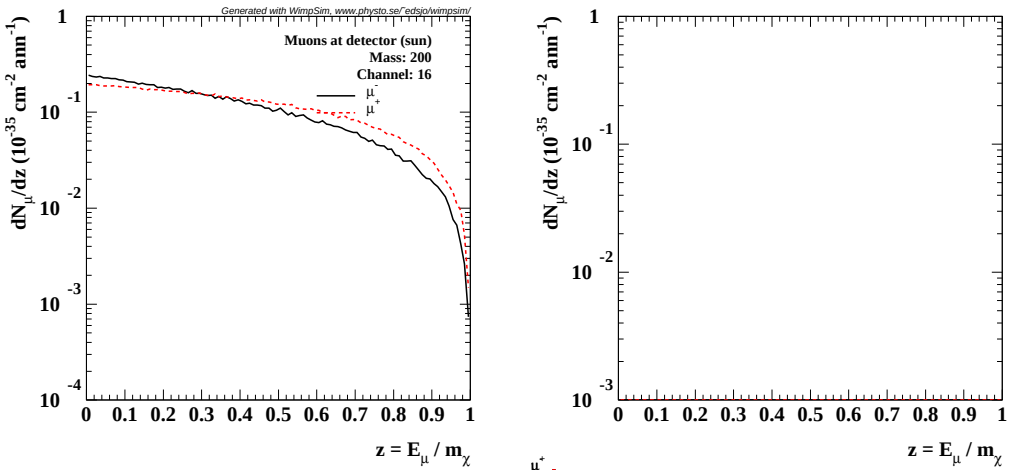
9.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





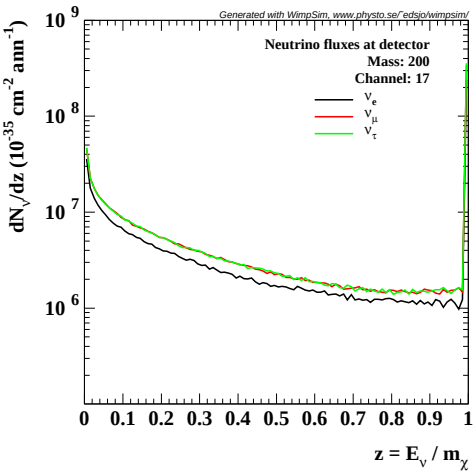
from $\bar{\nu}_\tau$

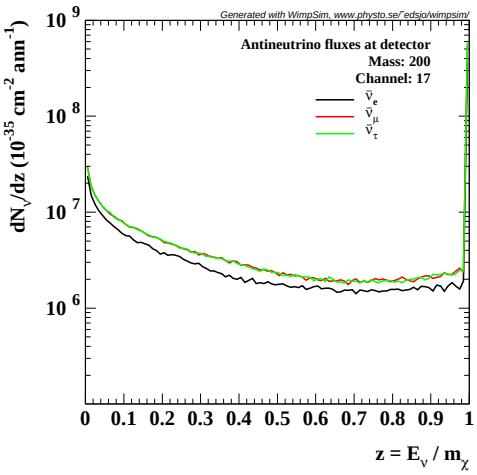
9.8.7 Muons at detector (Sun/Earth)



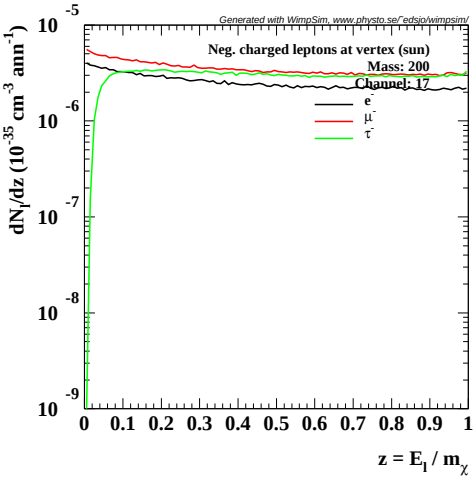
9.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

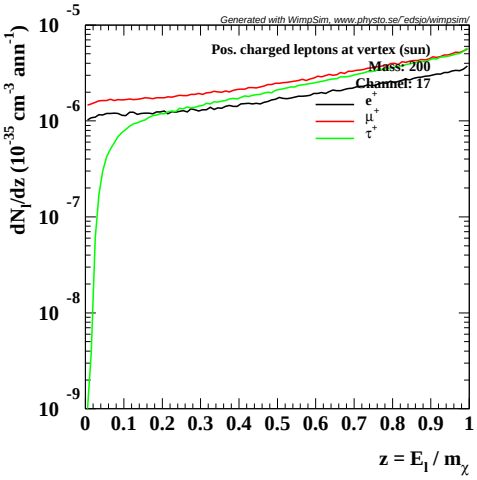
9.9.1 Neutrino fluxes at detector (Sun)



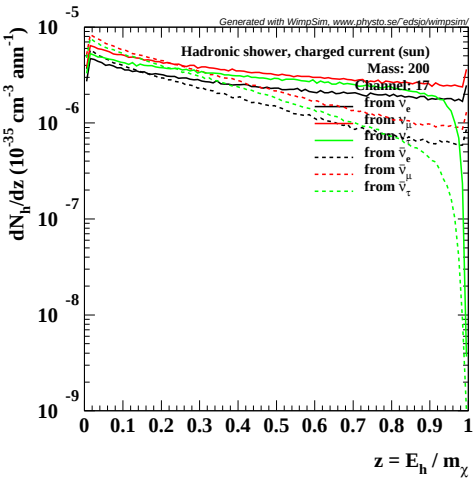


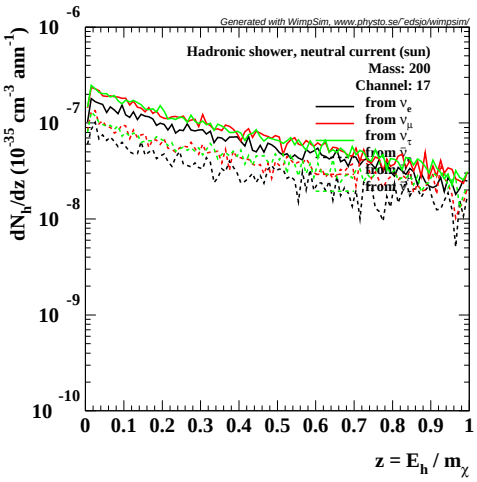
9.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



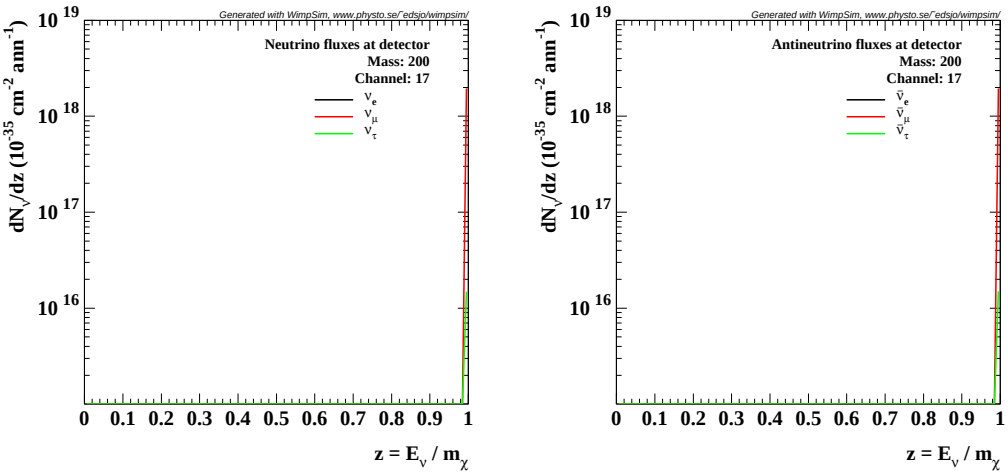


9.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

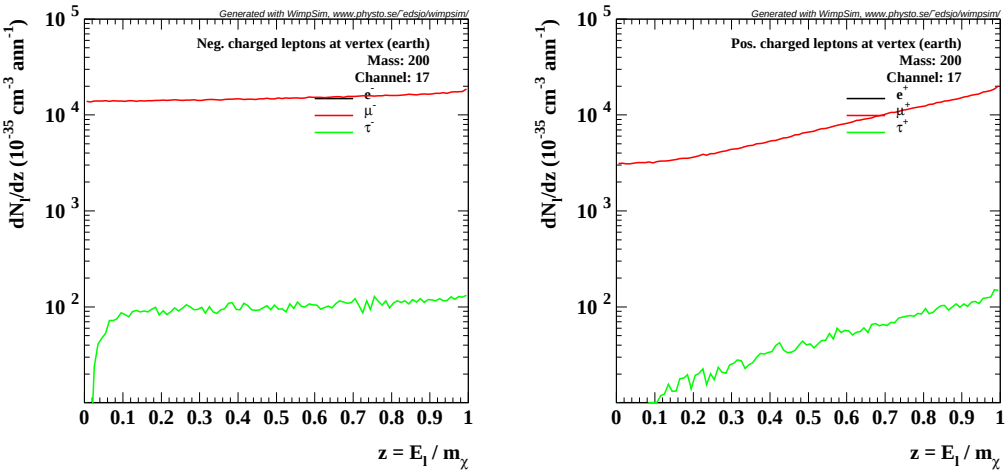




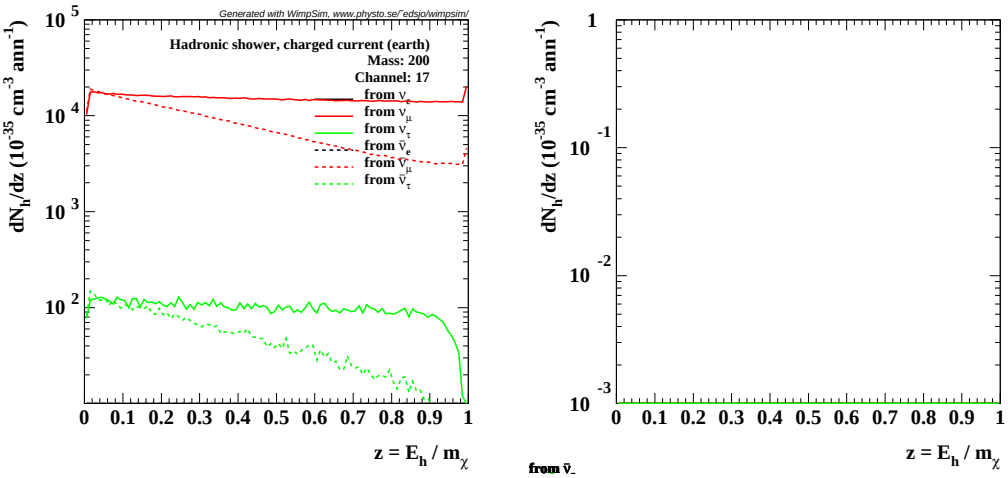
9.9.4 Neutrino fluxes at detector (Earth)



9.9.5 Charged leptons at neutrino-nucleon vertex (Earth)

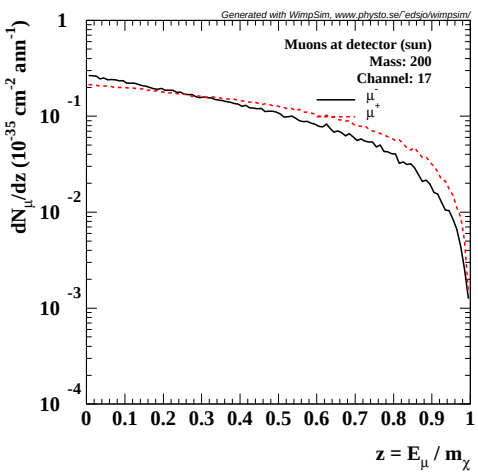


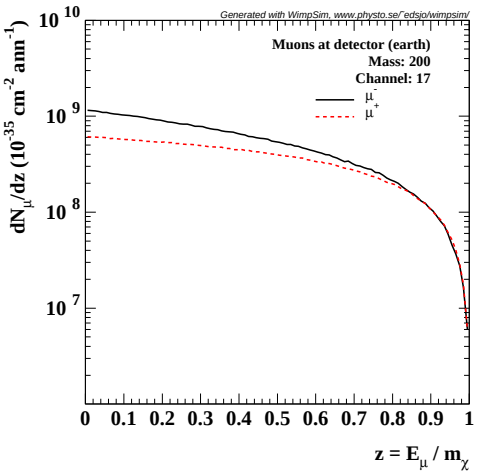
9.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

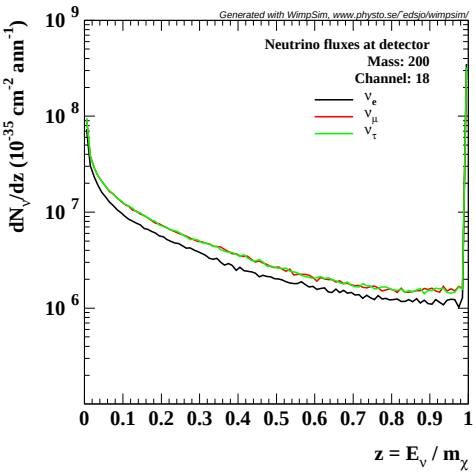
9.9.7 Muons at detector (Sun/Earth)

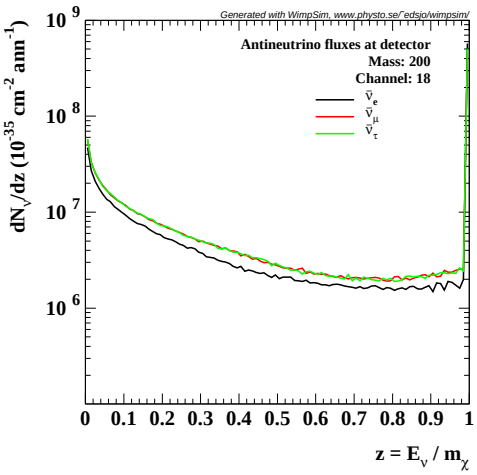




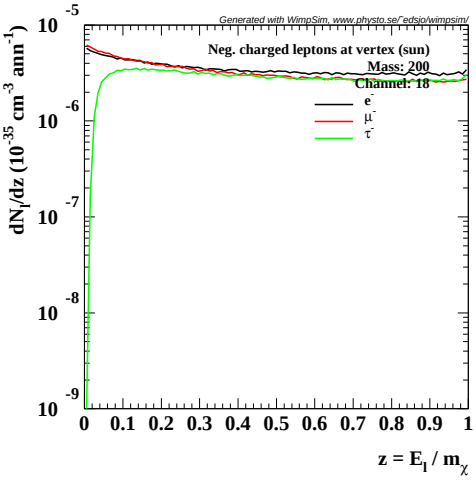
9.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

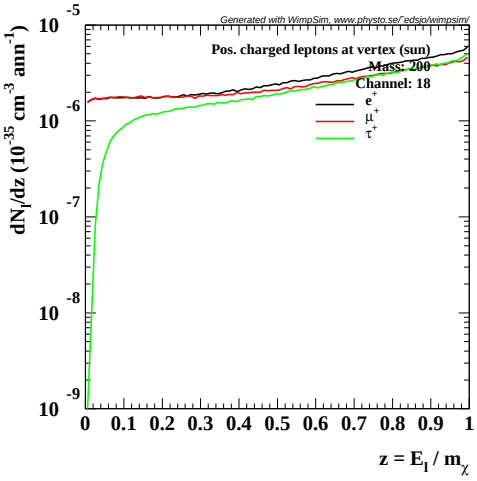
9.10.1 Neutrino fluxes at detector (Sun)



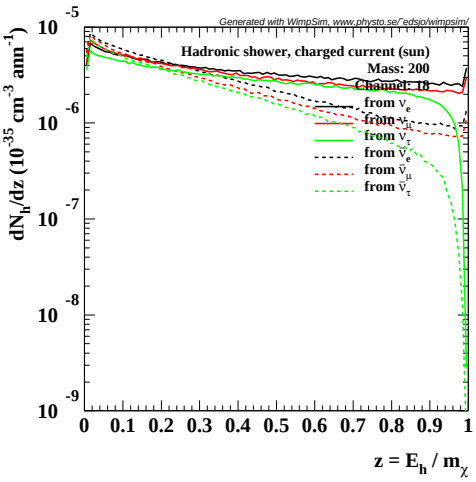


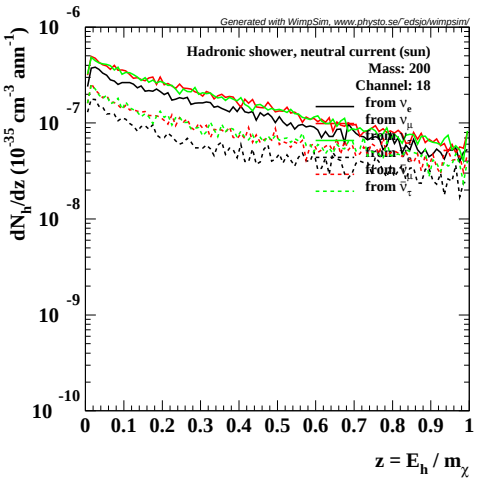
9.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



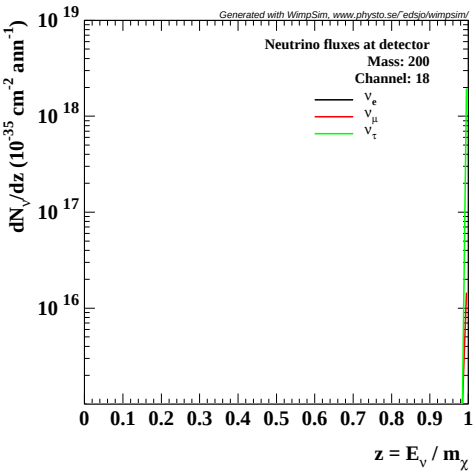


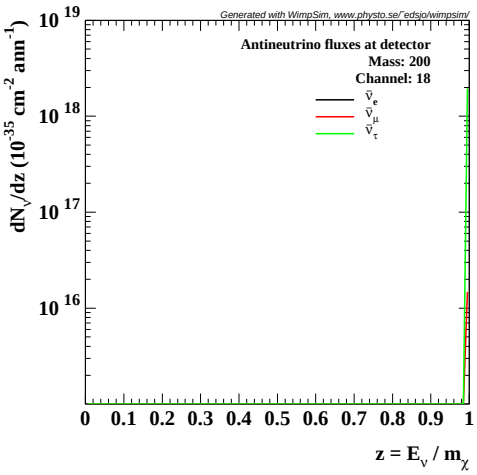
9.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



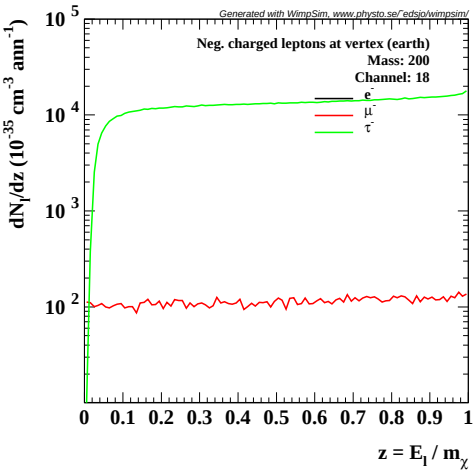


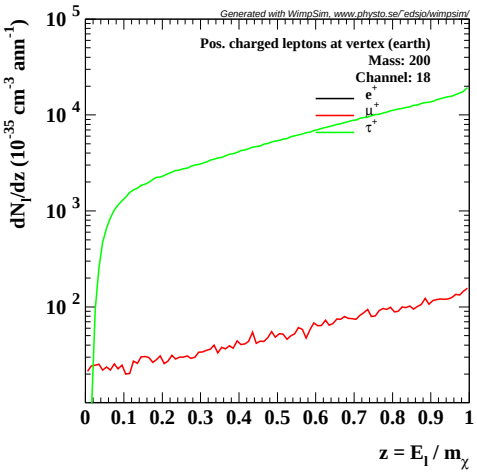
9.10.4 Neutrino fluxes at detector (Earth)



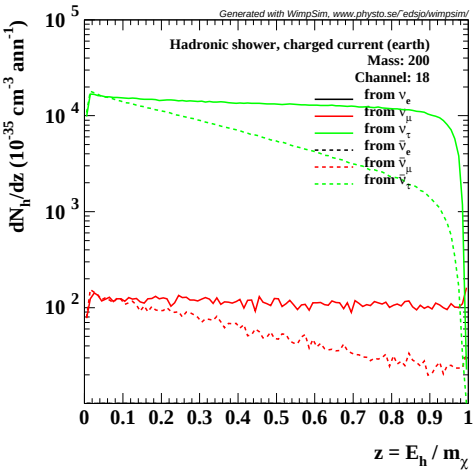


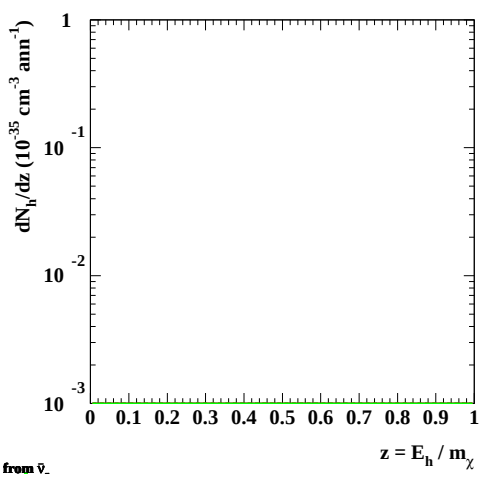
9.10.5 Charged leptons at neutrino-nucleon vertex (Earth)



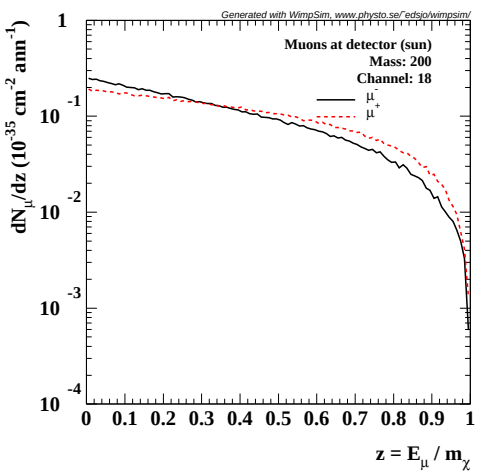


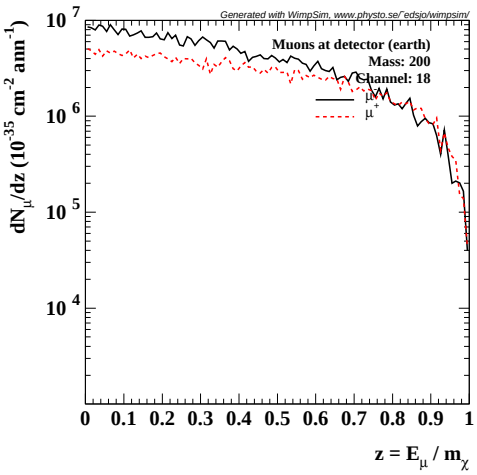
9.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)





9.10.7 Muons at detector (Sun/Earth)

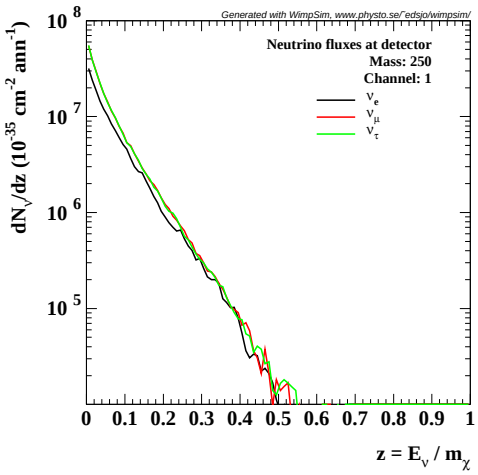


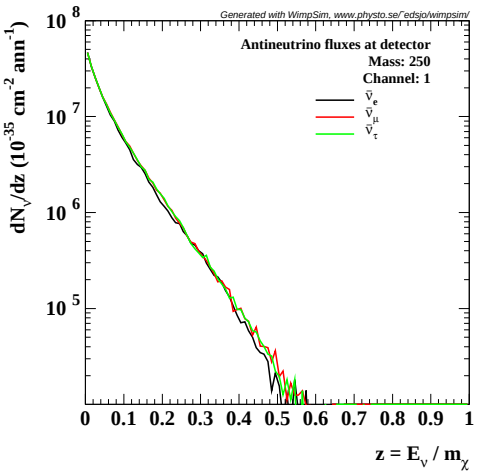


10 Mass 250

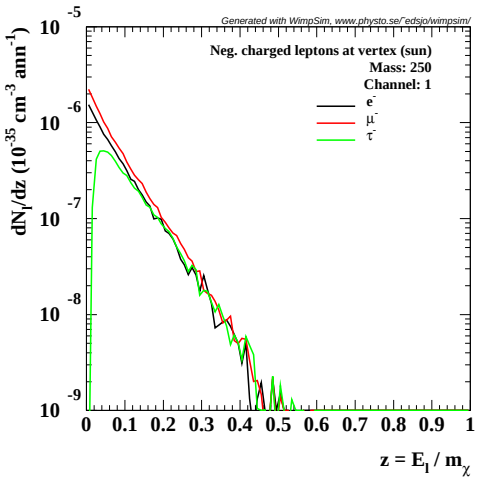
10.1 Channel 1 – $c\bar{c}$

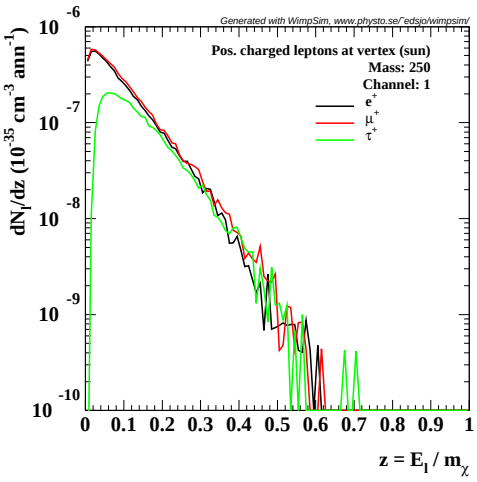
10.1.1 Neutrino fluxes at detector (Sun)



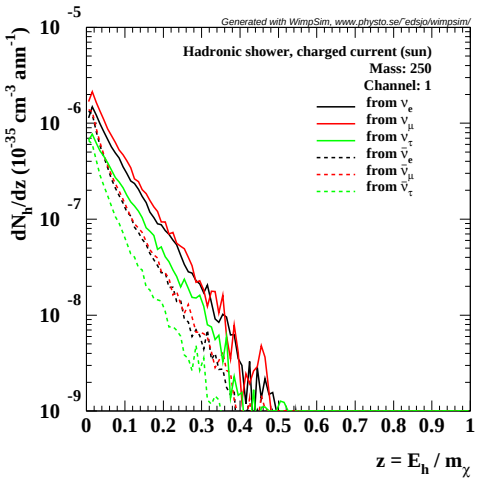


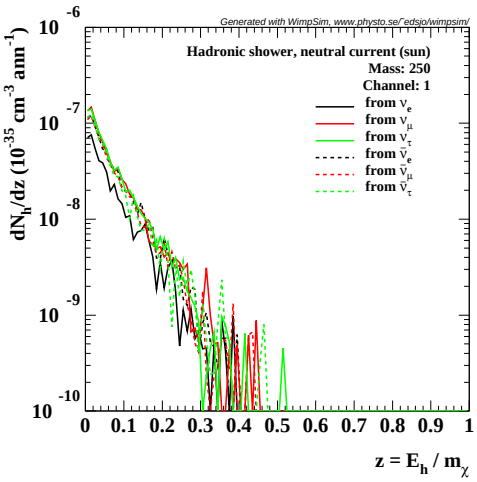
10.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



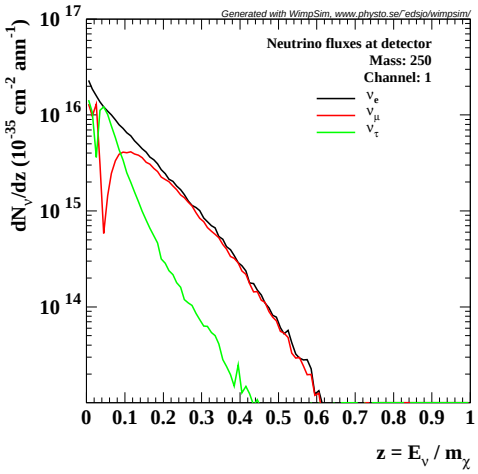


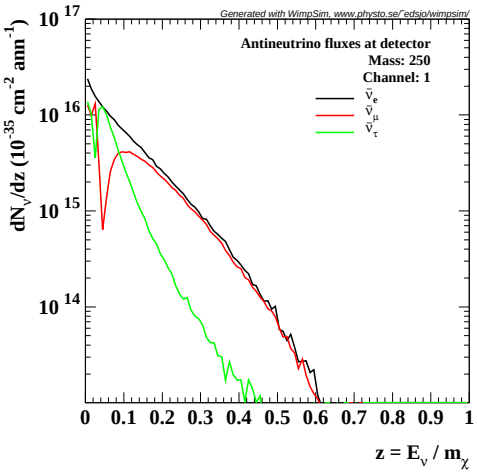
10.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



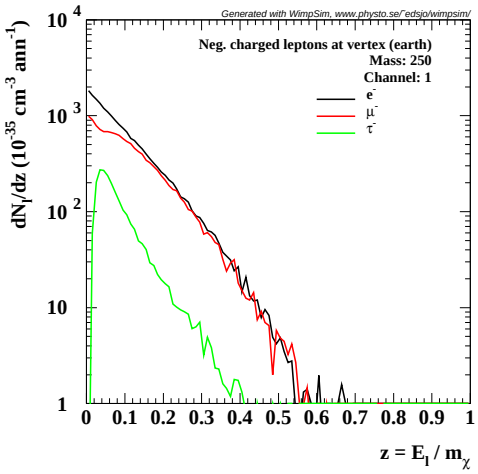


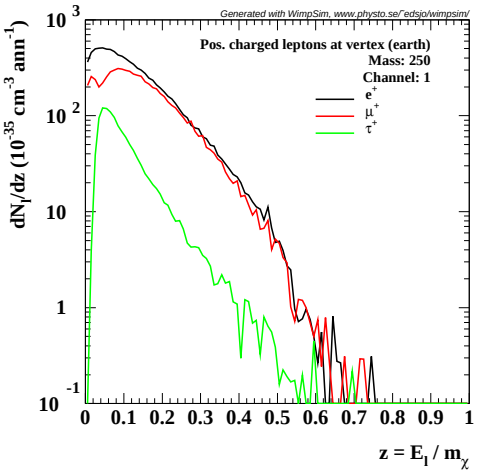
10.1.4 Neutrino fluxes at detector (Earth)



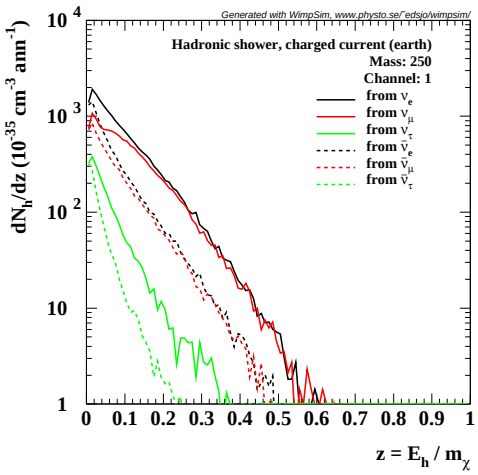


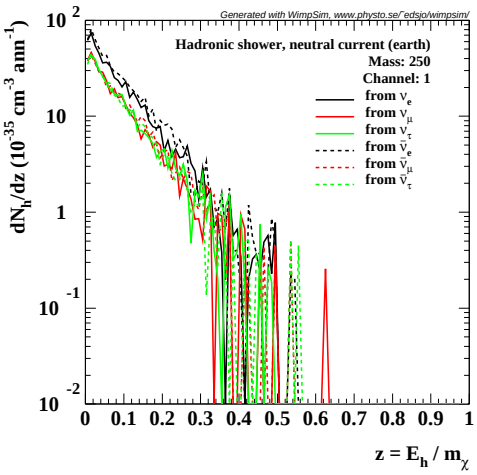
10.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



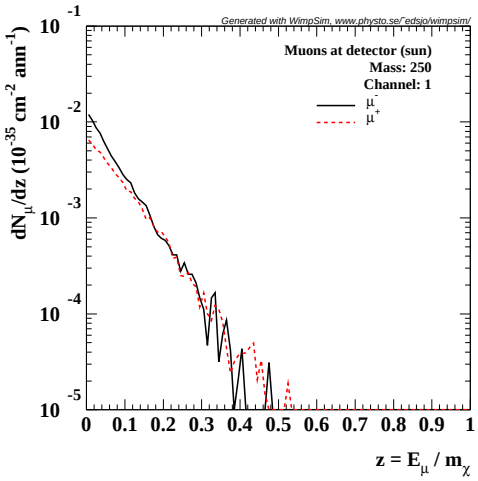


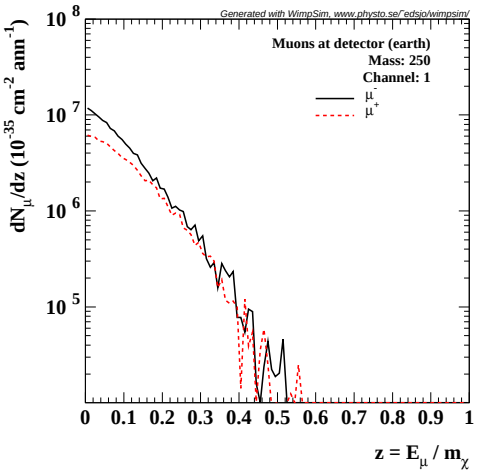
10.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





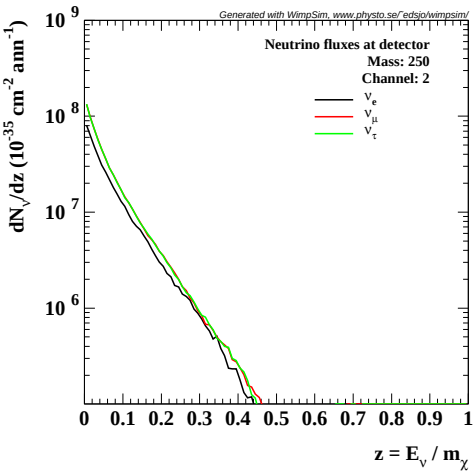
10.1.7 Muons at detector (Sun/Earth)

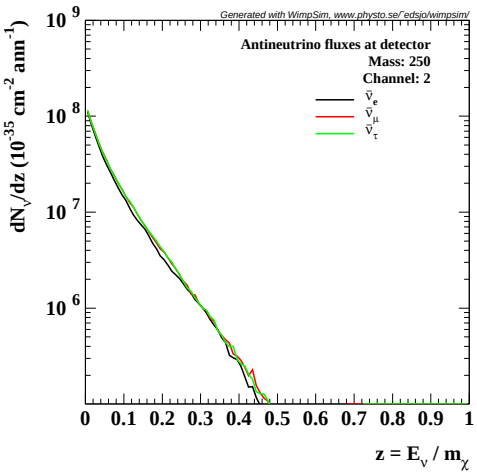




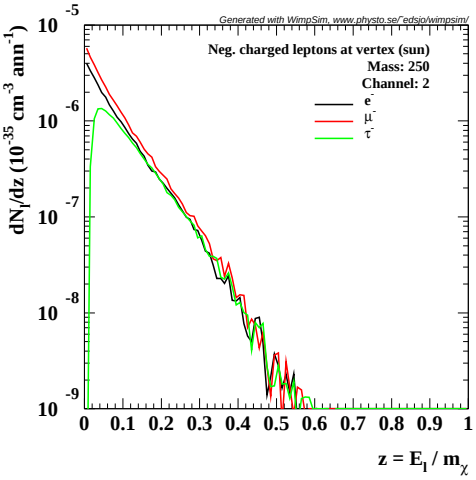
10.2 Channel 2 – $b\bar{b}$

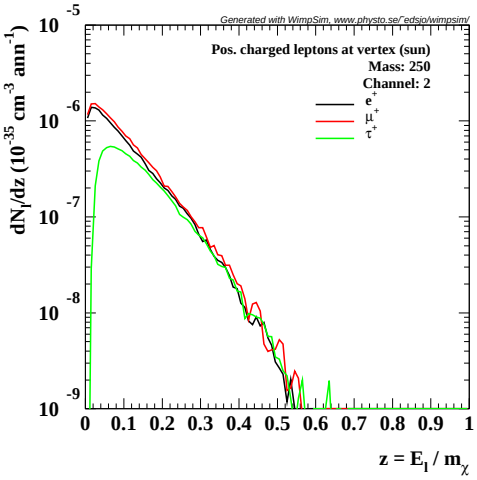
10.2.1 Neutrino fluxes at detector (Sun)



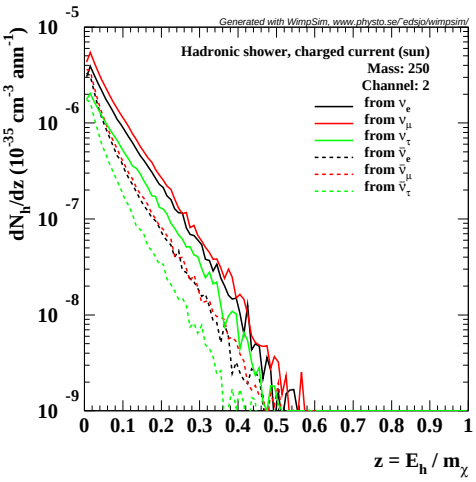


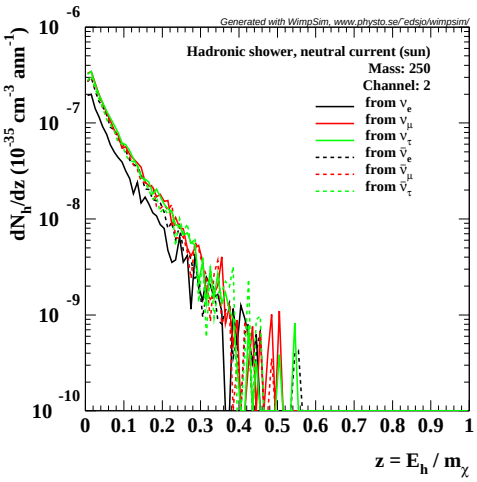
10.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



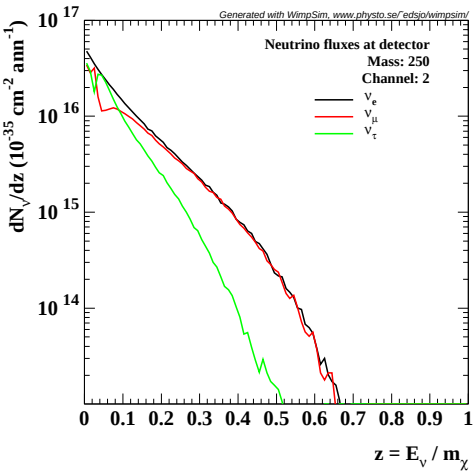


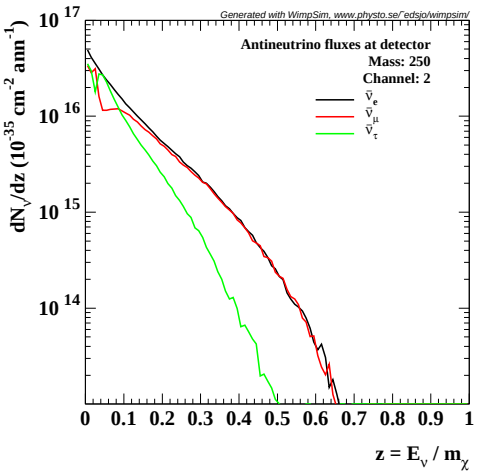
10.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



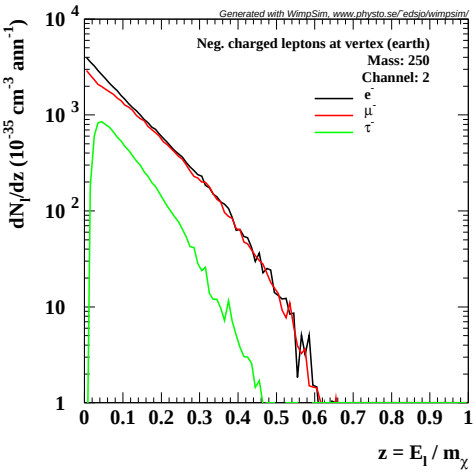


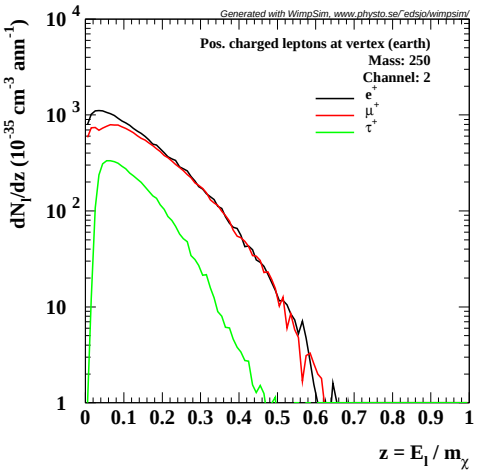
10.2.4 Neutrino fluxes at detector (Earth)



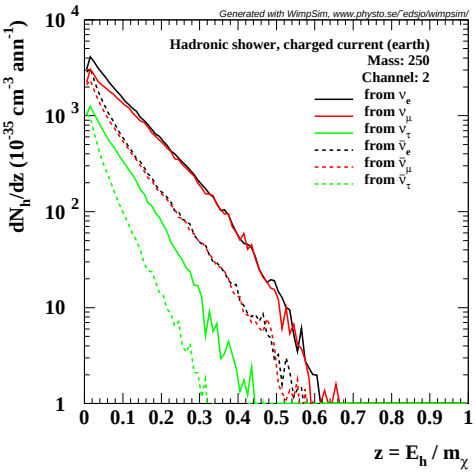


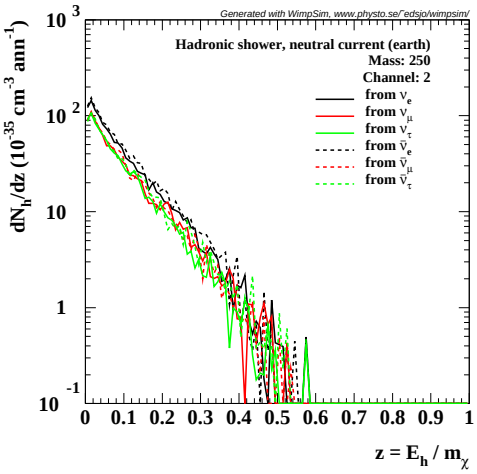
10.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



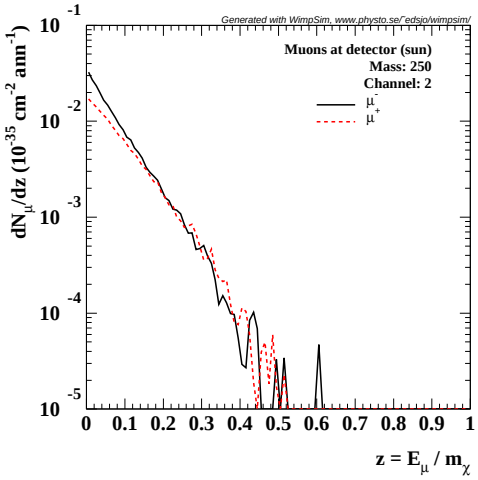


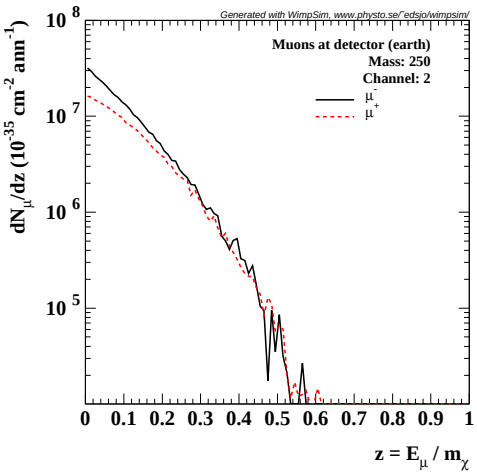
10.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





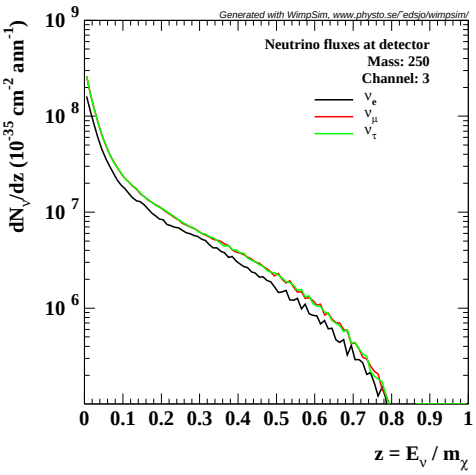
10.2.7 Muons at detector (Sun/Earth)

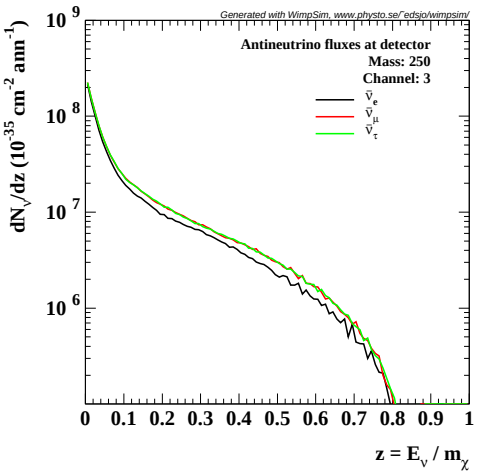




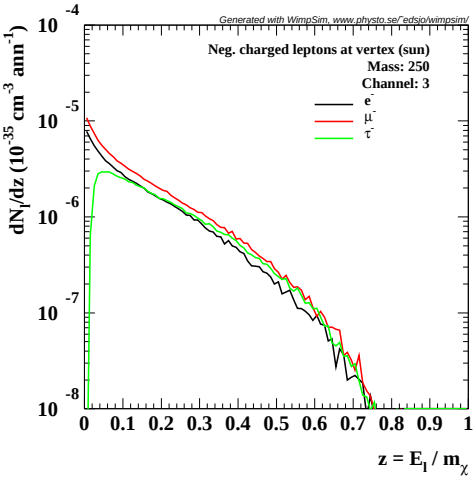
10.3 Channel 3 – $t\bar{t}$

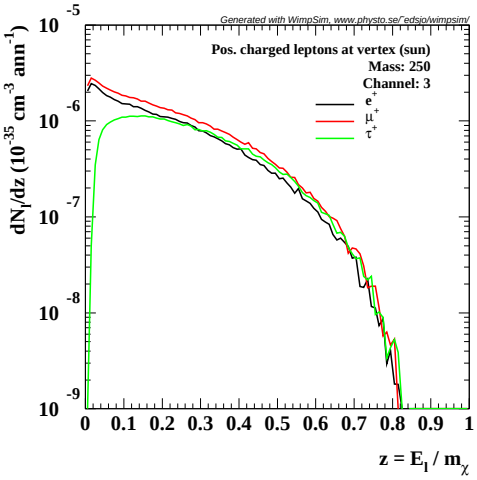
10.3.1 Neutrino fluxes at detector (Sun)



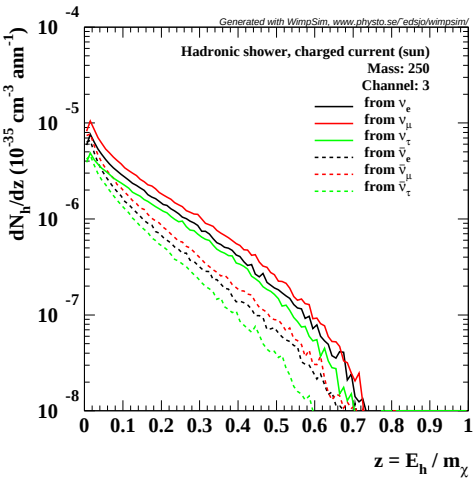


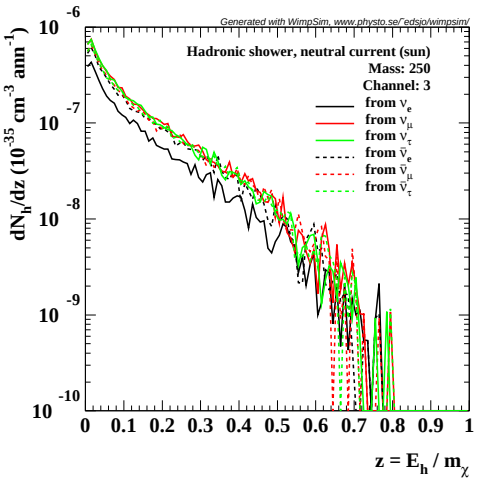
10.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



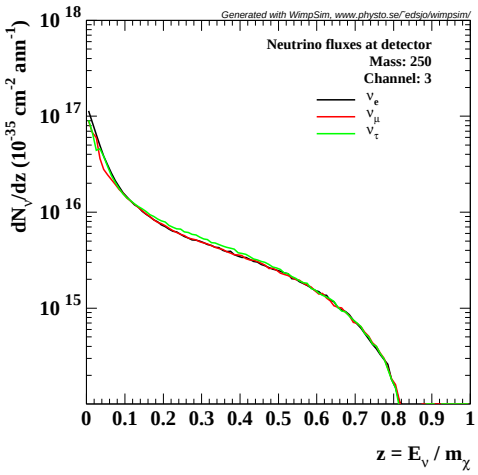


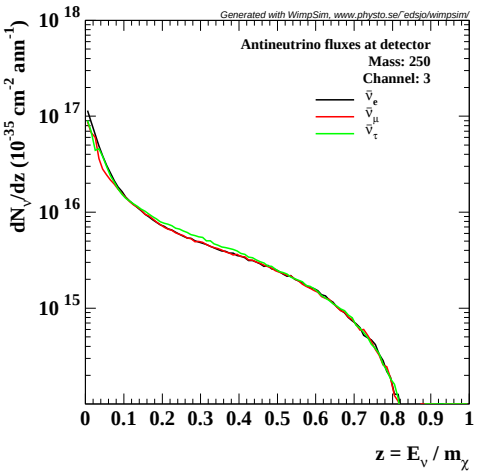
10.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



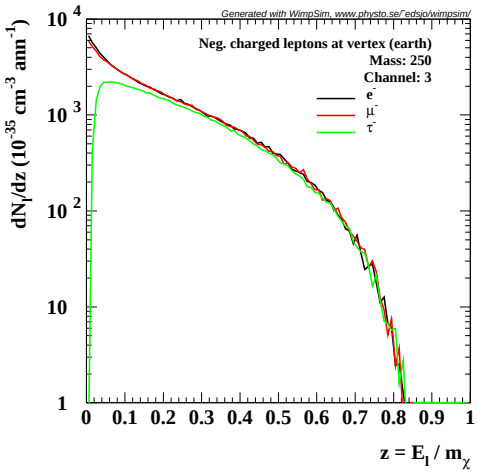


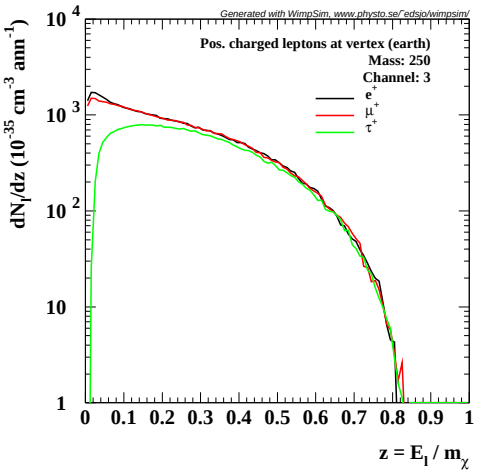
10.3.4 Neutrino fluxes at detector (Earth)



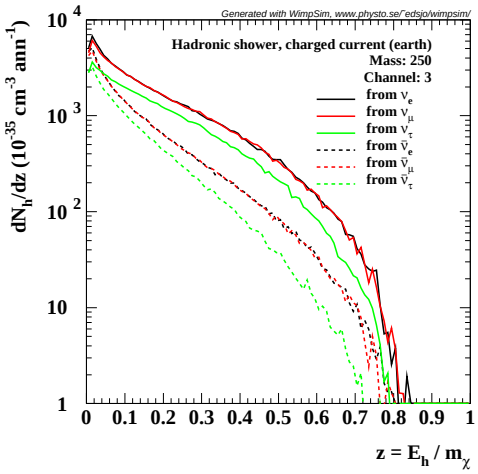


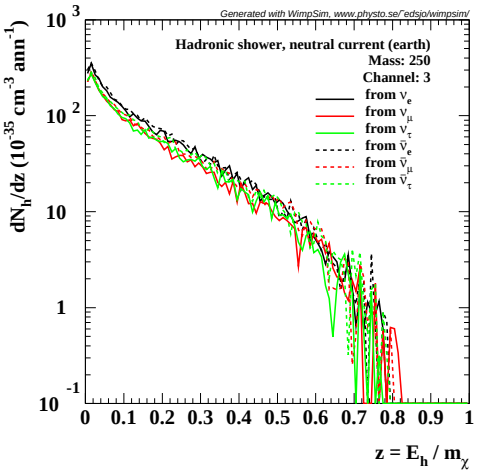
10.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



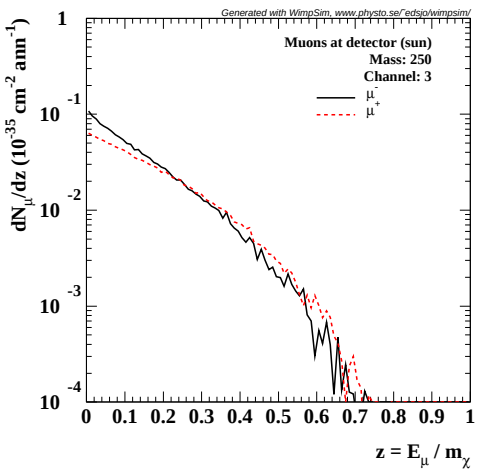


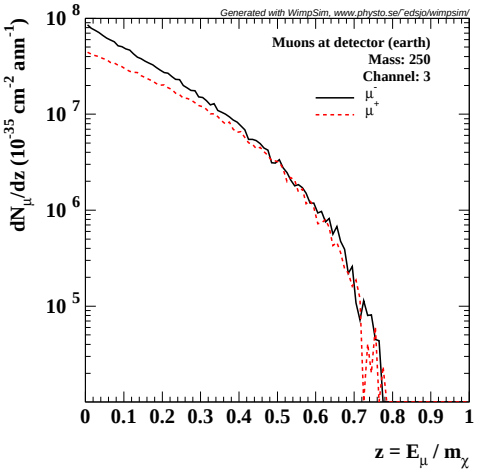
10.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





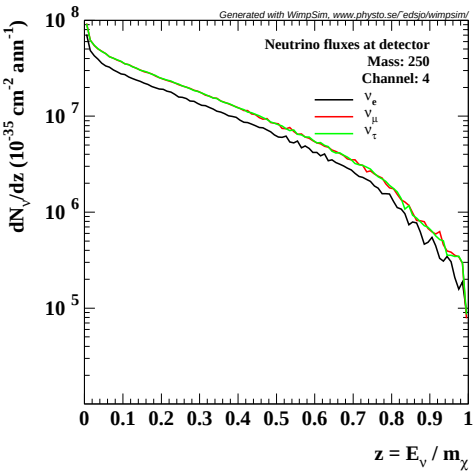
10.3.7 Muons at detector (Sun/Earth)

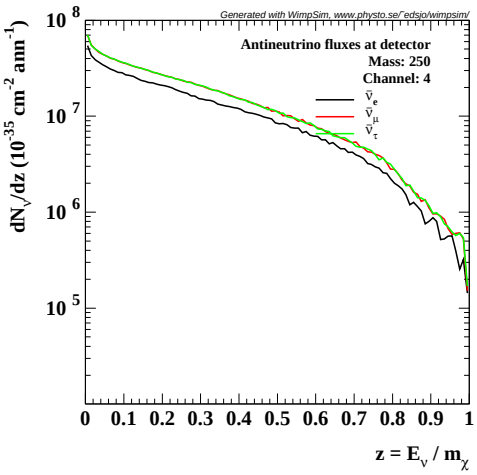




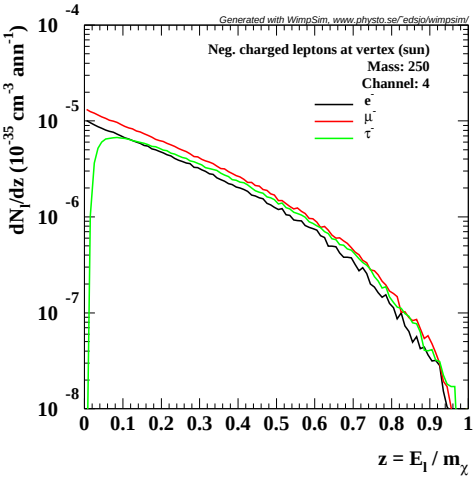
10.4 Channel 4 – $\tau^-\tau^+$

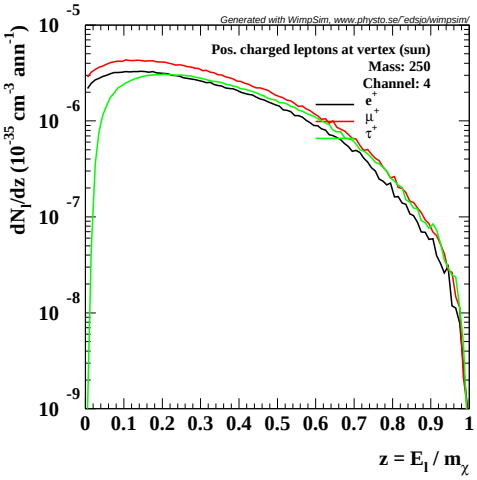
10.4.1 Neutrino fluxes at detector (Sun)



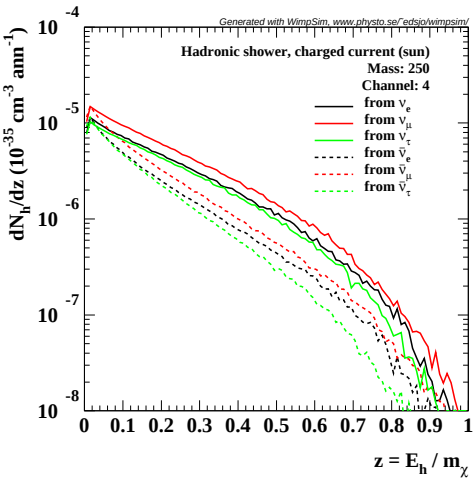


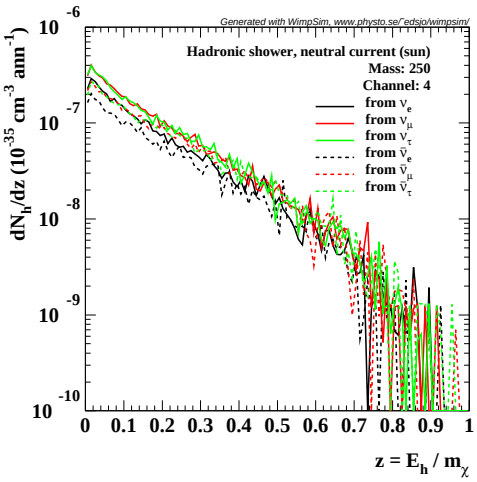
10.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



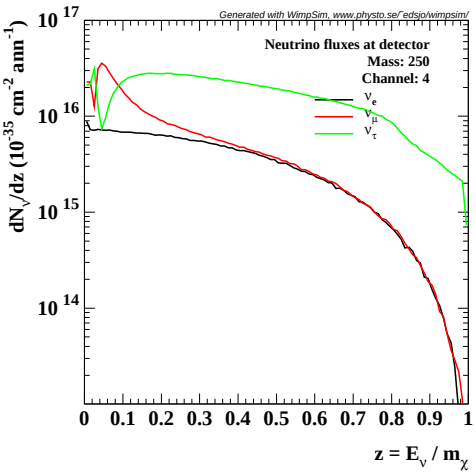


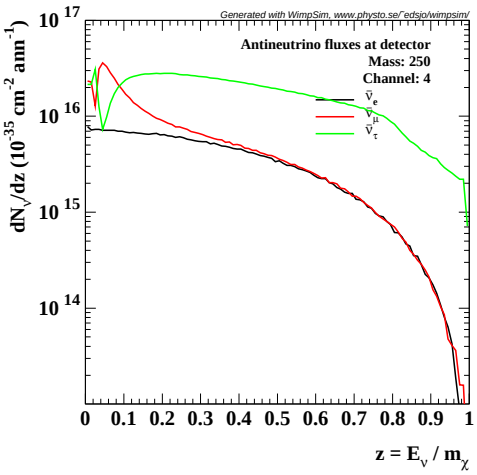
10.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



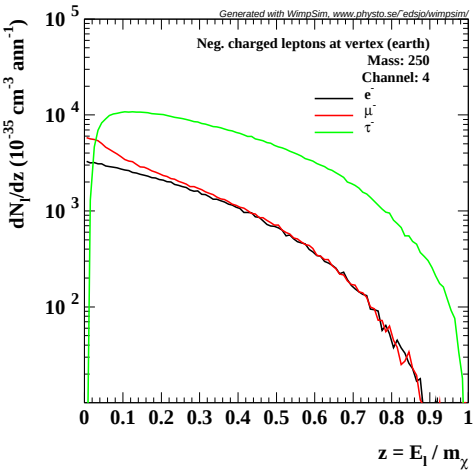


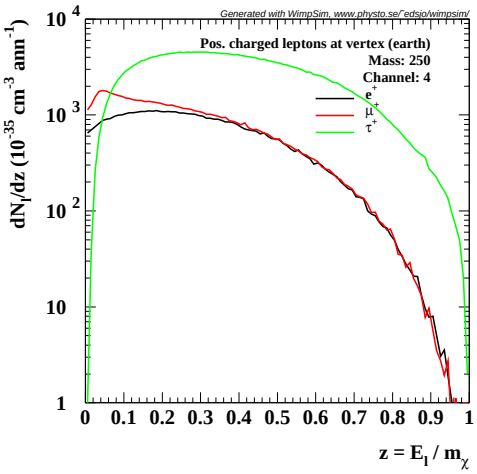
10.4.4 Neutrino fluxes at detector (Earth)



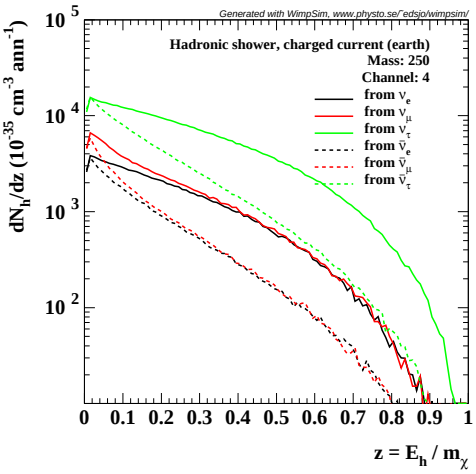


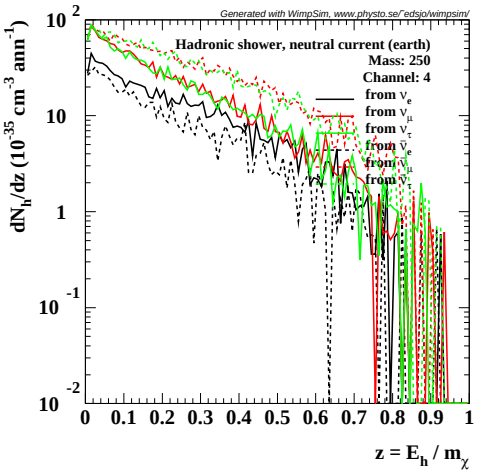
10.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



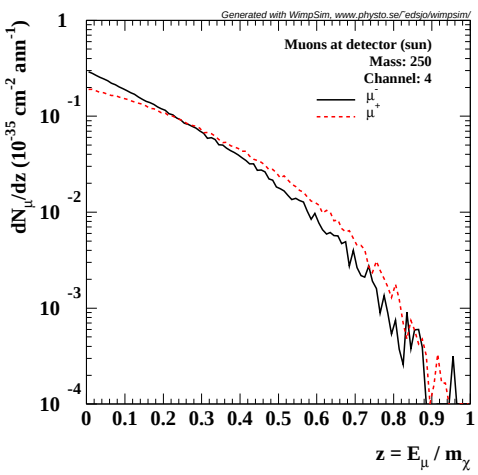


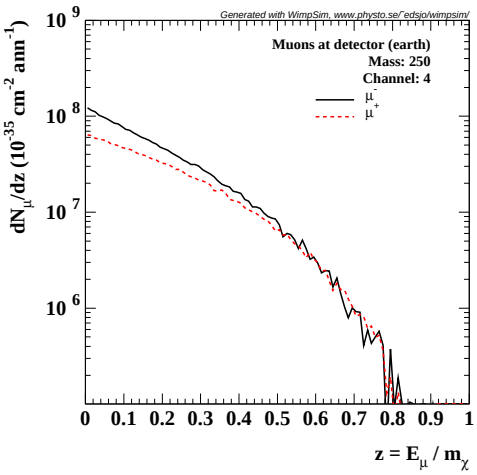
10.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





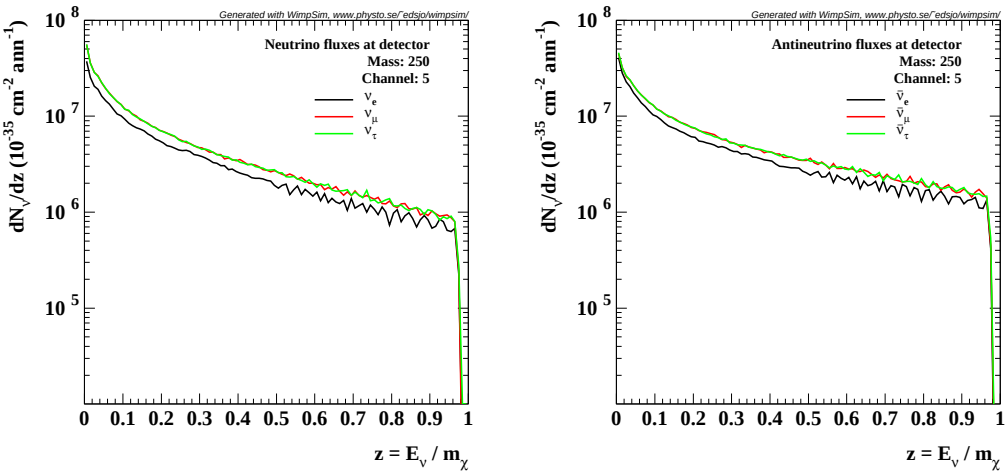
10.4.7 Muons at detector (Sun/Earth)



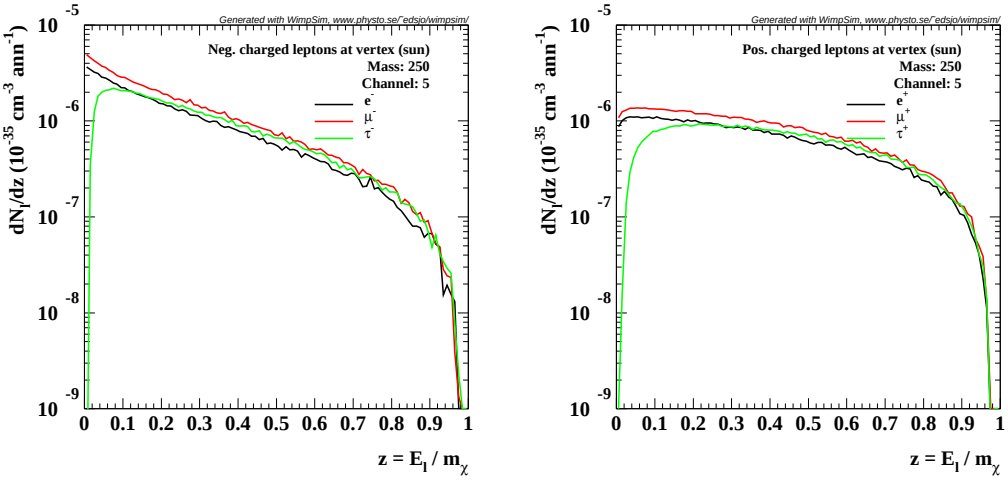


10.5 Channel 5 – W^-W^+

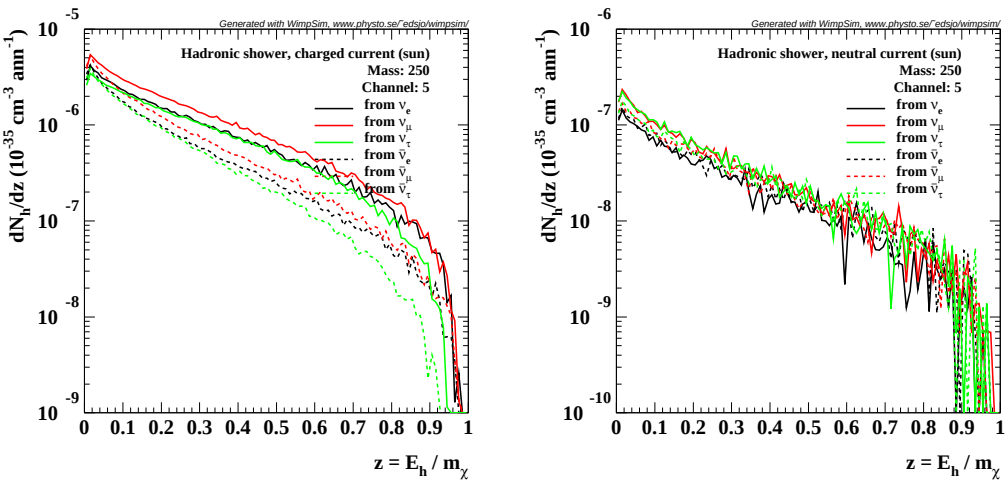
10.5.1 Neutrino fluxes at detector (Sun)



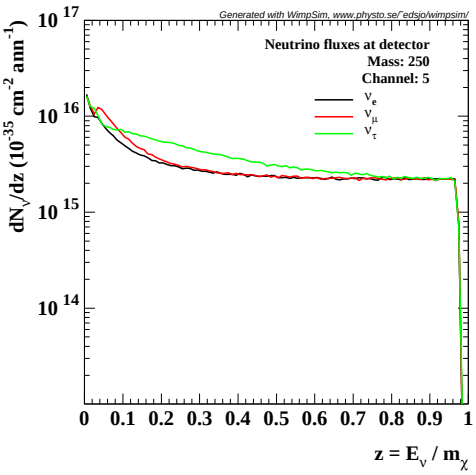
10.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

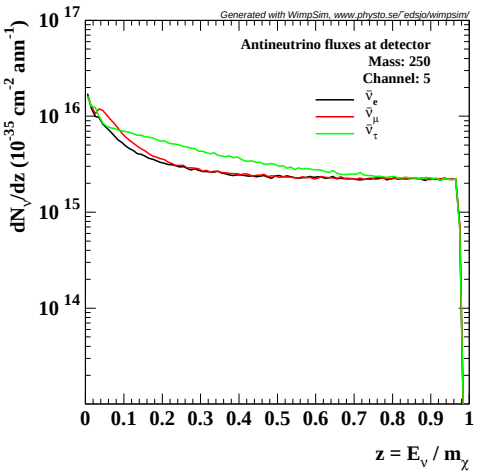


10.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

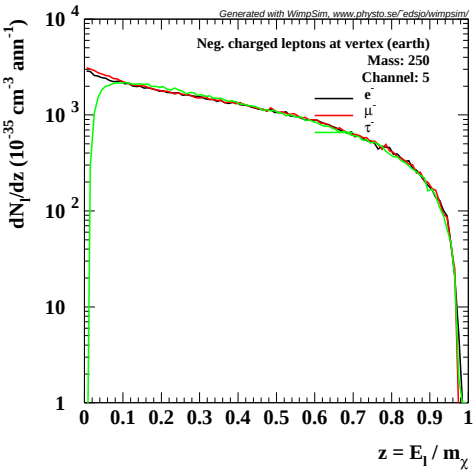


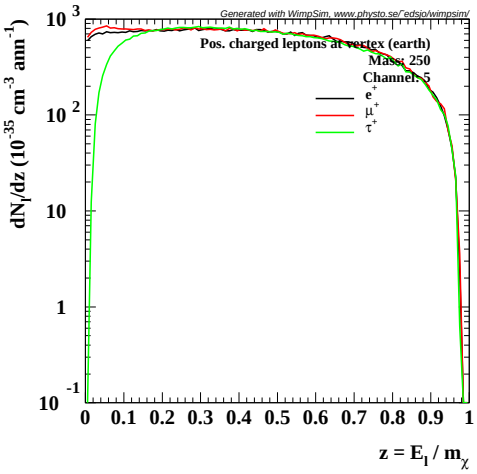
10.5.4 Neutrino fluxes at detector (Earth)



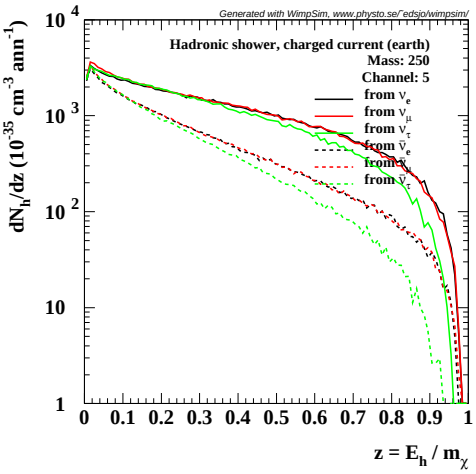


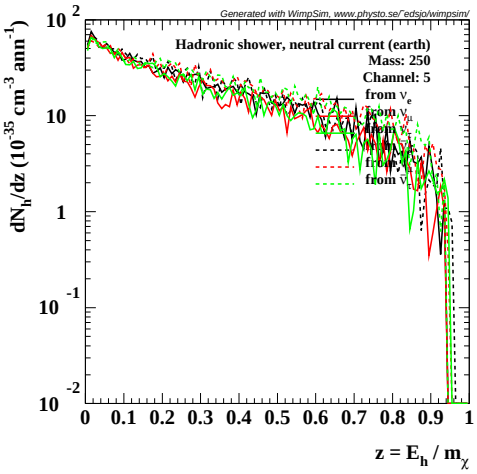
10.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



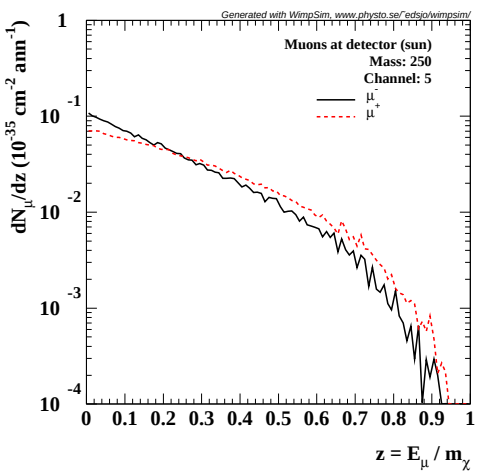


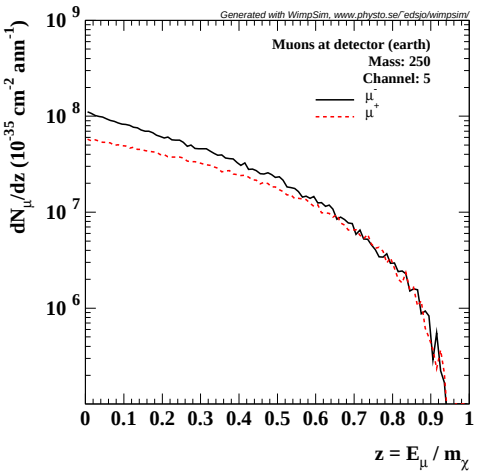
10.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





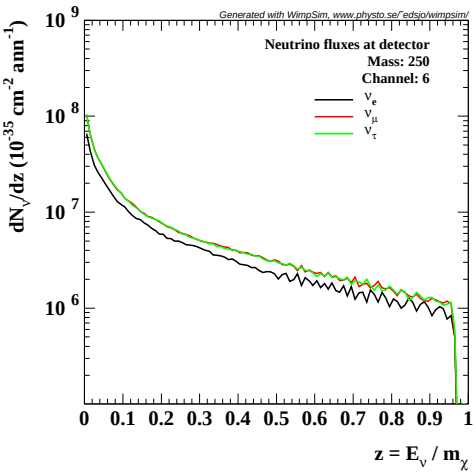
10.5.7 Muons at detector (Sun/Earth)

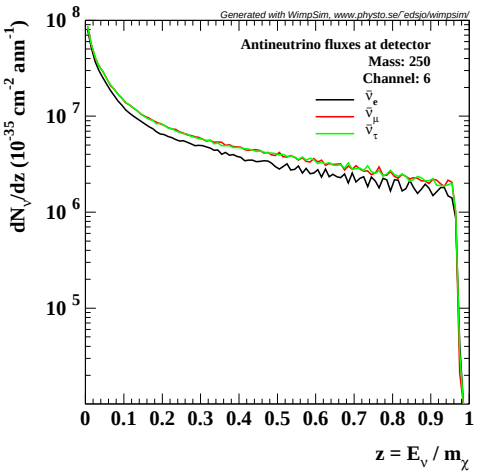




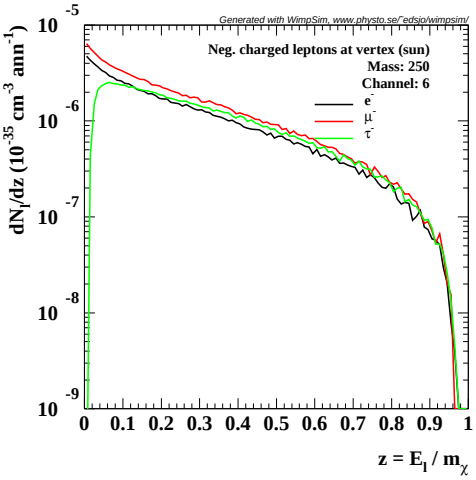
10.6 Channel 6 – $Z^0 Z^0$

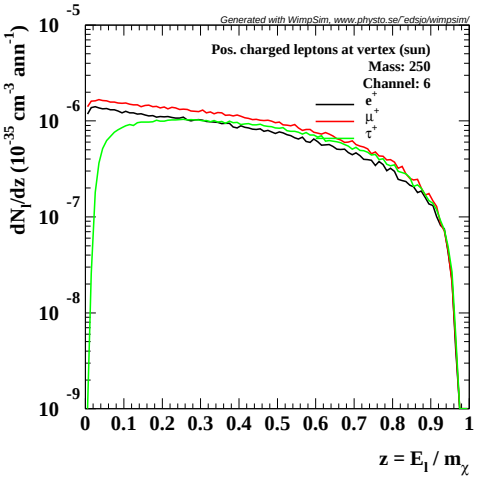
10.6.1 Neutrino fluxes at detector (Sun)



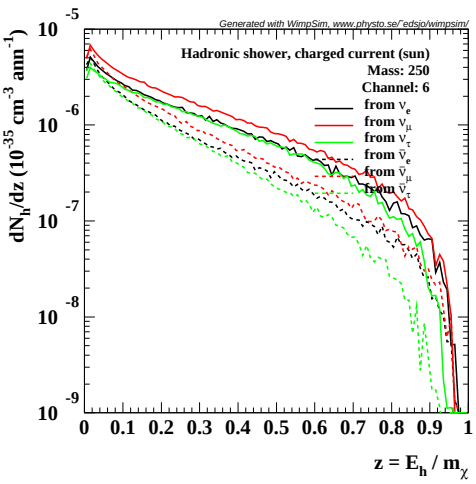


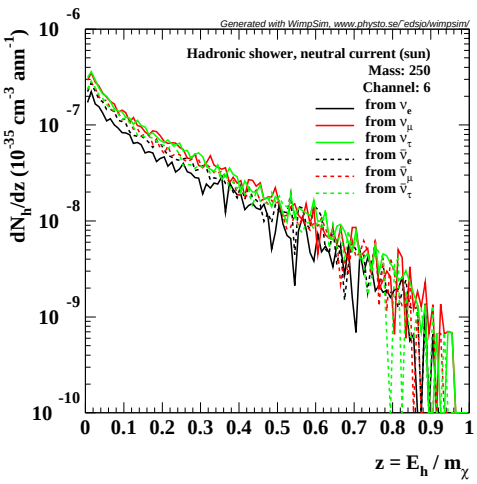
10.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



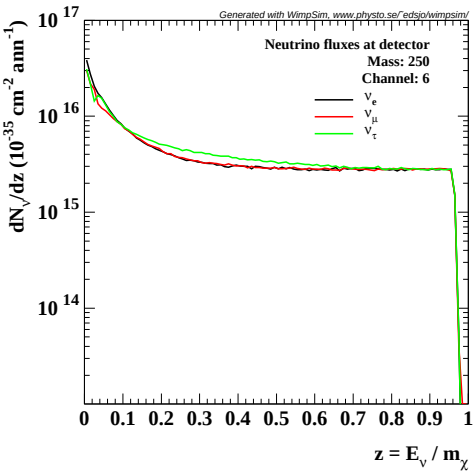


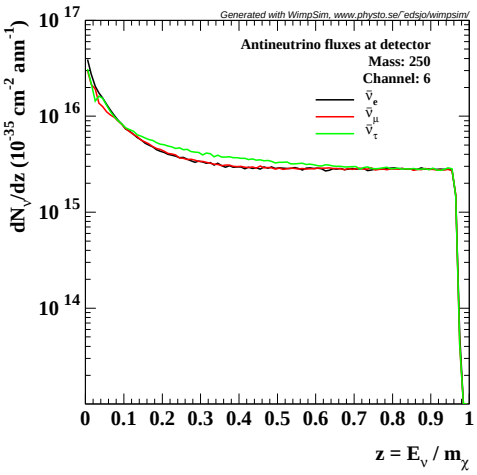
10.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



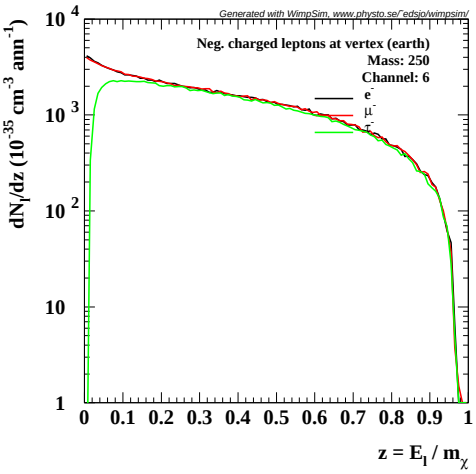


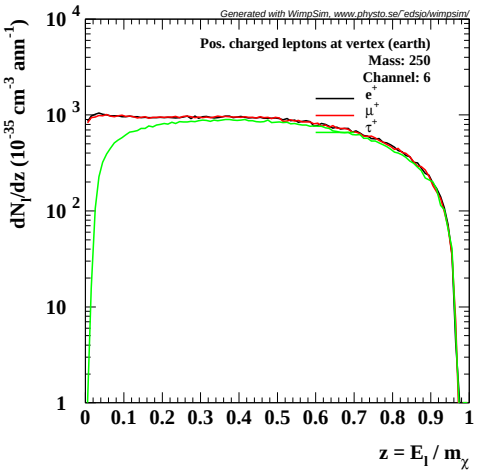
10.6.4 Neutrino fluxes at detector (Earth)



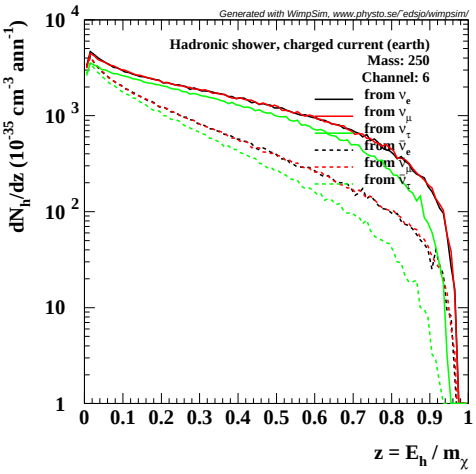


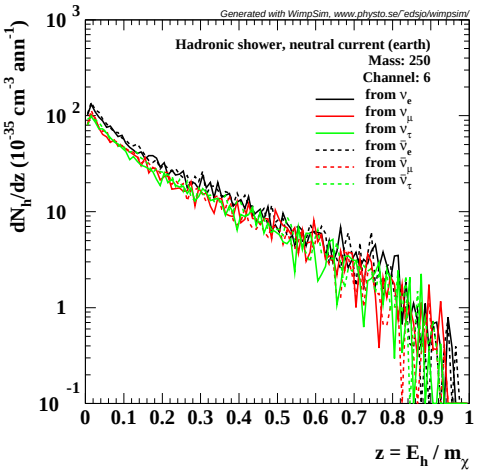
10.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



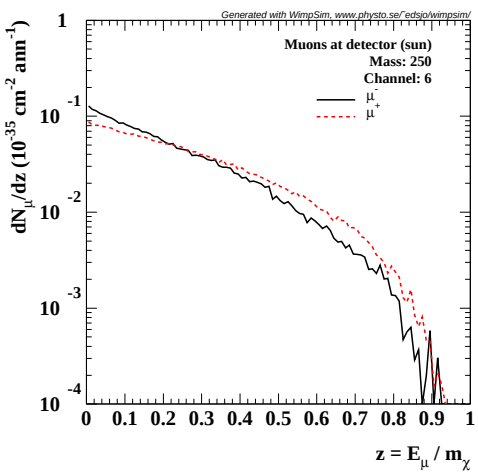


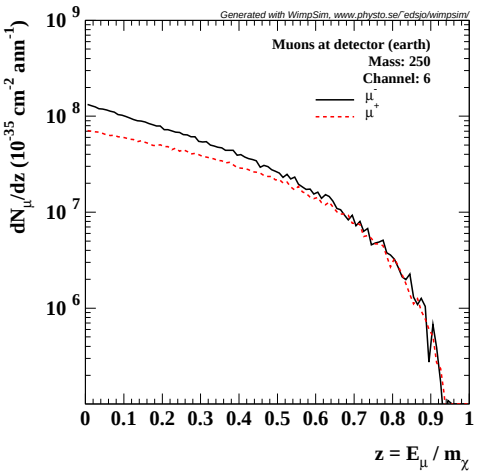
10.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





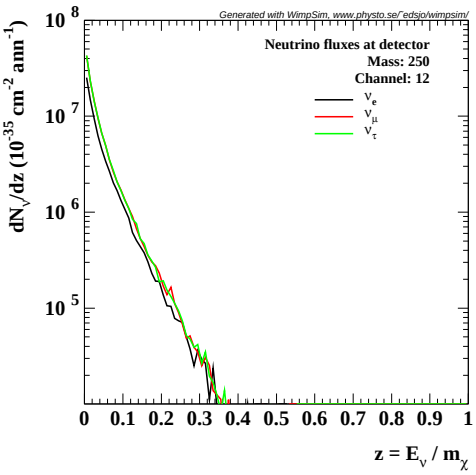
10.6.7 Muons at detector (Sun/Earth)

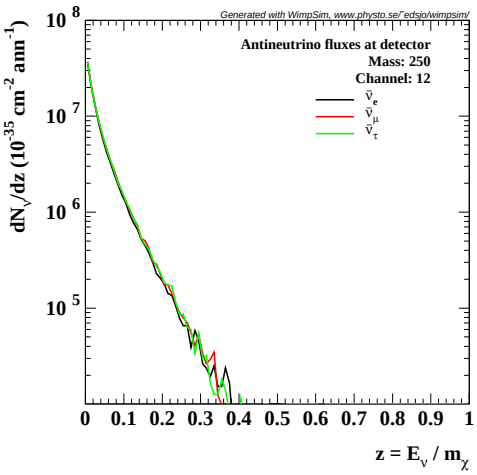




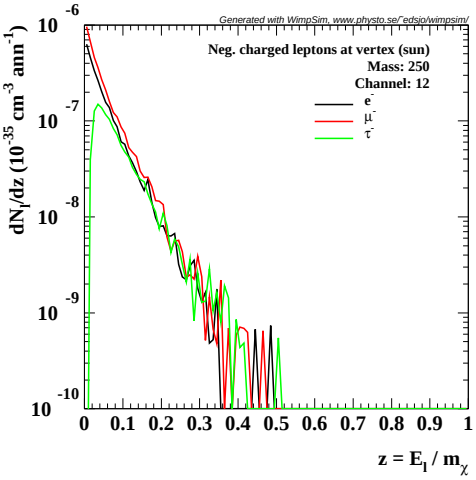
10.7 Channel 12 – gg

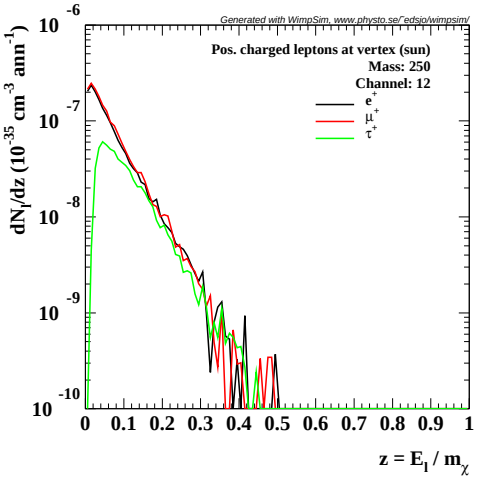
10.7.1 Neutrino fluxes at detector (Sun)



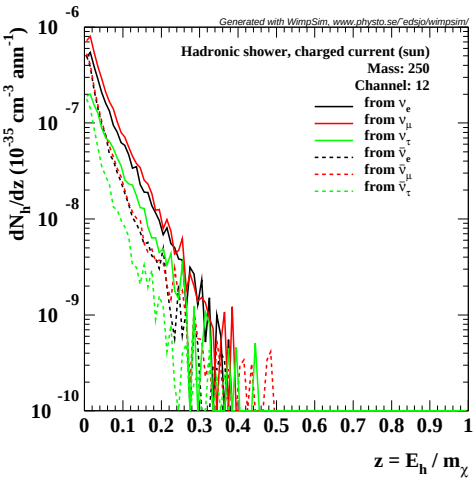


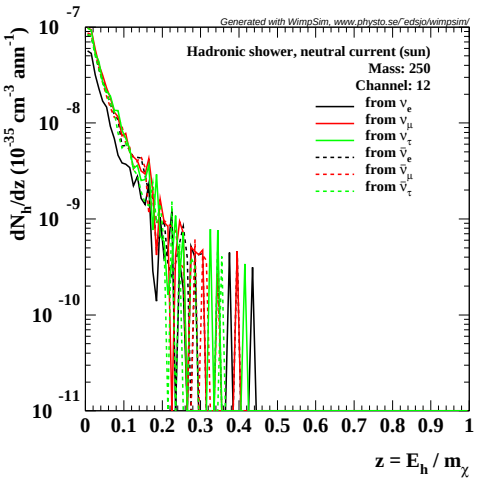
10.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



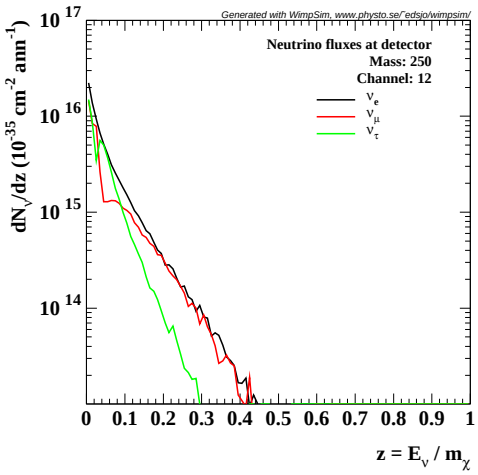


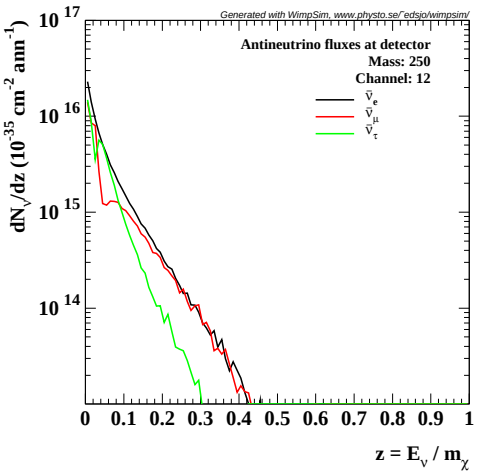
10.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



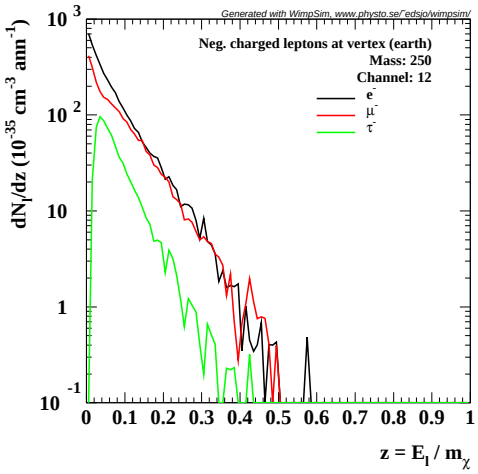


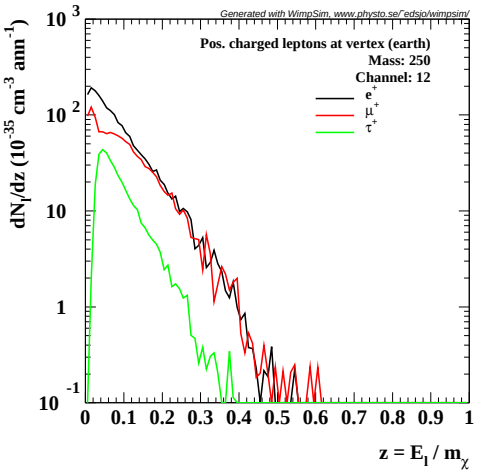
10.7.4 Neutrino fluxes at detector (Earth)



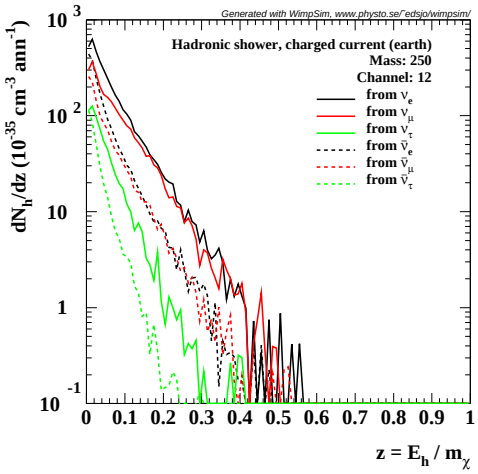


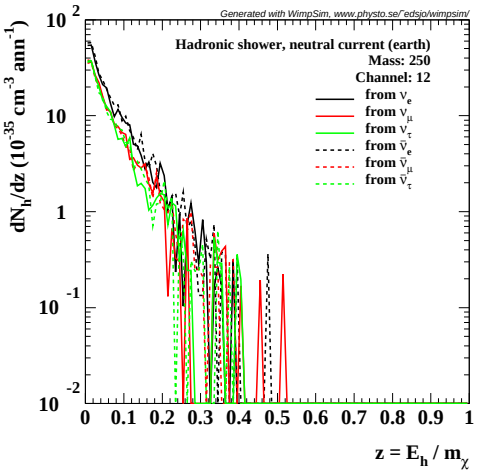
10.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



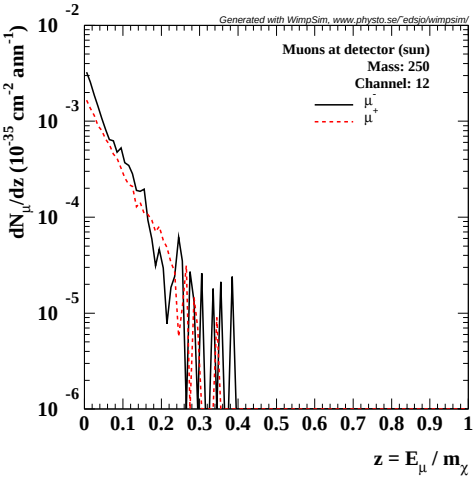


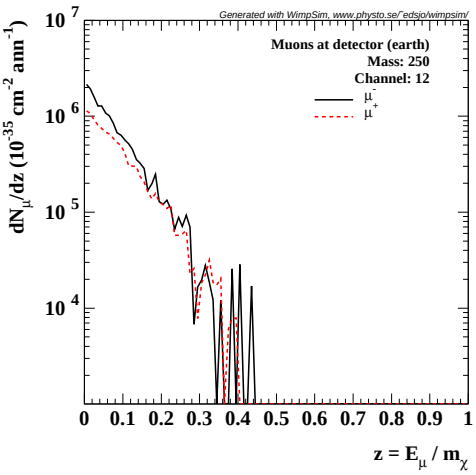
10.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





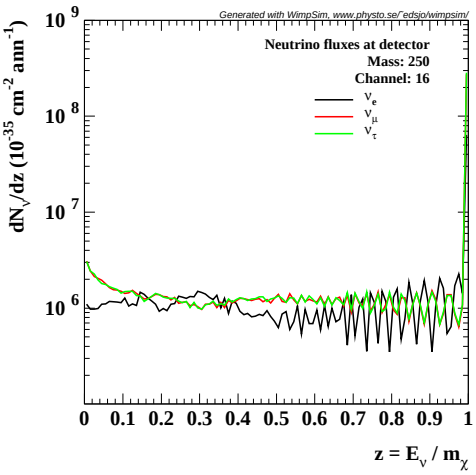
10.7.7 Muons at detector (Sun/Earth)

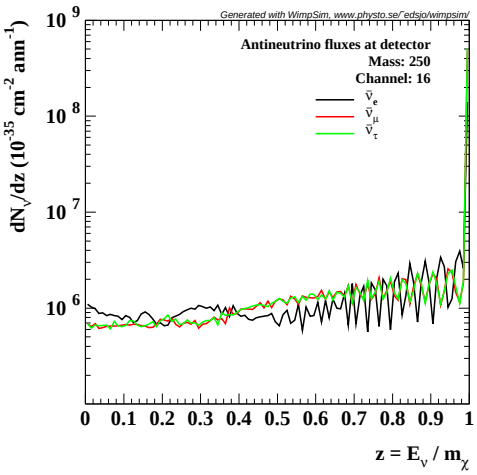




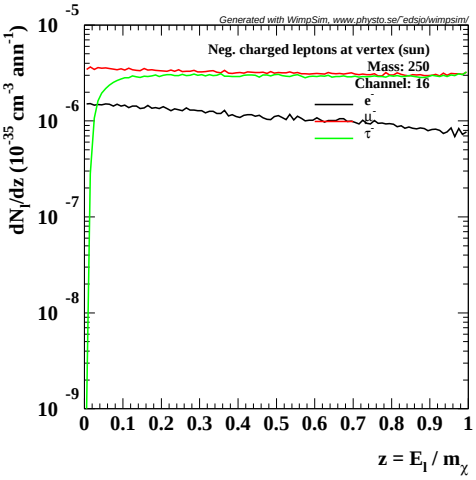
10.8 Channel 16 – $\nu_e\bar{\nu}_e$

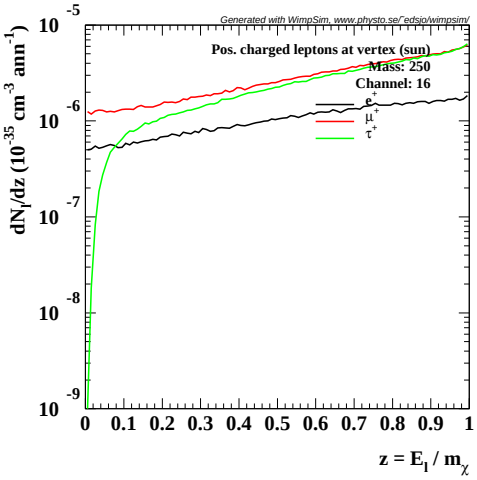
10.8.1 Neutrino fluxes at detector (Sun)



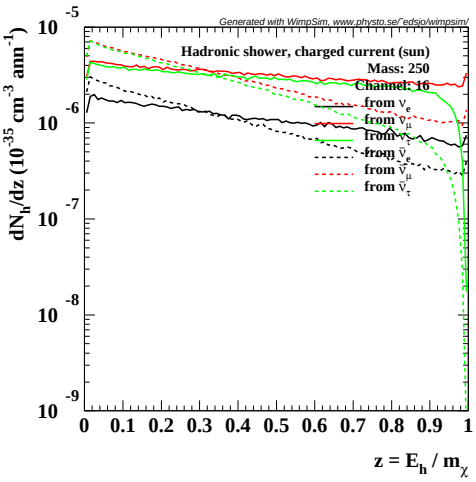


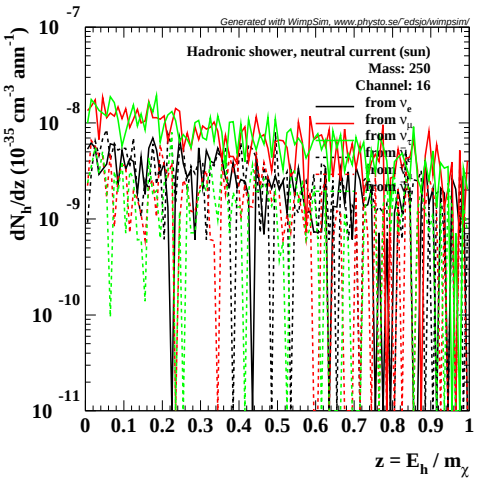
10.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



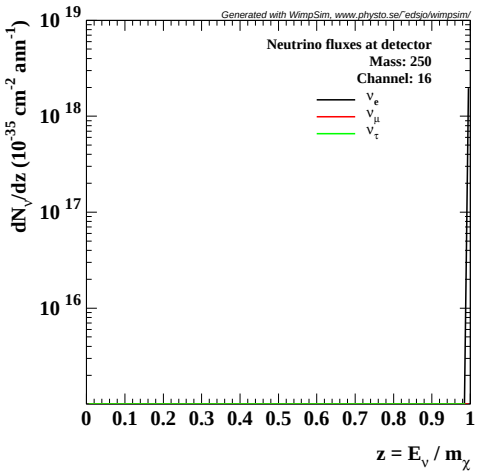


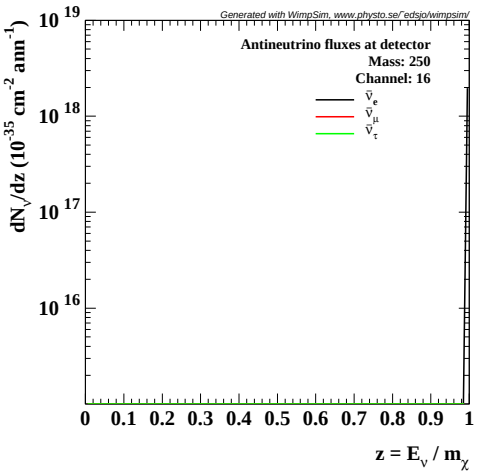
10.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



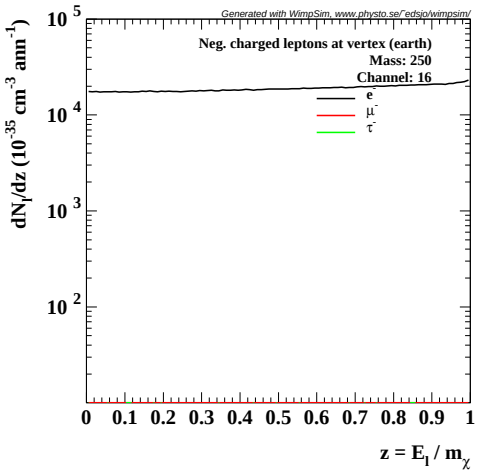


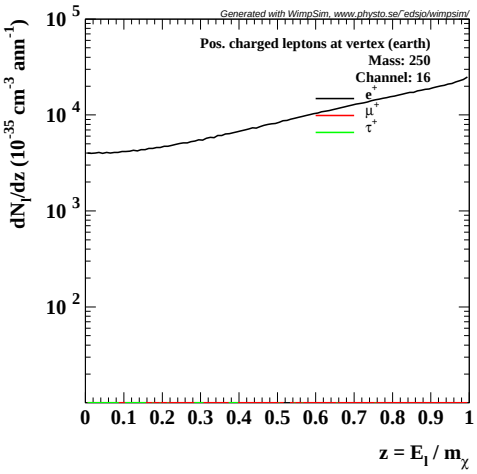
10.8.4 Neutrino fluxes at detector (Earth)



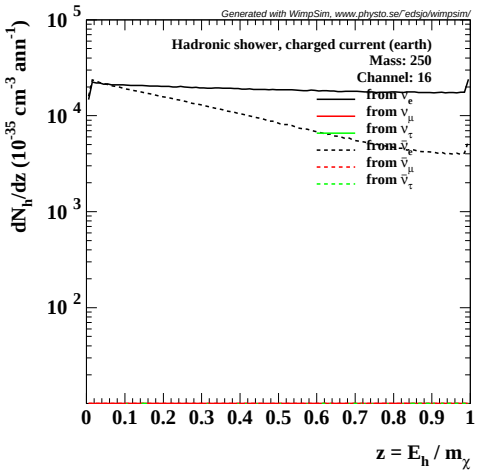


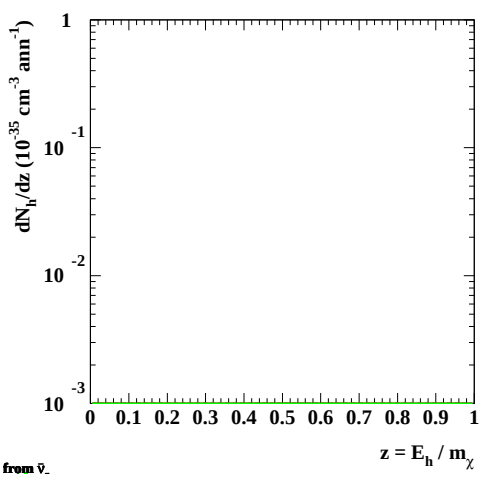
10.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





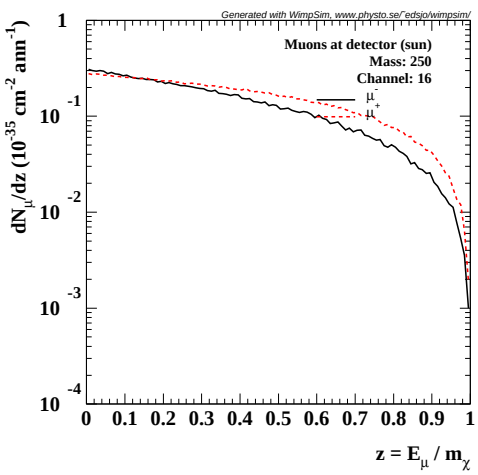
10.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

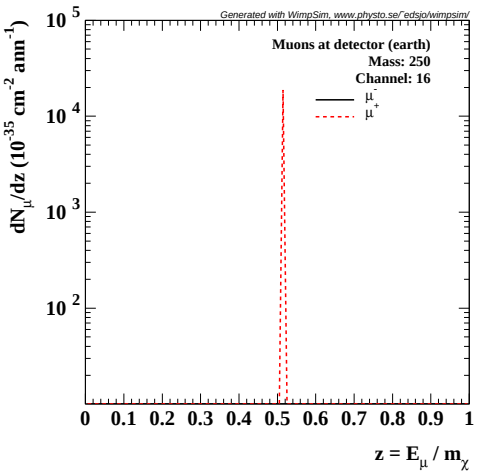




from $\bar{\nu}_\tau$

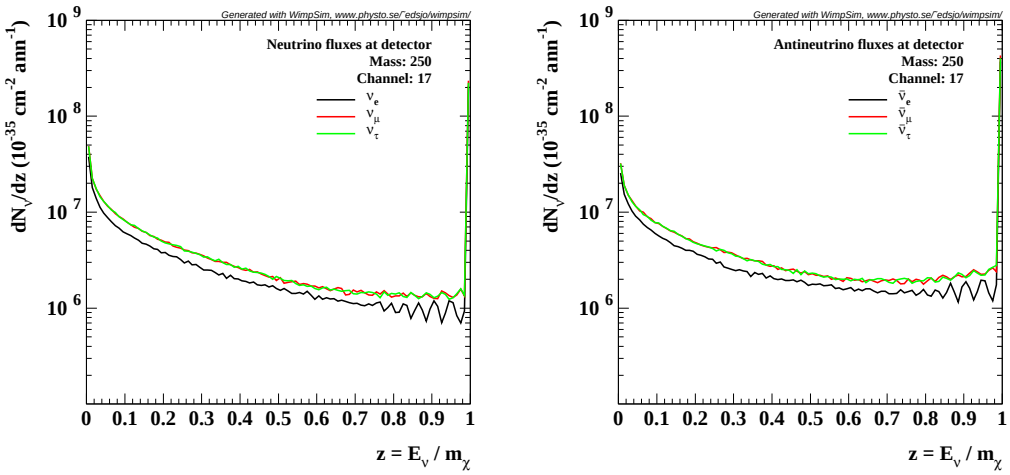
10.8.7 Muons at detector (Sun/Earth)



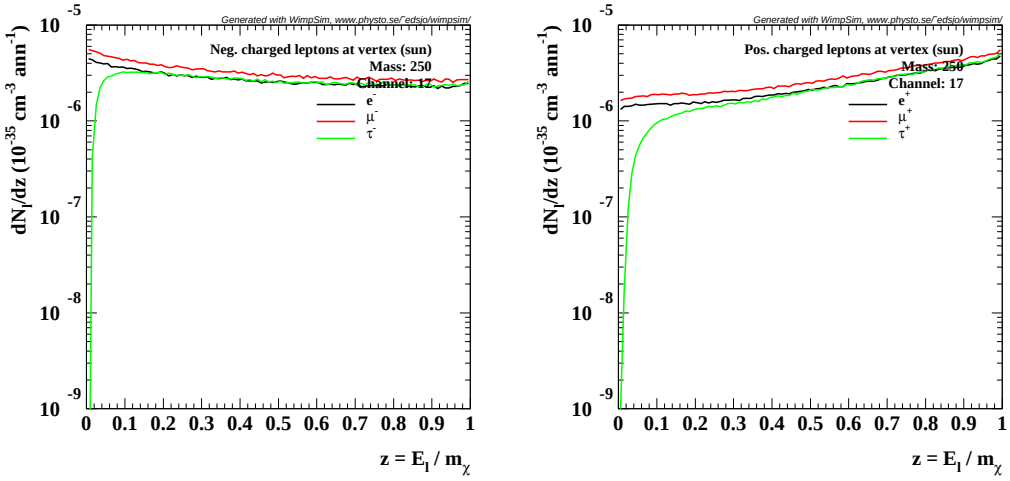


10.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

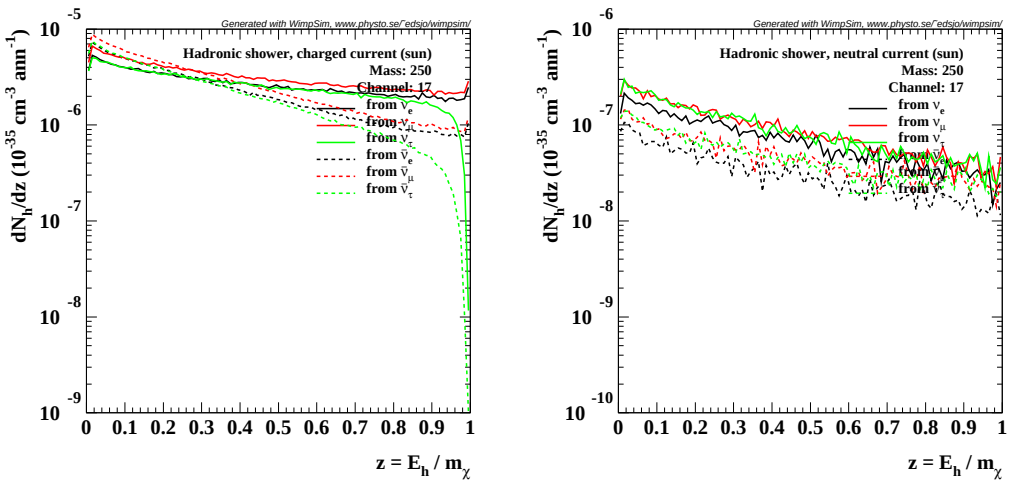
10.9.1 Neutrino fluxes at detector (Sun)



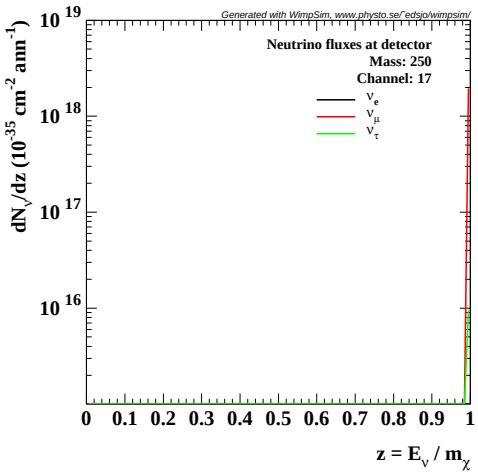
10.9.2 Charged leptons at neutrino-nucleon vertex (Sun)

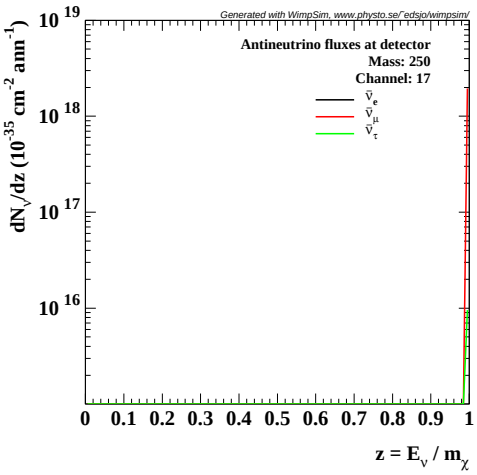


10.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

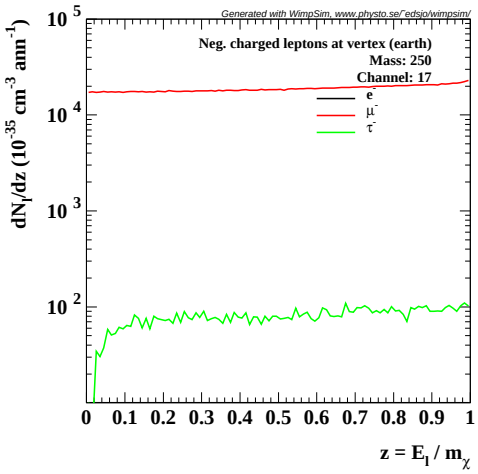


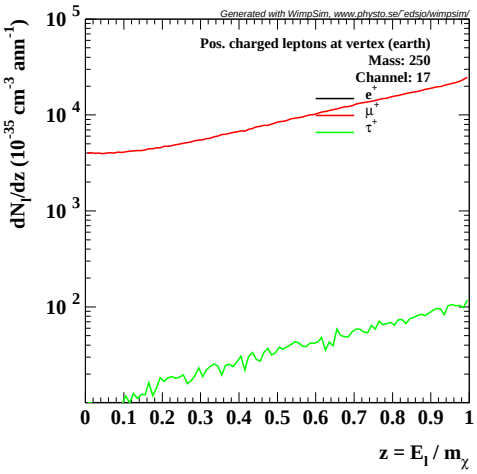
10.9.4 Neutrino fluxes at detector (Earth)



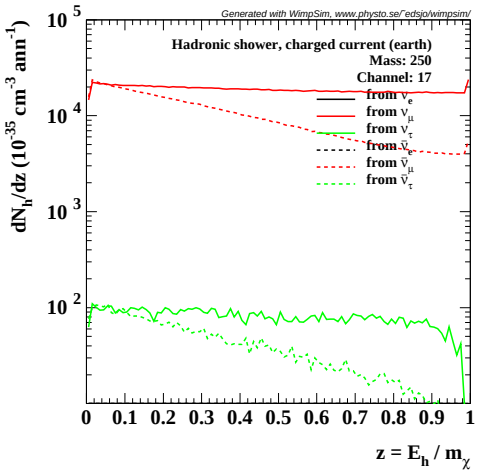


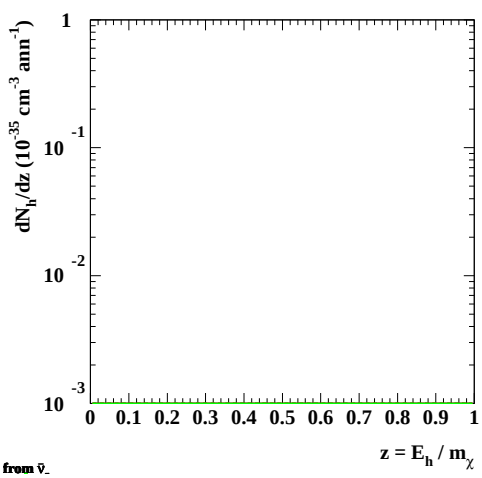
10.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



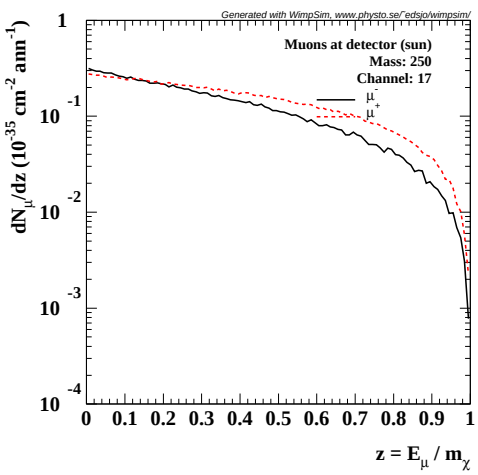


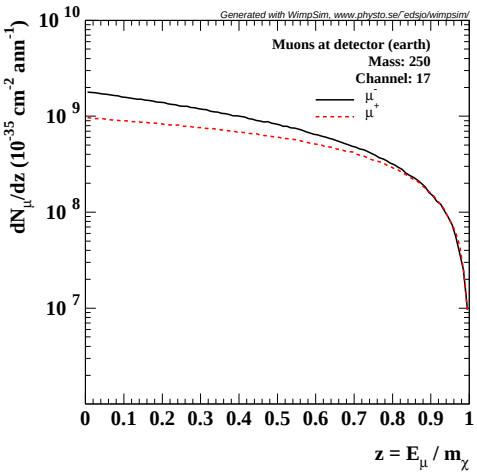
10.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





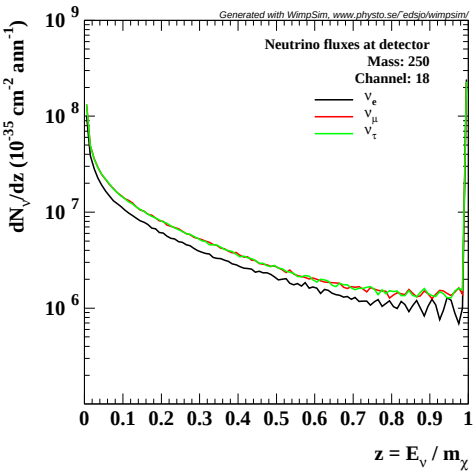
10.9.7 Muons at detector (Sun/Earth)

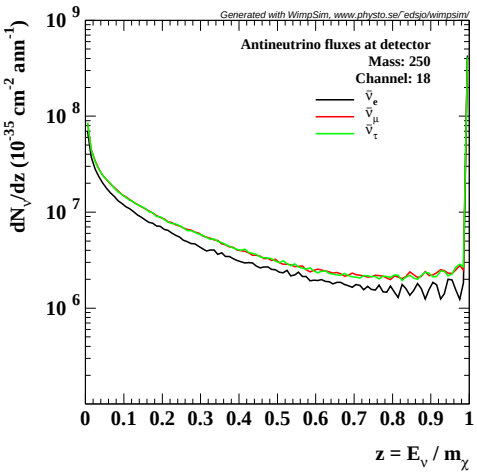




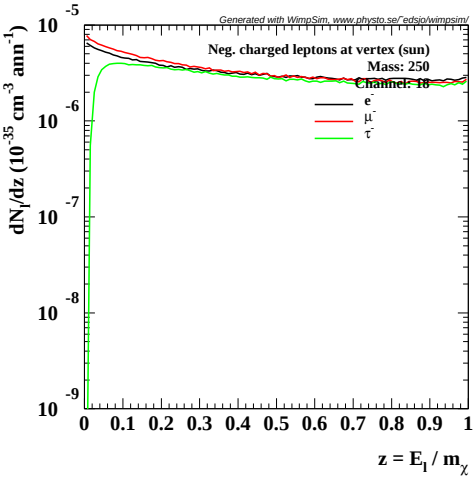
10.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$

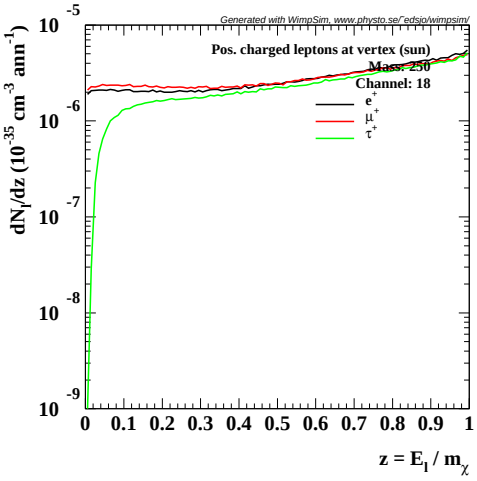
10.10.1 Neutrino fluxes at detector (Sun)



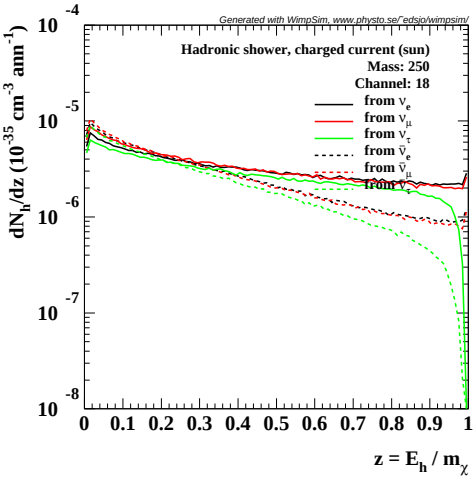


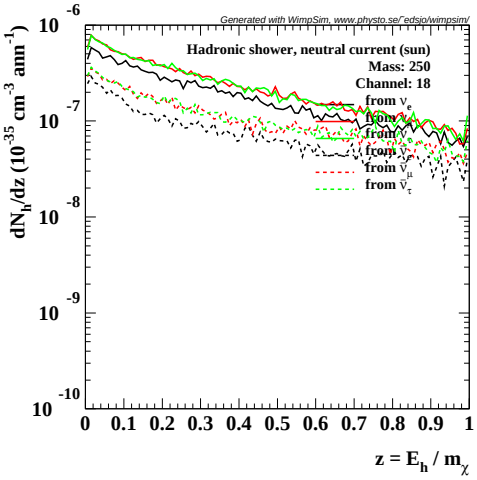
10.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



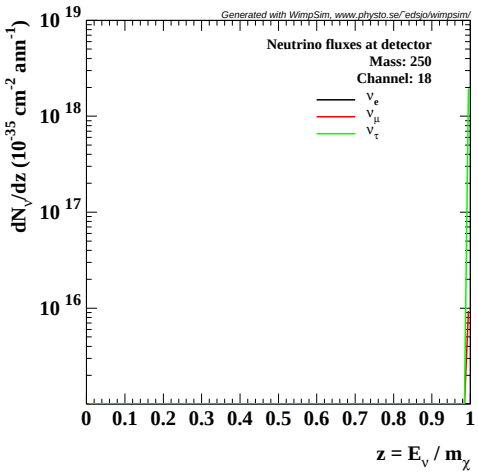


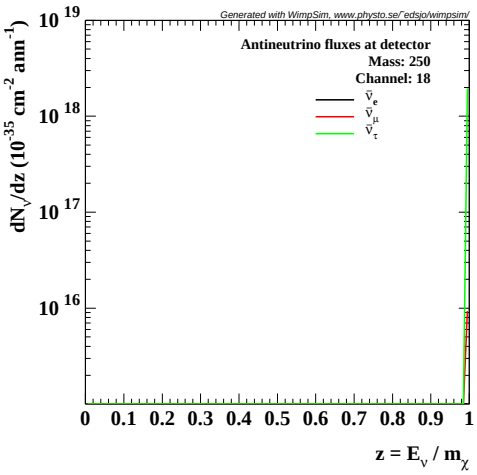
10.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



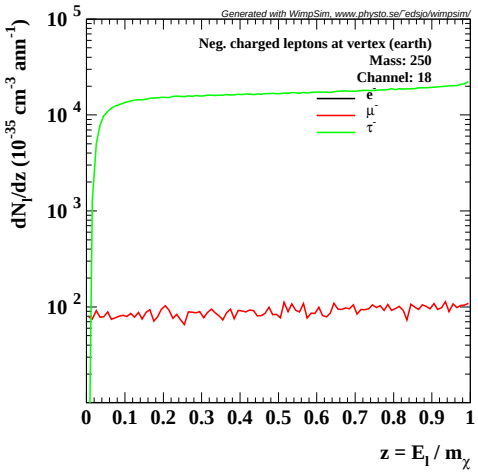


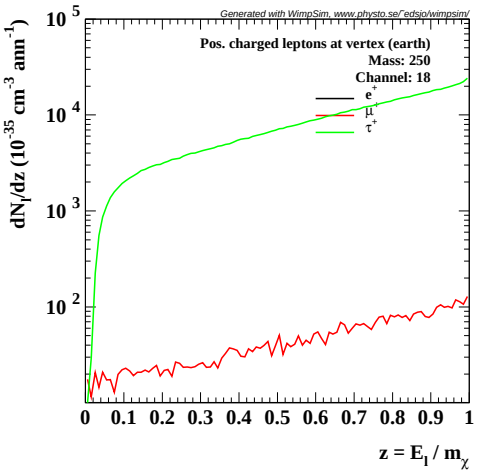
10.10.4 Neutrino fluxes at detector (Earth)



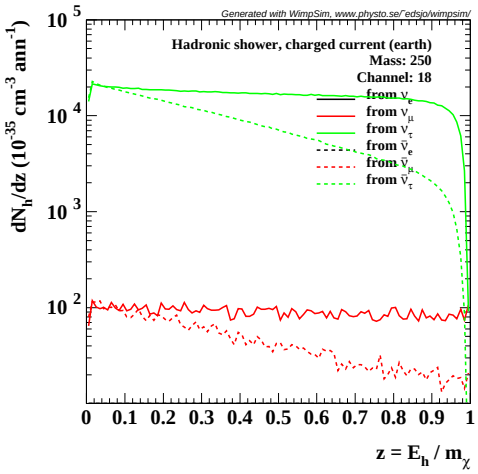


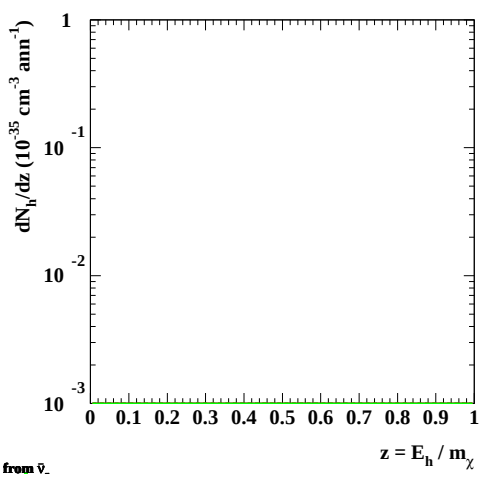
10.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





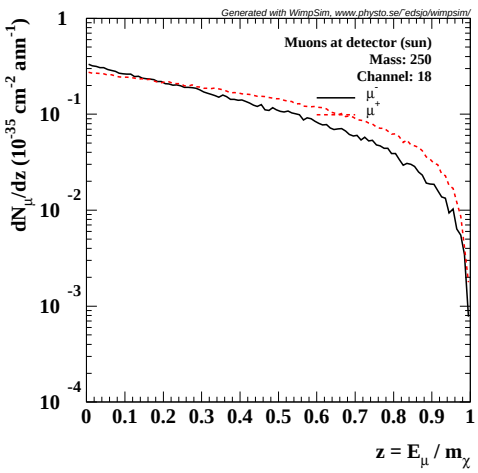
10.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

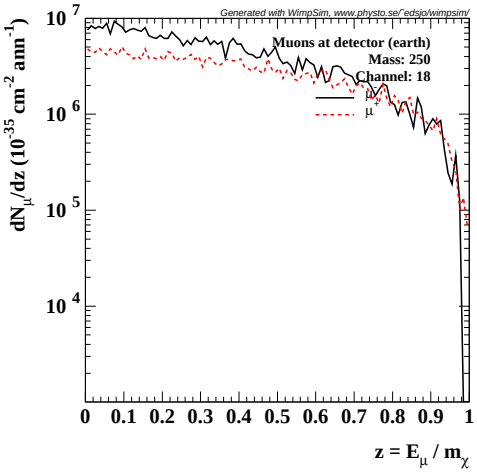




from $\bar{\nu}_\tau$

10.10.7 Muons at detector (Sun/Earth)

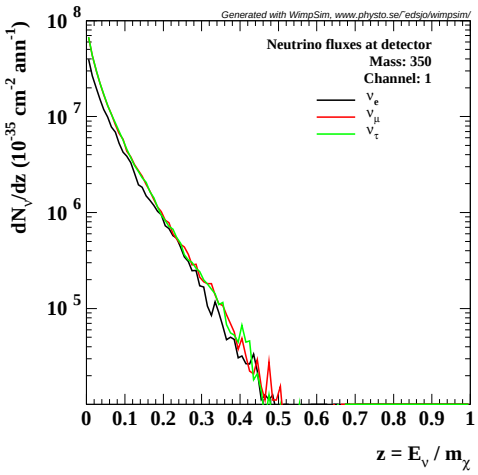


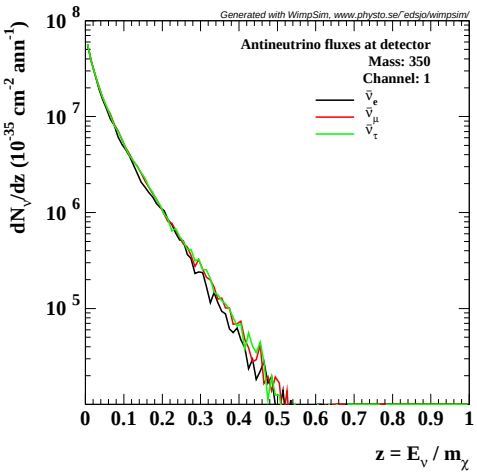


11 Mass 350

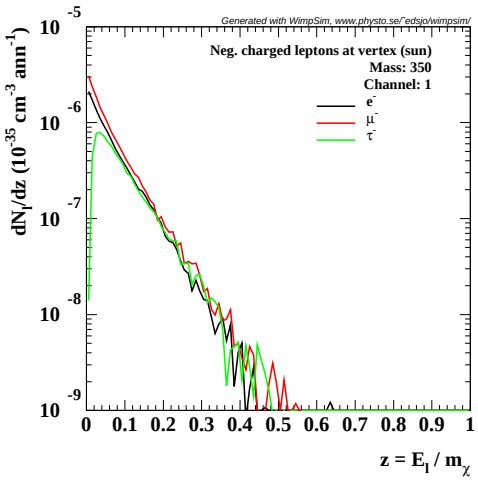
11.1 Channel 1 – $c\bar{c}$

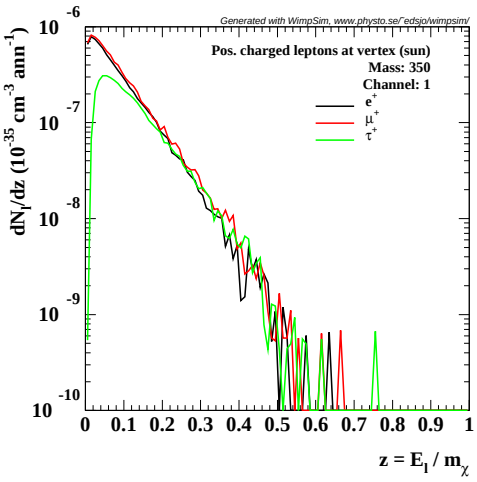
11.1.1 Neutrino fluxes at detector (Sun)



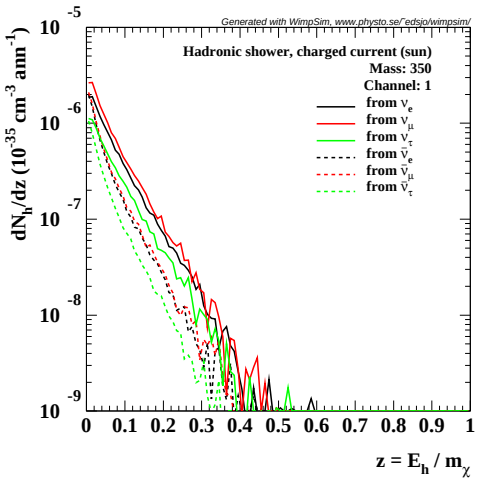


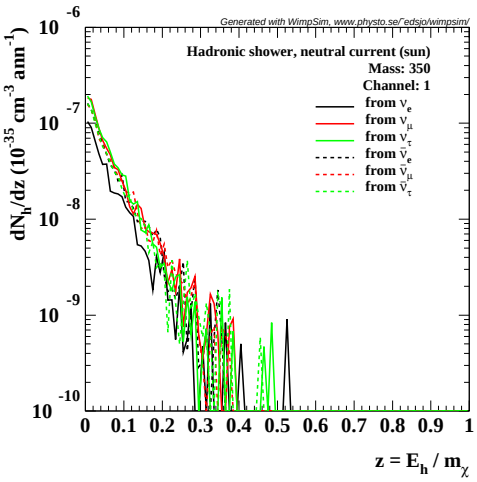
11.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



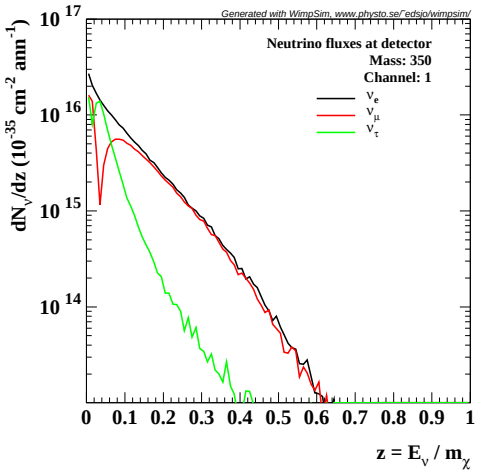


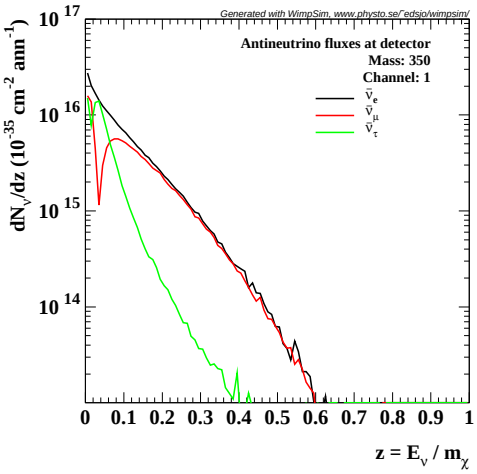
11.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



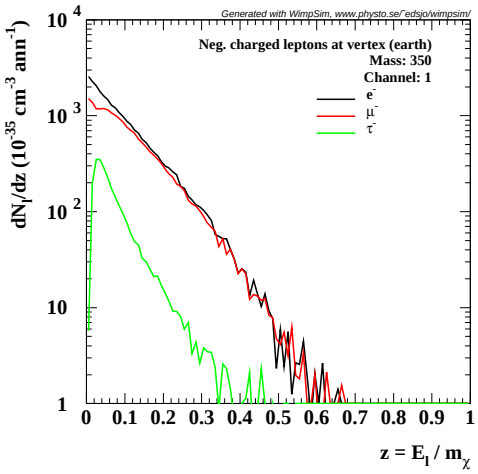


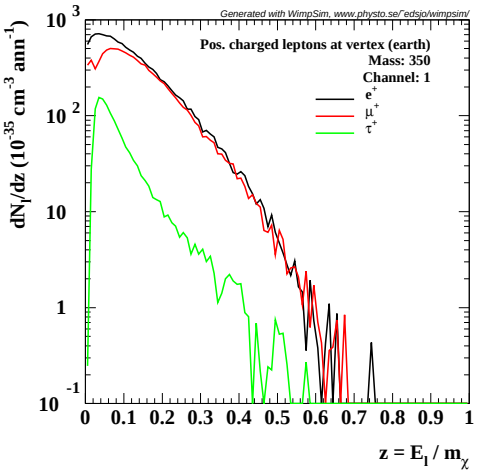
11.1.4 Neutrino fluxes at detector (Earth)



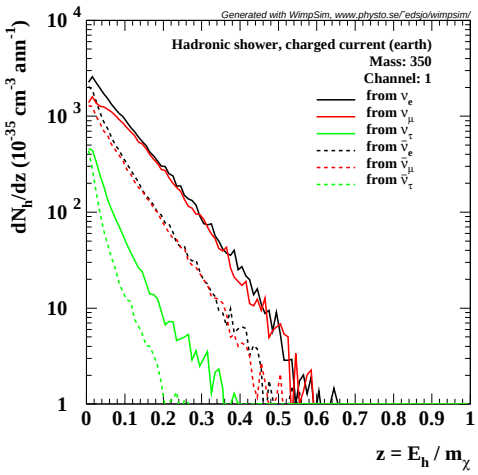


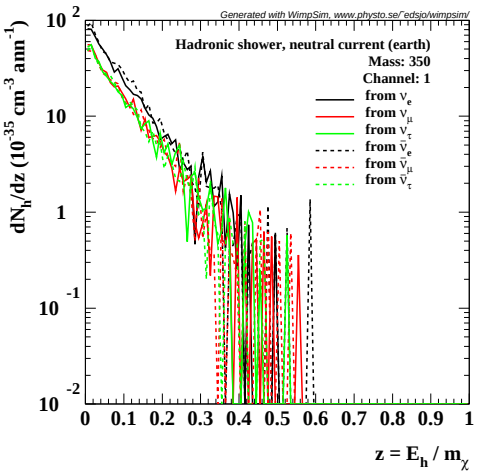
11.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



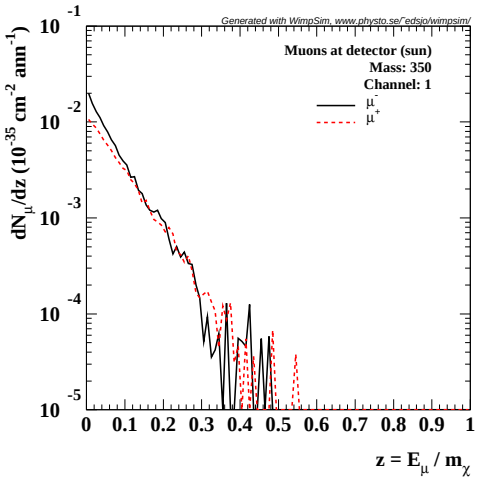


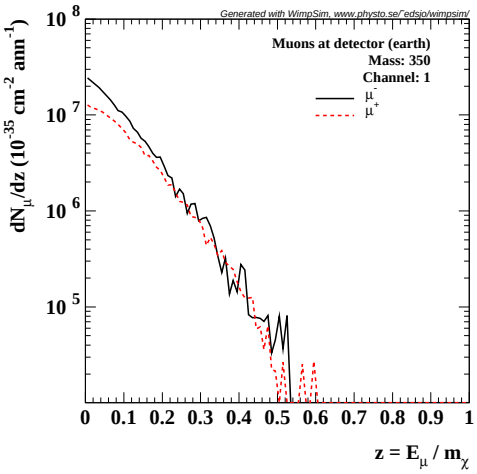
11.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





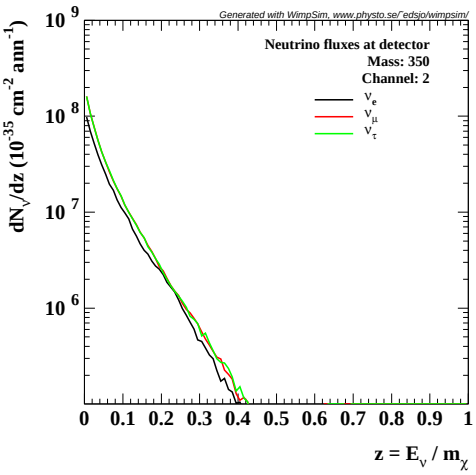
11.1.7 Muons at detector (Sun/Earth)

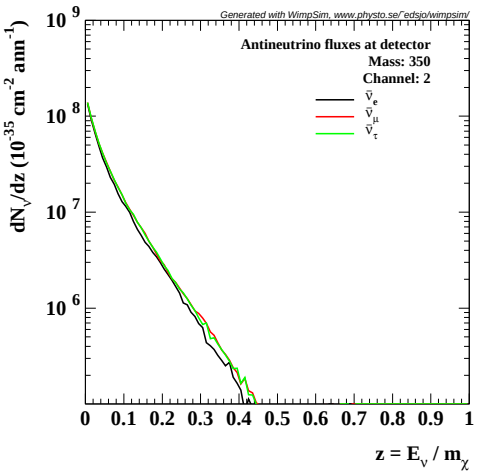




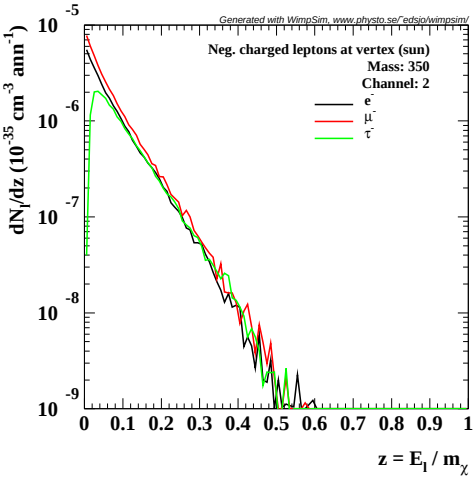
11.2 Channel 2 – $b\bar{b}$

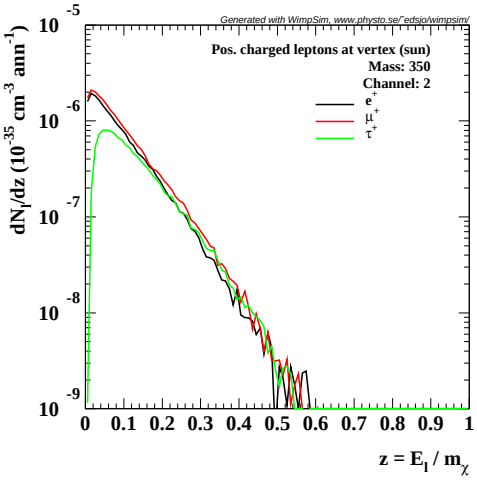
11.2.1 Neutrino fluxes at detector (Sun)



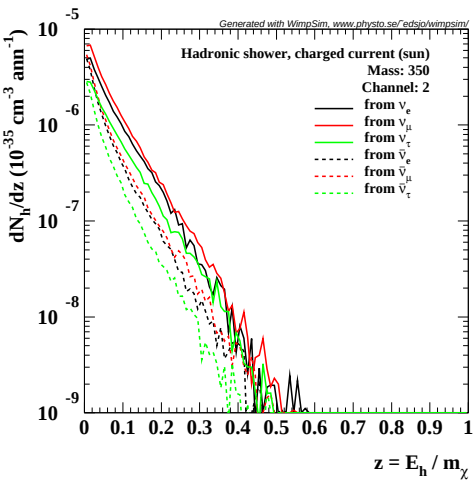


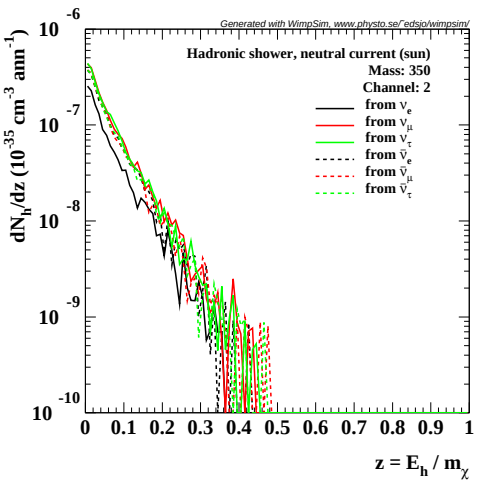
11.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



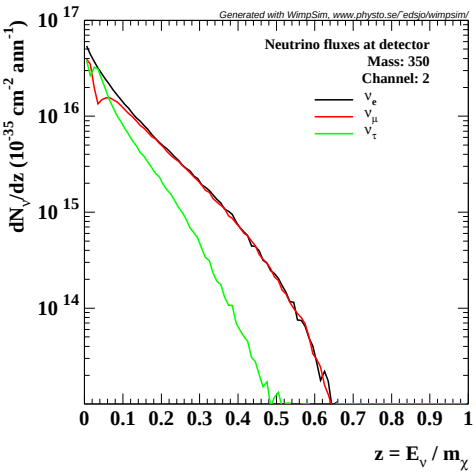


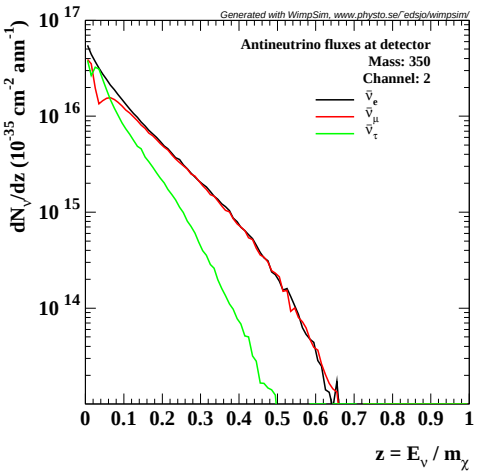
11.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



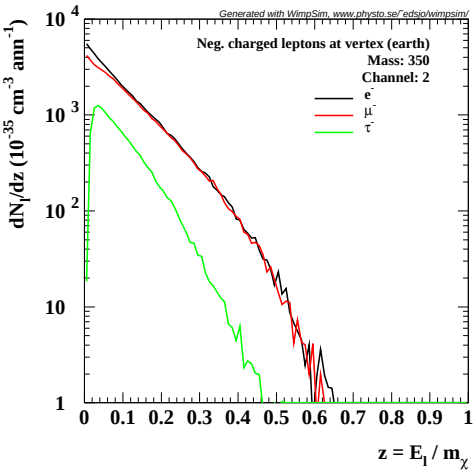


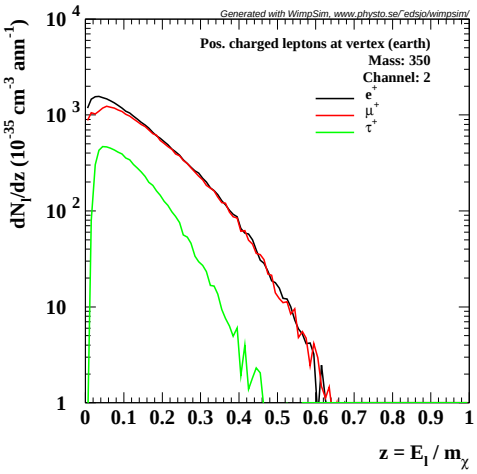
11.2.4 Neutrino fluxes at detector (Earth)



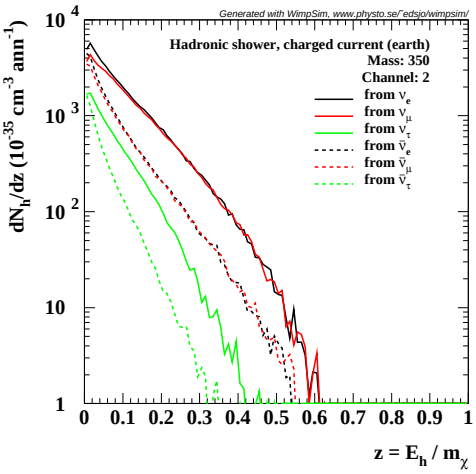


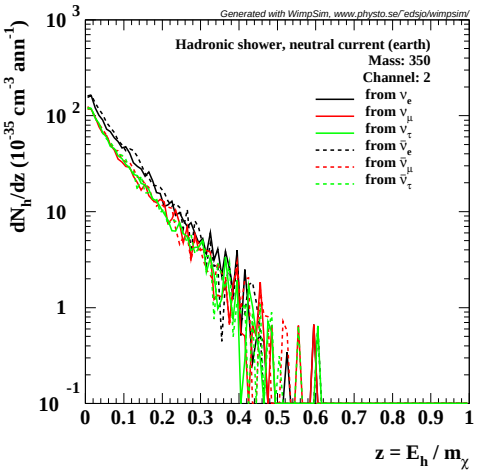
11.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



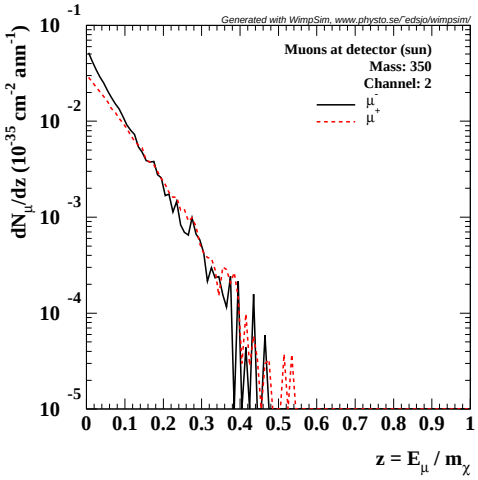


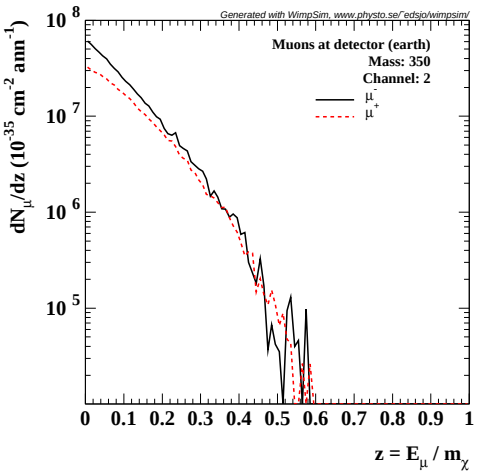
11.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





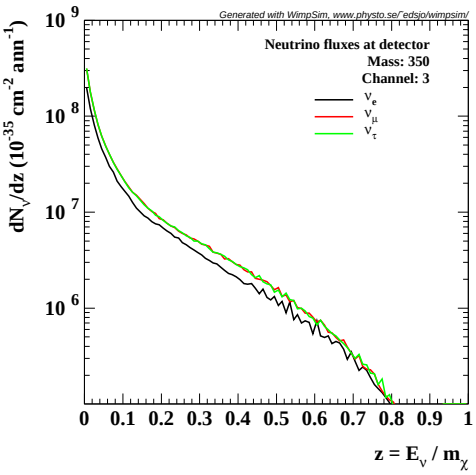
11.2.7 Muons at detector (Sun/Earth)

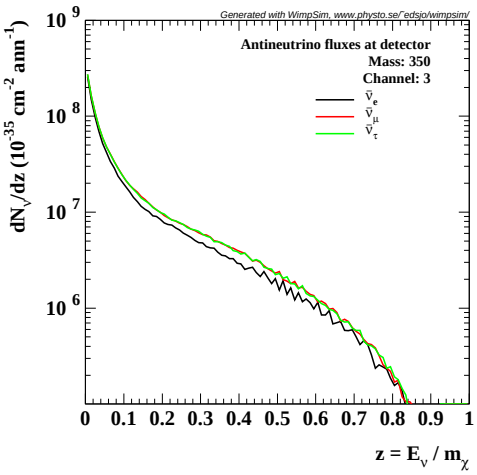




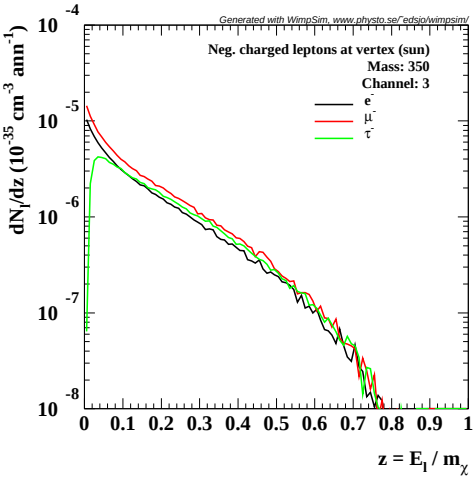
11.3 Channel 3 – $t\bar{t}$

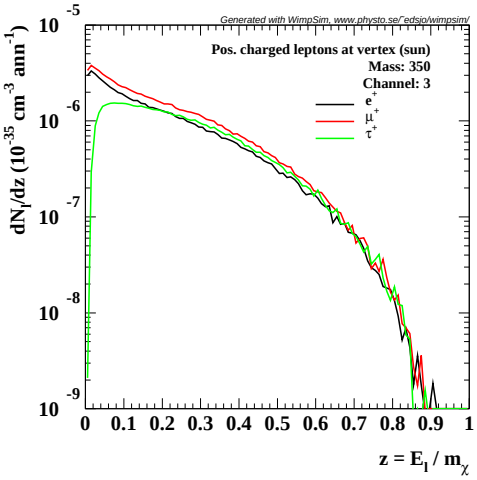
11.3.1 Neutrino fluxes at detector (Sun)



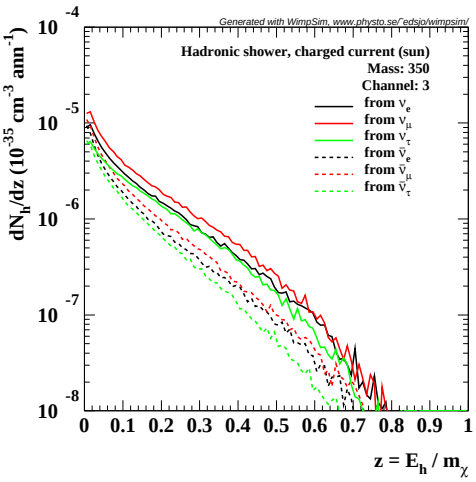


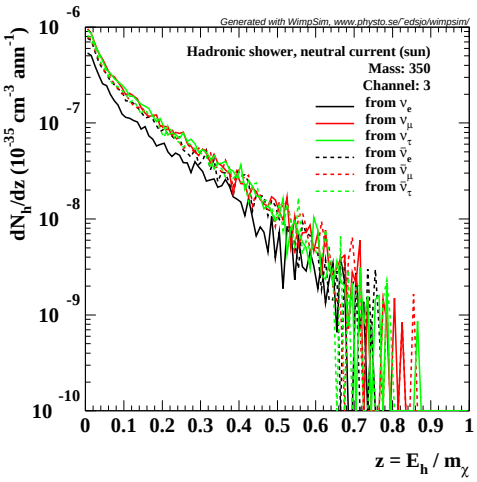
11.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



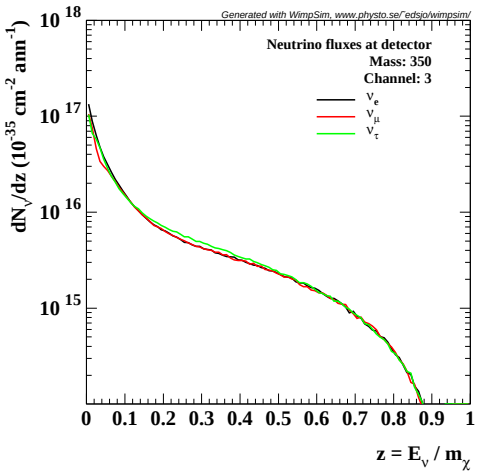


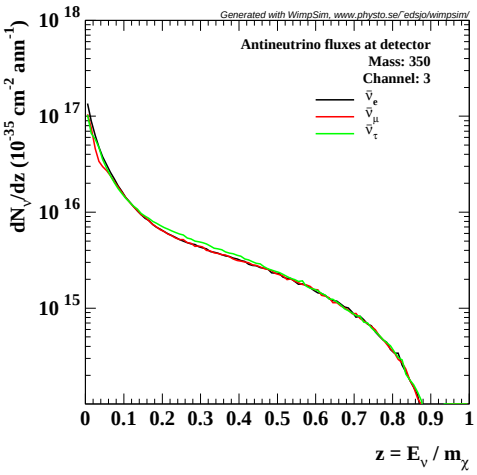
11.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



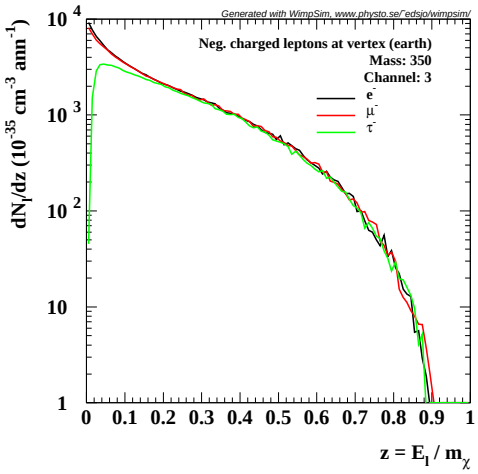


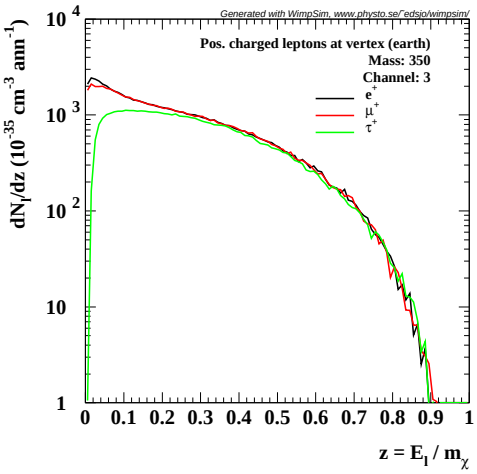
11.3.4 Neutrino fluxes at detector (Earth)



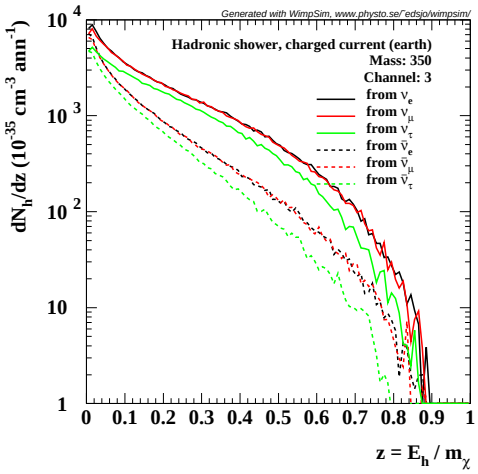


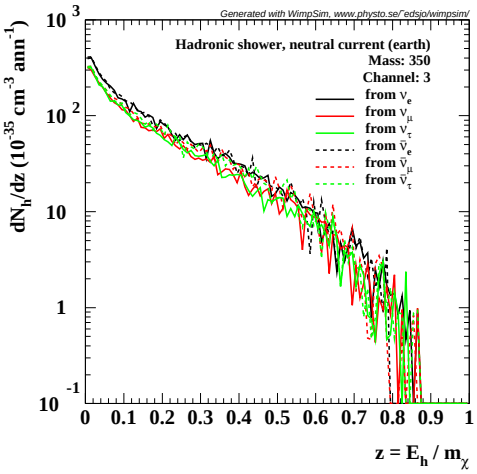
11.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



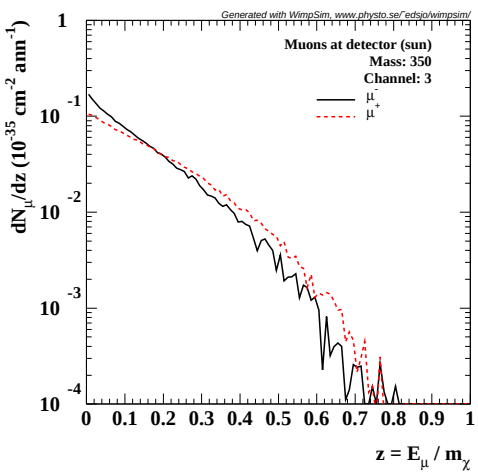


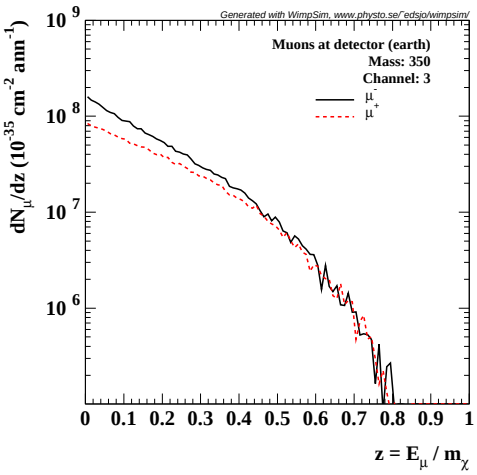
11.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





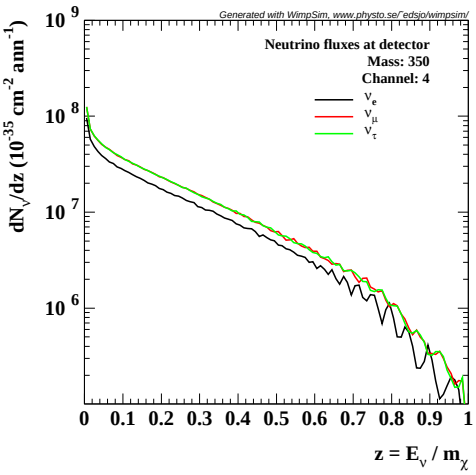
11.3.7 Muons at detector (Sun/Earth)

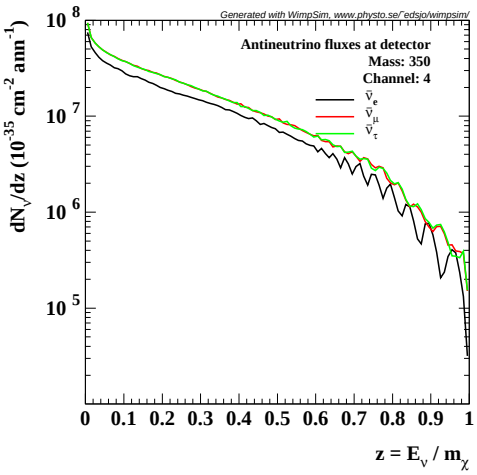




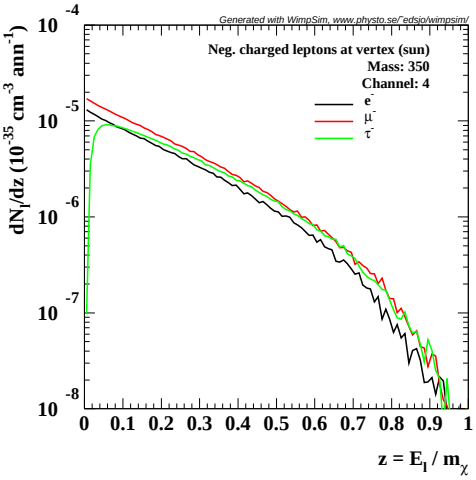
11.4 Channel 4 – $\tau^-\tau^+$

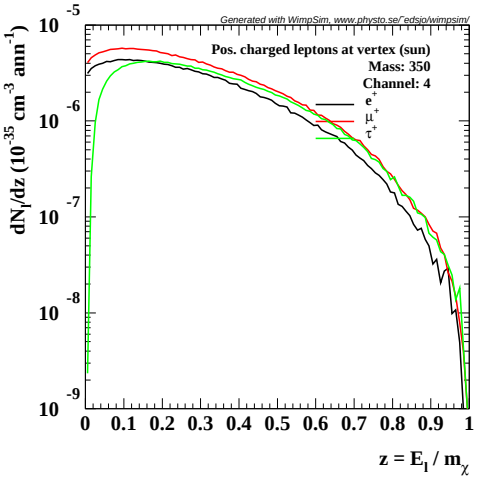
11.4.1 Neutrino fluxes at detector (Sun)



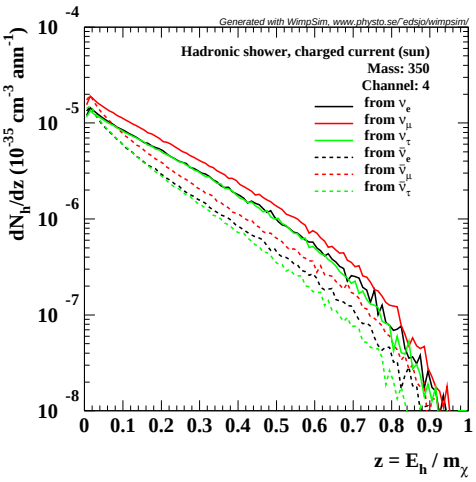


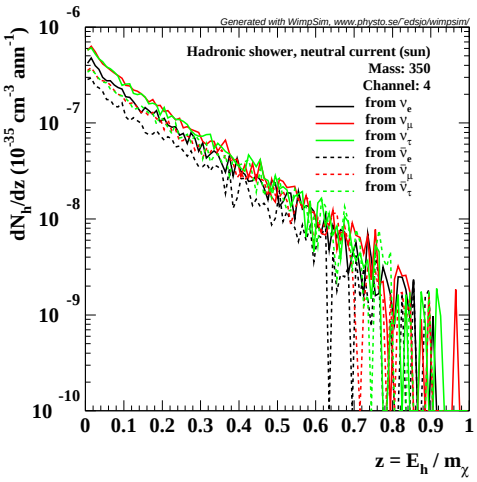
11.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



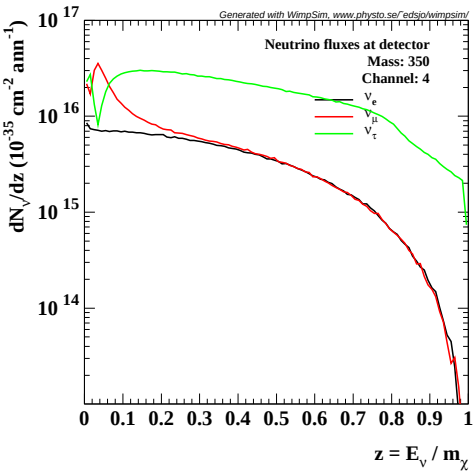


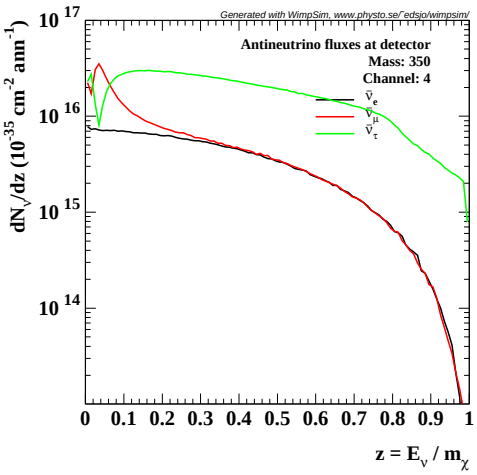
11.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



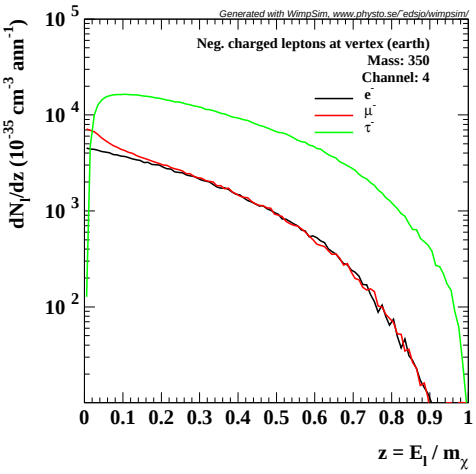


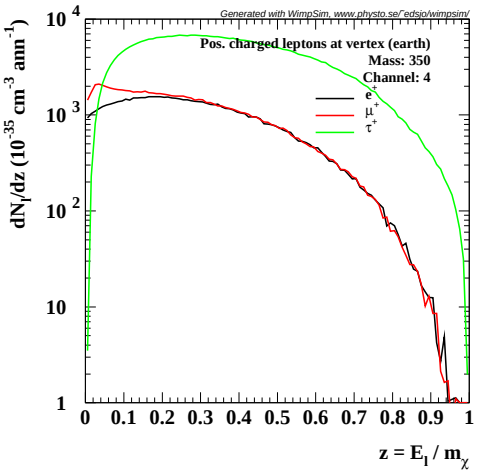
11.4.4 Neutrino fluxes at detector (Earth)



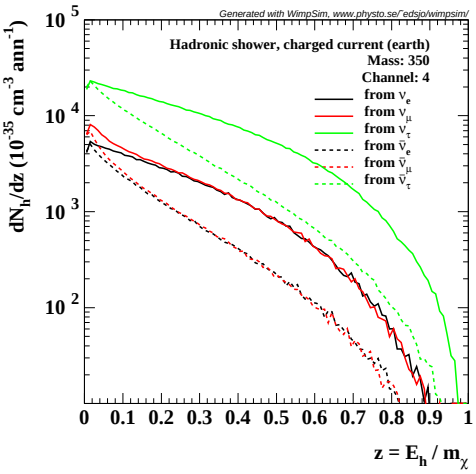


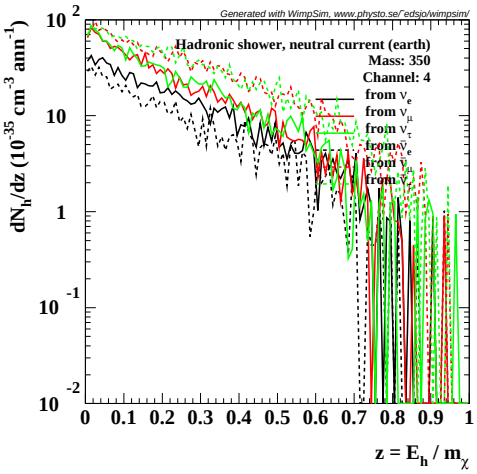
11.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



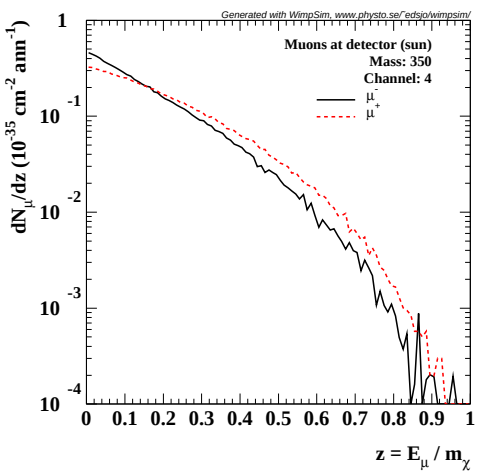


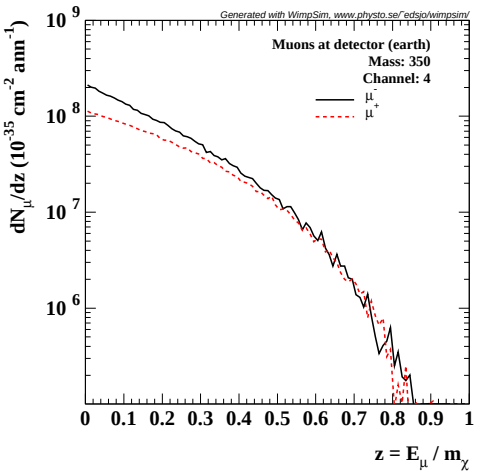
11.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





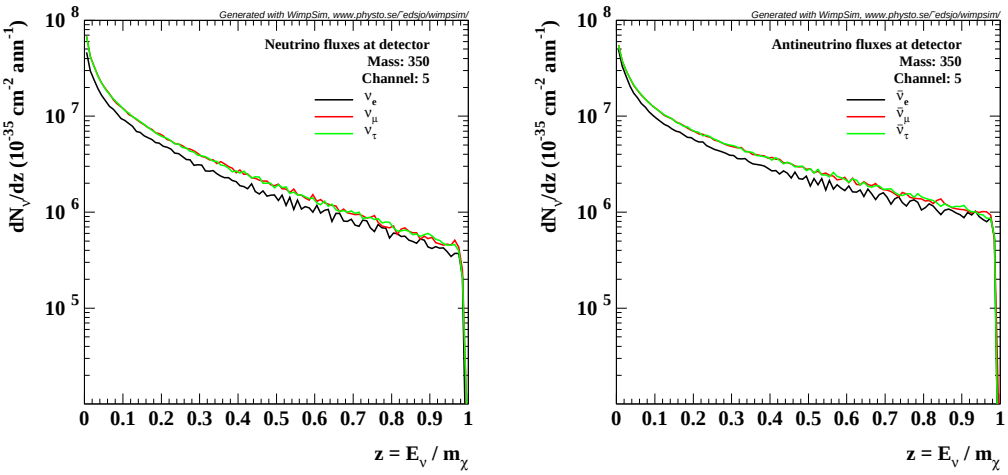
11.4.7 Muons at detector (Sun/Earth)



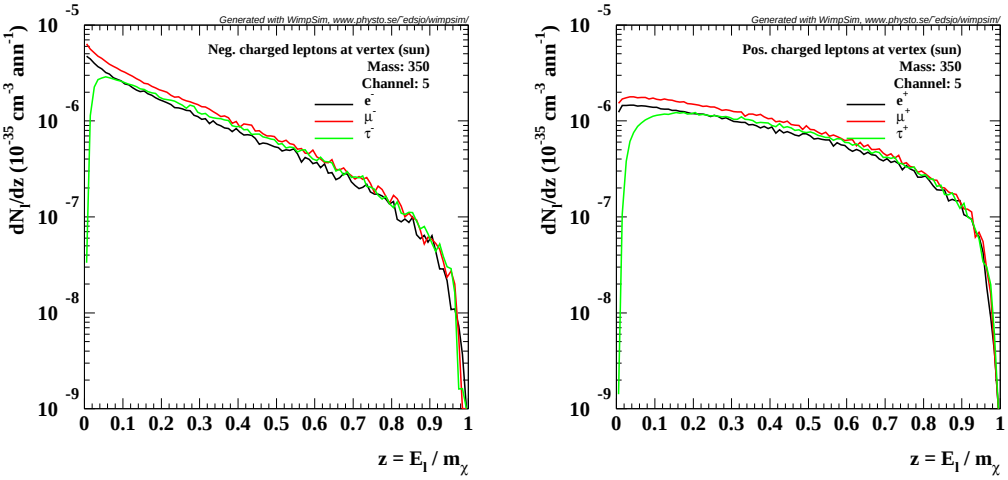


11.5 Channel 5 – W^-W^+

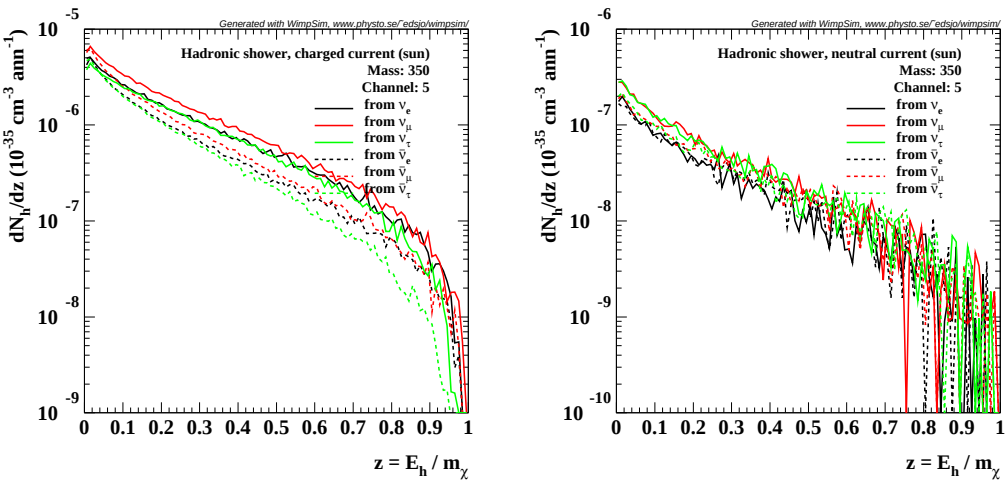
11.5.1 Neutrino fluxes at detector (Sun)



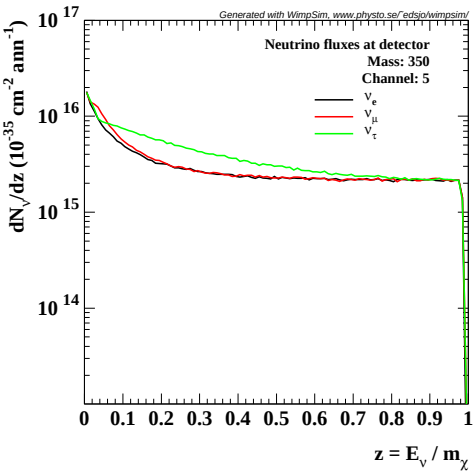
11.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

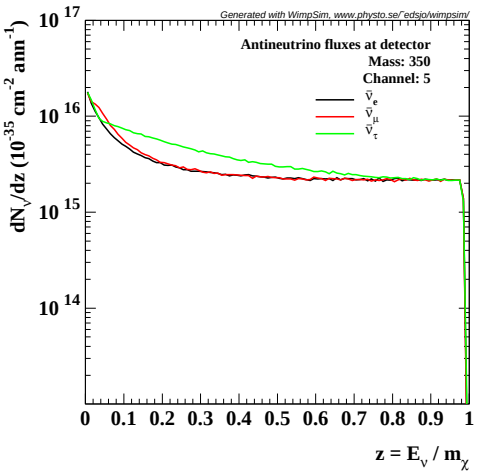


11.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

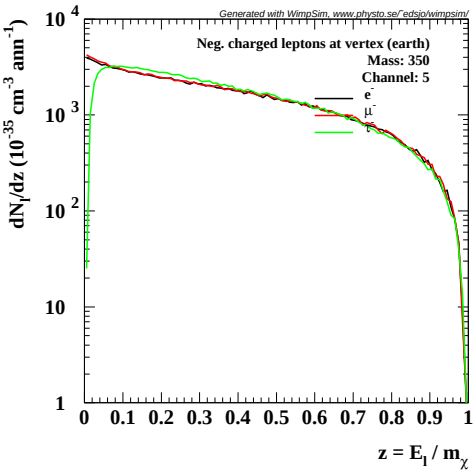


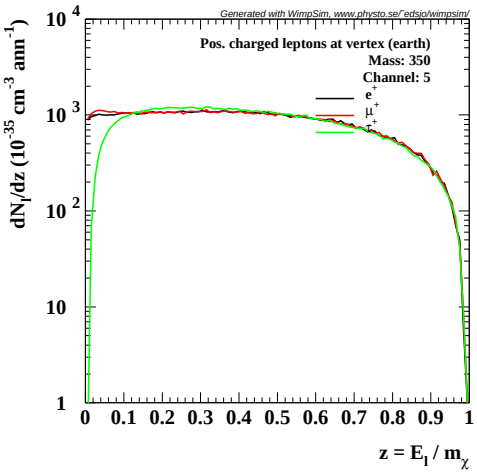
11.5.4 Neutrino fluxes at detector (Earth)



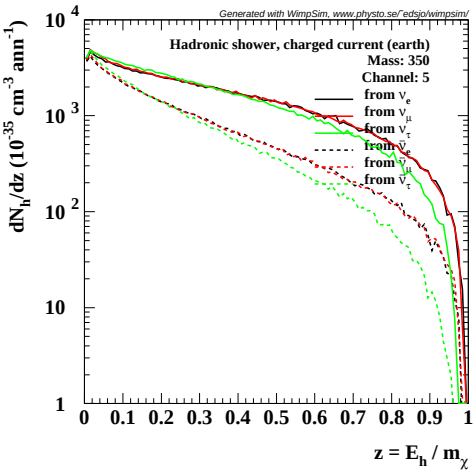


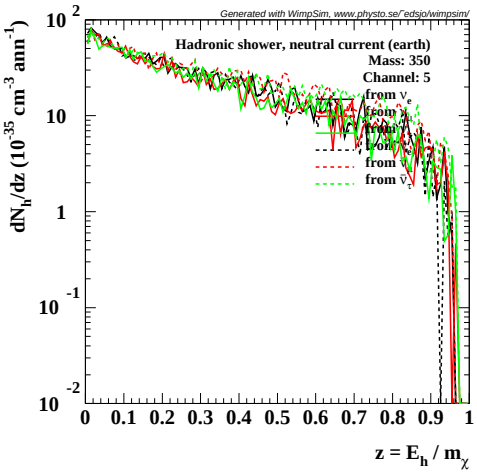
11.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



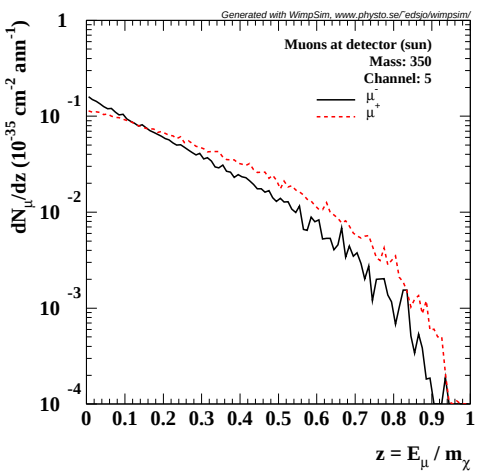


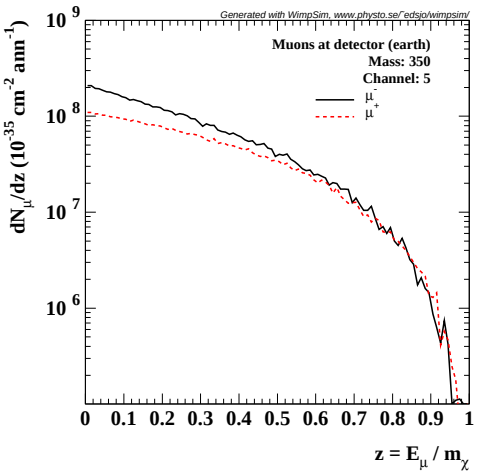
11.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





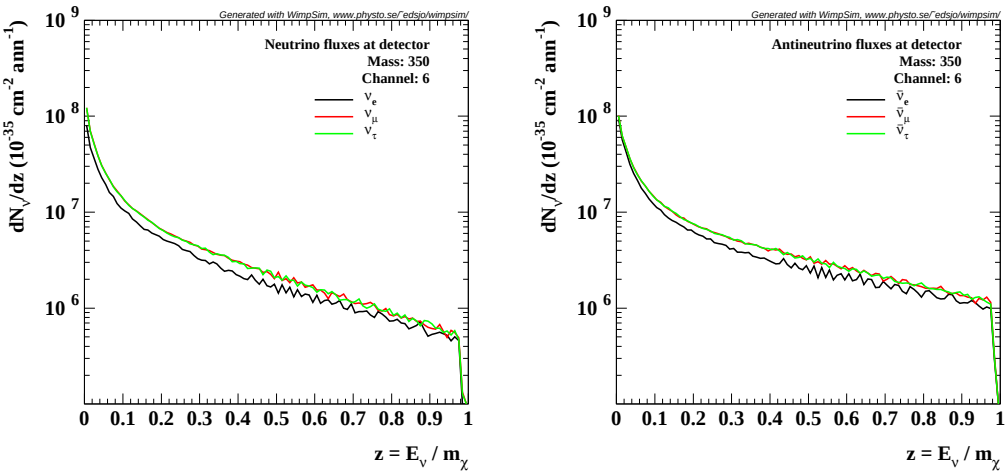
11.5.7 Muons at detector (Sun/Earth)



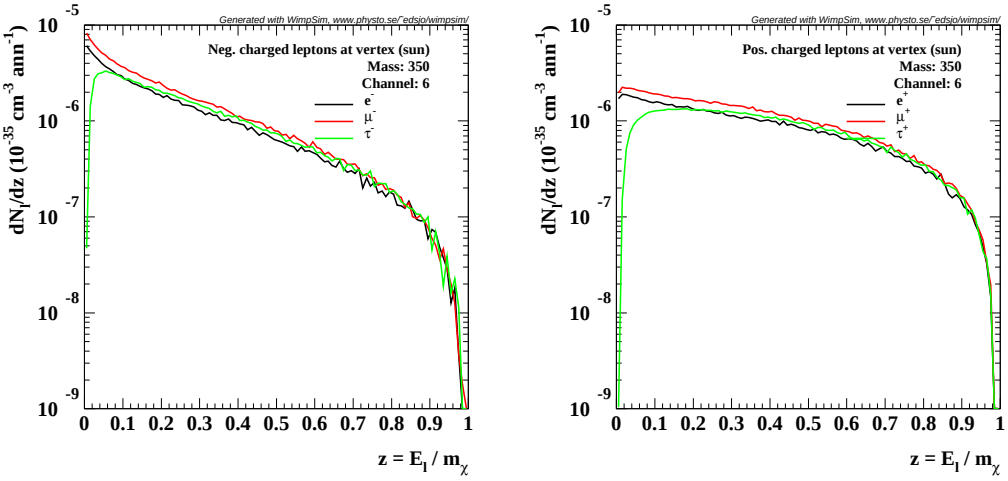


11.6 Channel 6 – $Z^0 Z^0$

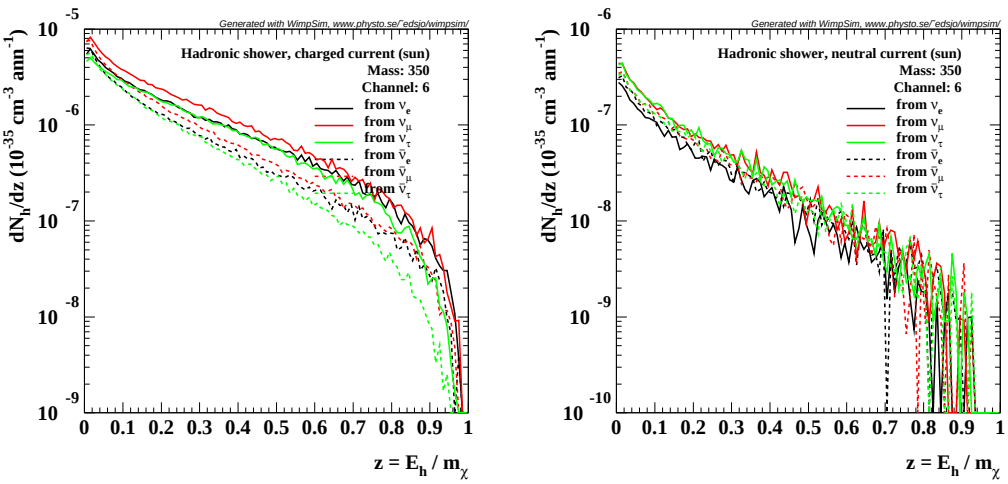
11.6.1 Neutrino fluxes at detector (Sun)



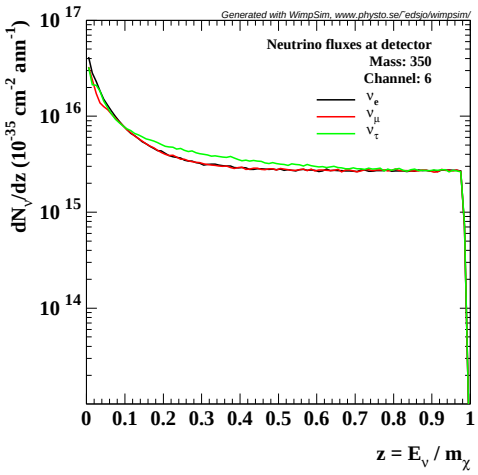
11.6.2 Charged leptons at neutrino-nucleon vertex (Sun)

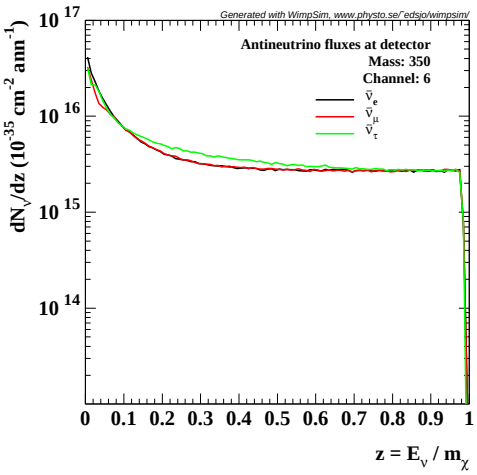


11.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)

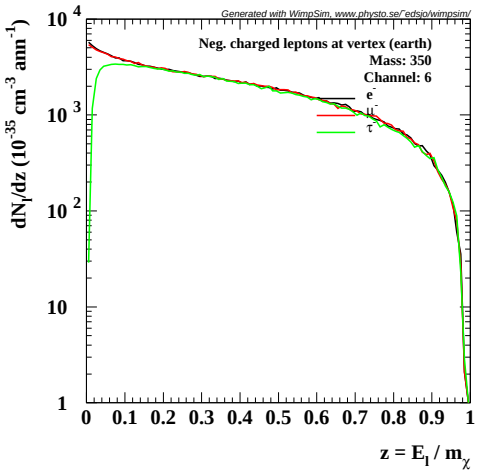


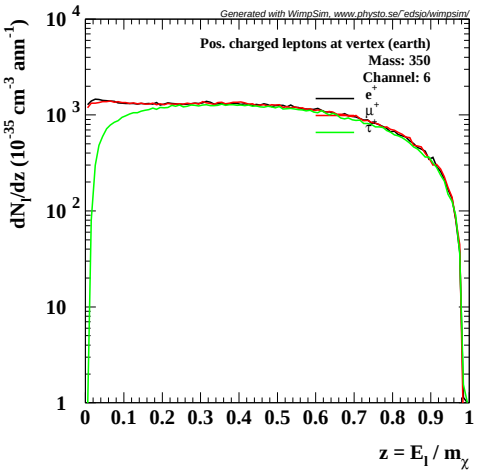
11.6.4 Neutrino fluxes at detector (Earth)



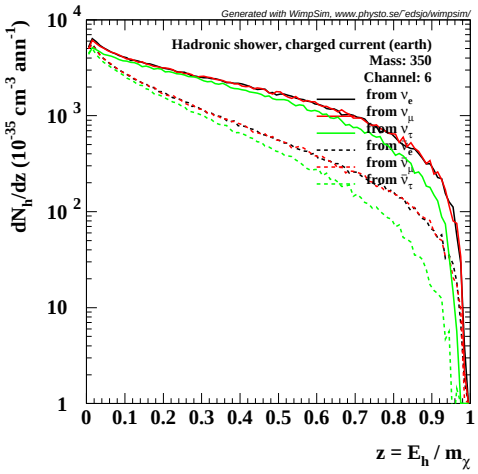


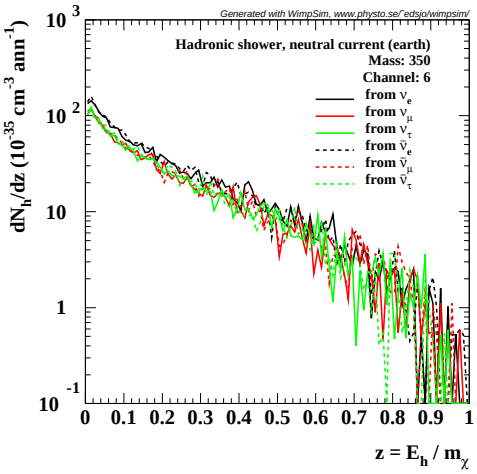
11.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



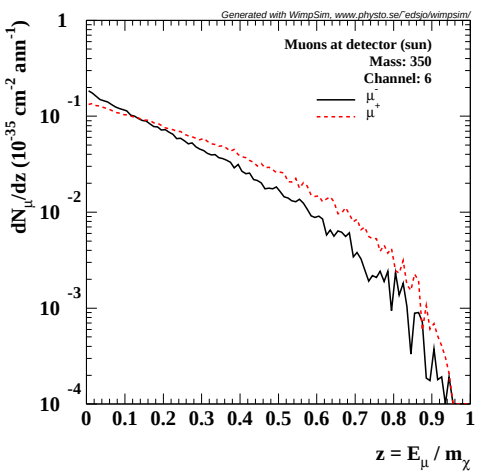


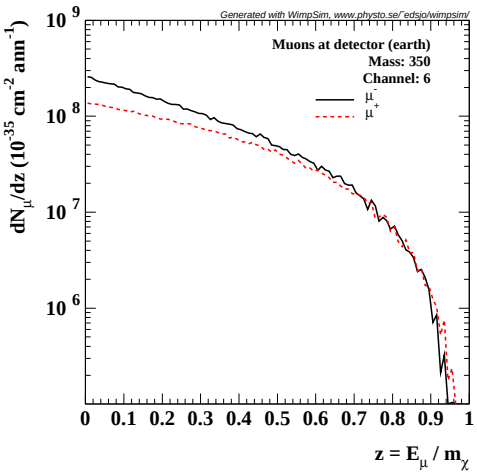
11.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





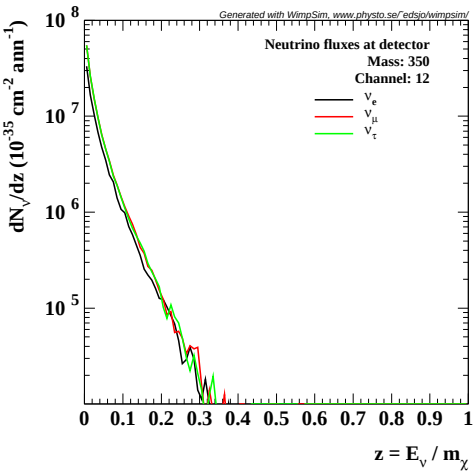
11.6.7 Muons at detector (Sun/Earth)

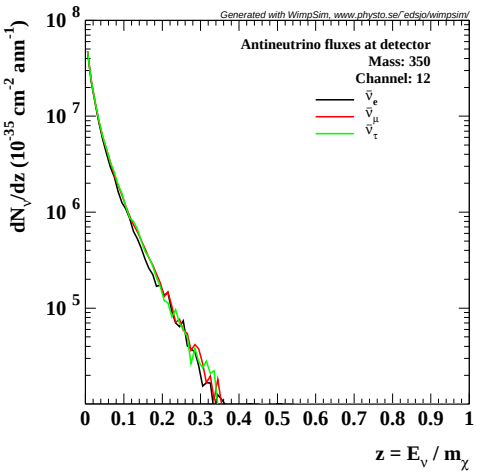




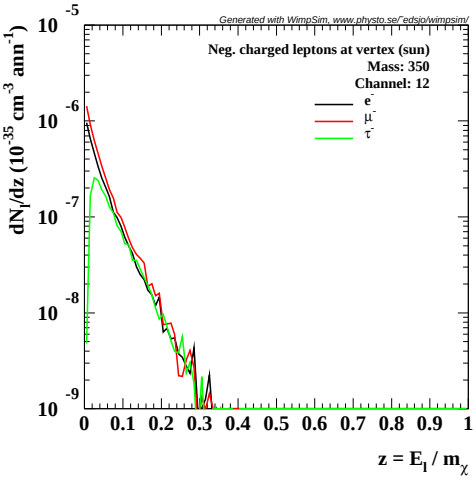
11.7 Channel 12 – gg

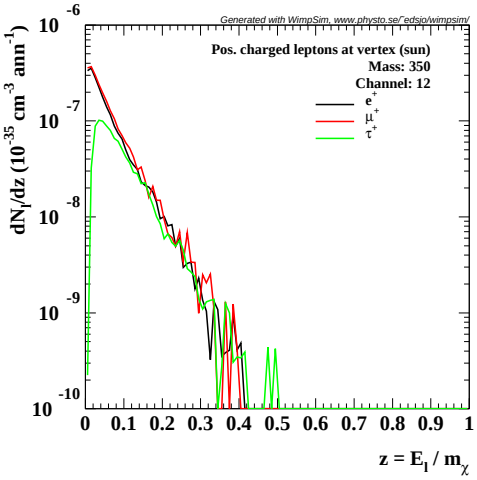
11.7.1 Neutrino fluxes at detector (Sun)



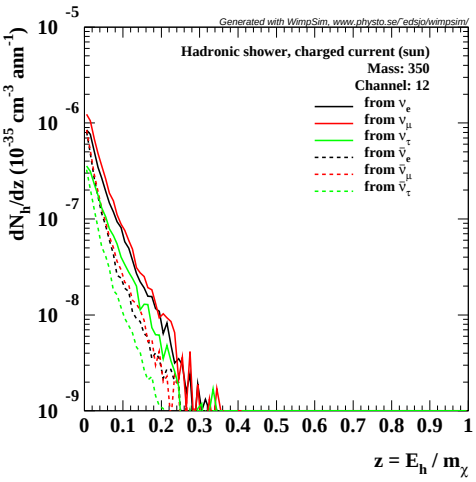


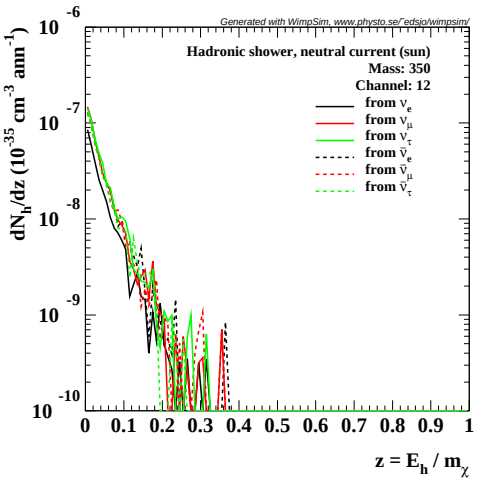
11.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



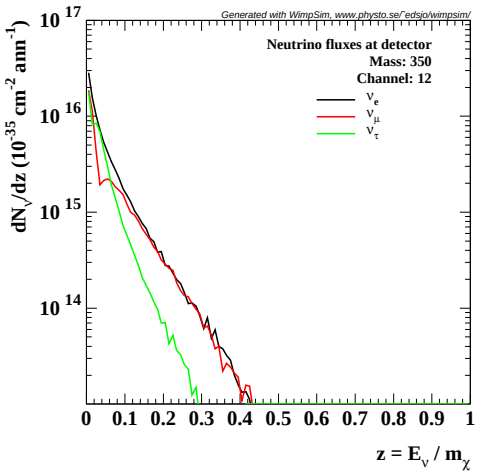


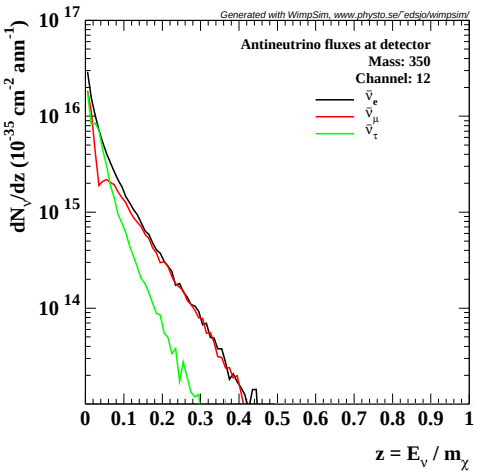
11.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



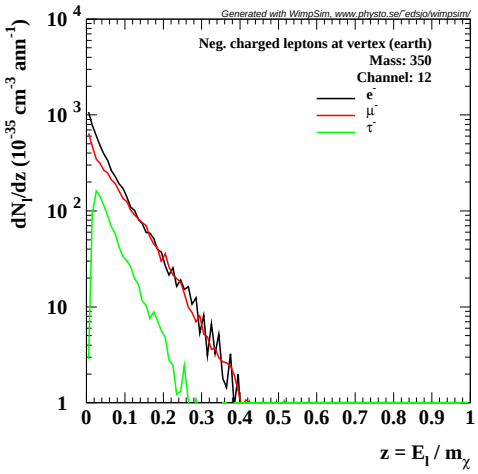


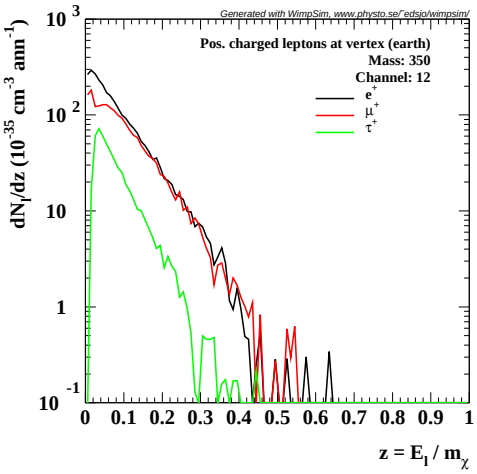
11.7.4 Neutrino fluxes at detector (Earth)



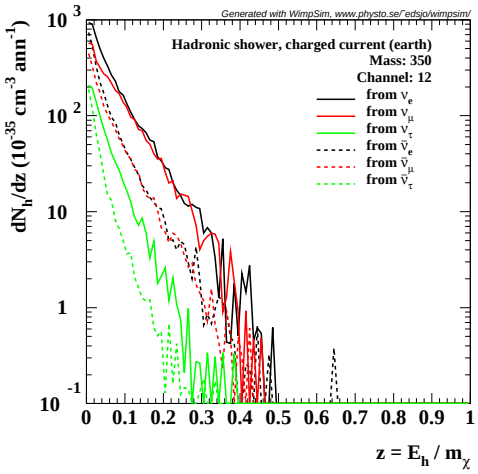


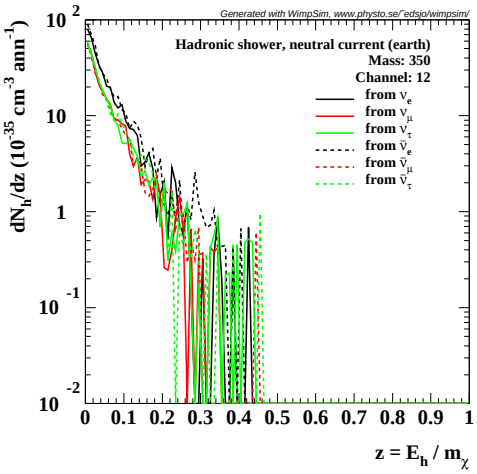
11.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



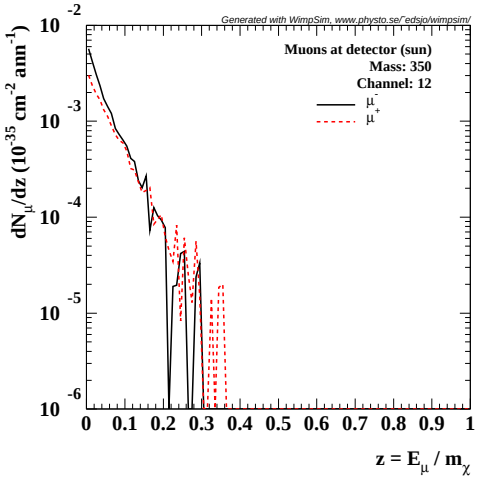


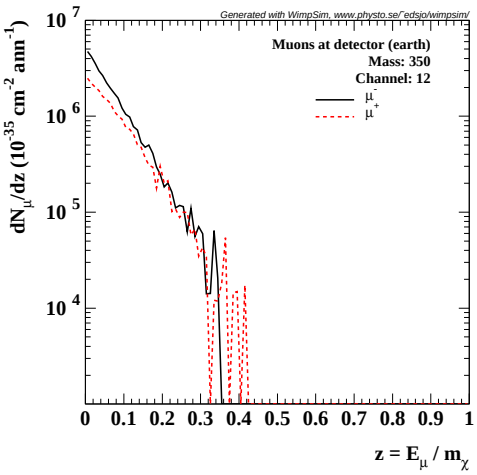
11.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





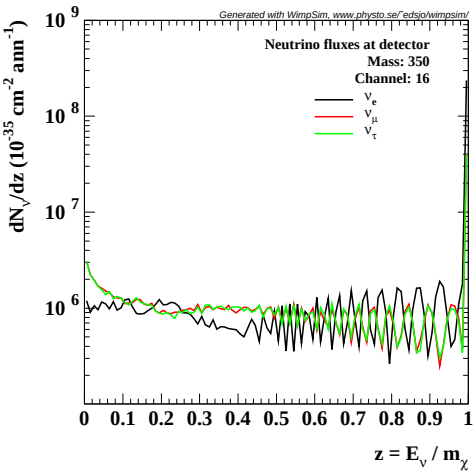
11.7.7 Muons at detector (Sun/Earth)

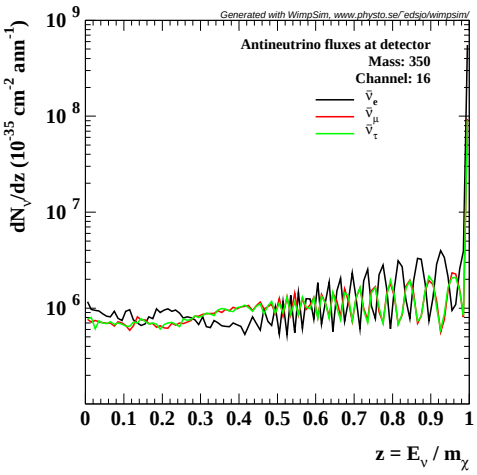




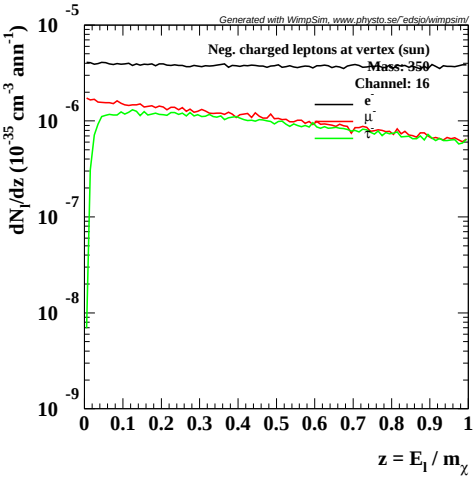
11.8 Channel 16 – $\nu_e\bar{\nu}_e$

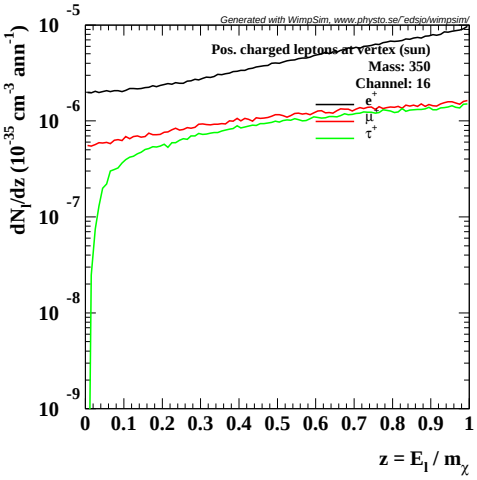
11.8.1 Neutrino fluxes at detector (Sun)



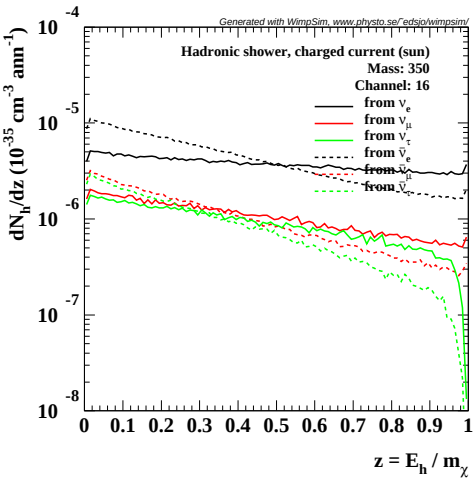


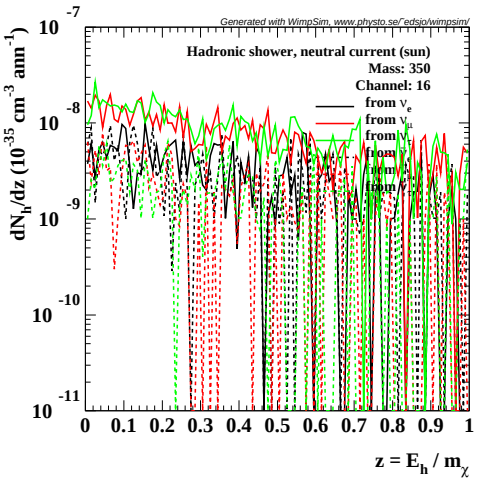
11.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



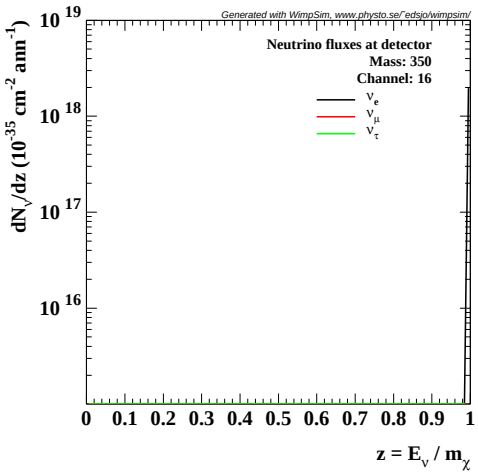


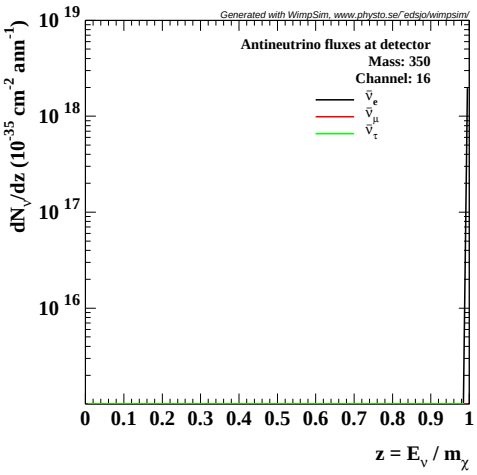
11.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



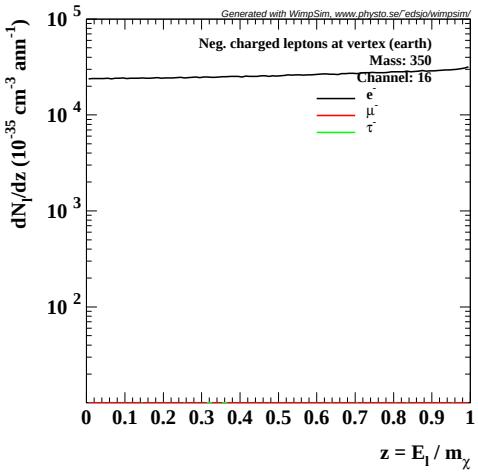


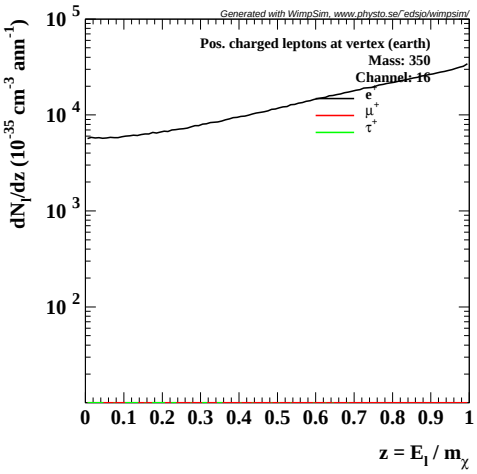
11.8.4 Neutrino fluxes at detector (Earth)



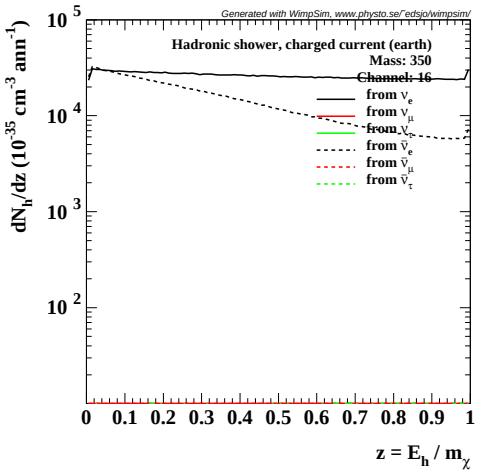


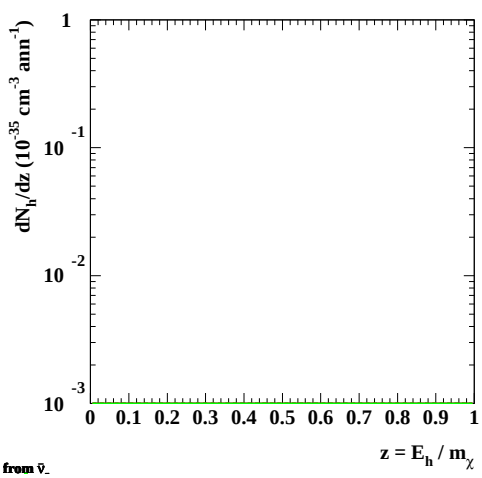
11.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





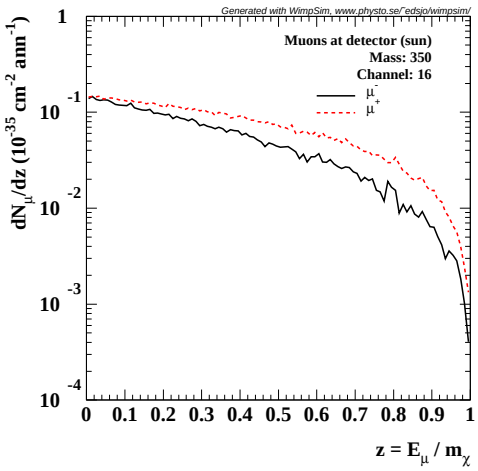
11.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

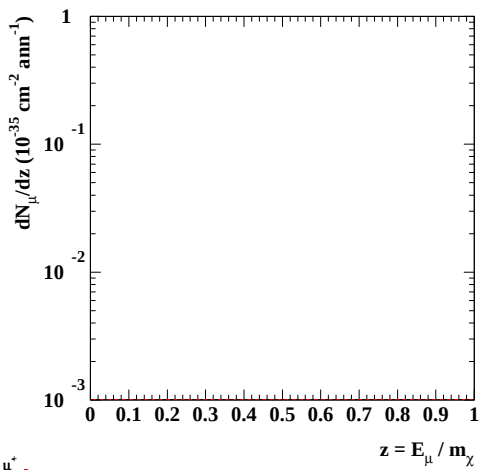




from $\bar{\nu}_\tau$

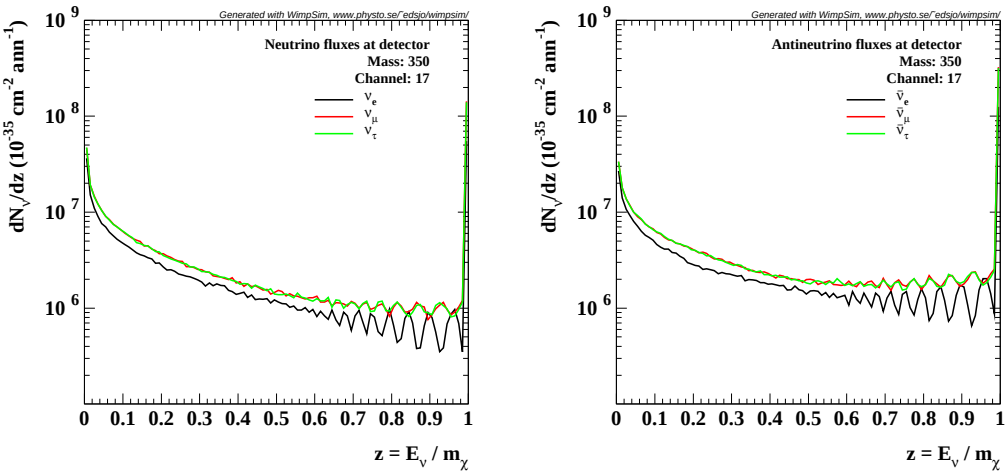
11.8.7 Muons at detector (Sun/Earth)



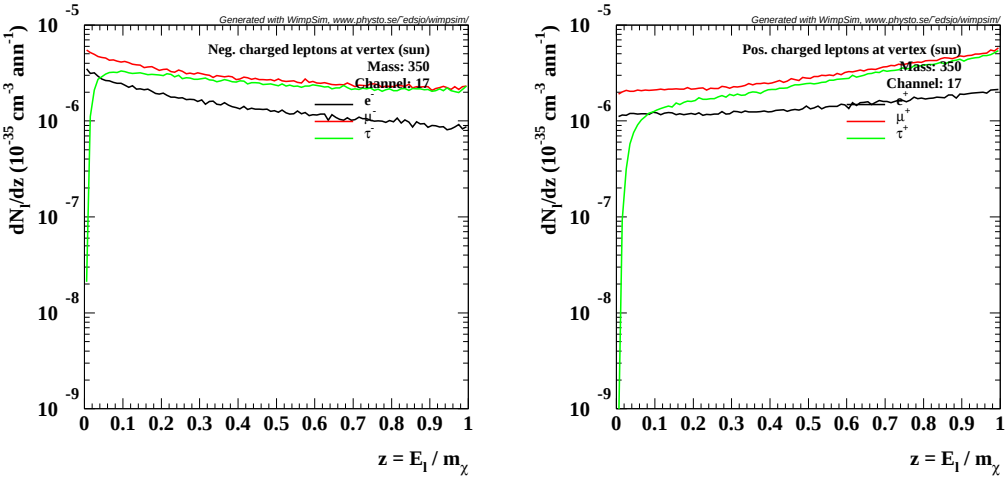


11.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

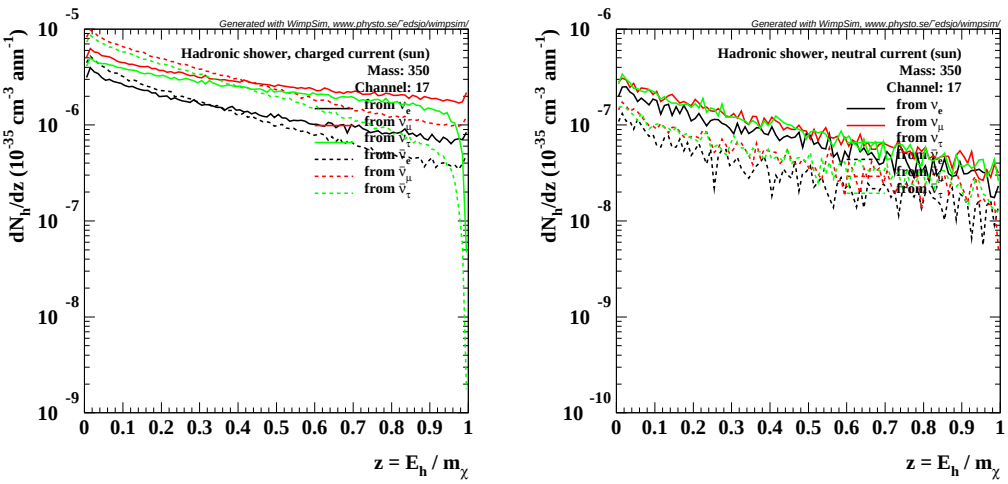
11.9.1 Neutrino fluxes at detector (Sun)



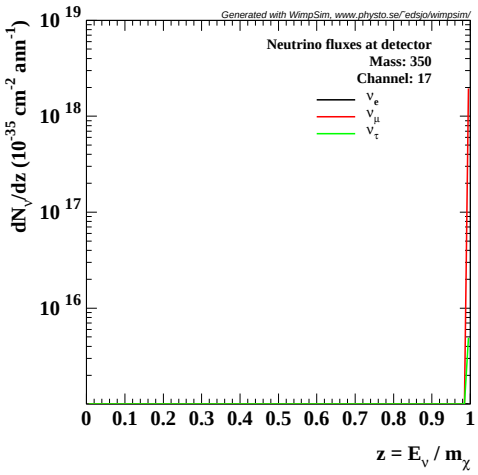
11.9.2 Charged leptons at neutrino-nucleon vertex (Sun)

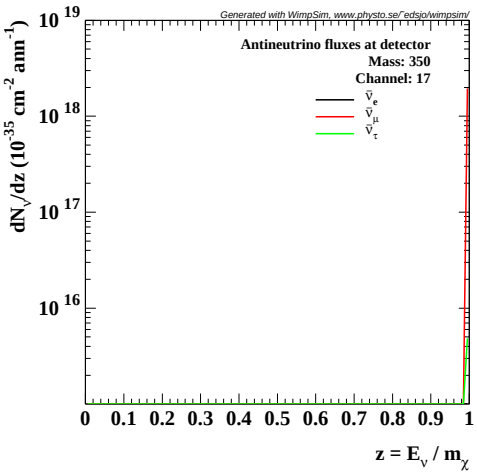


11.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

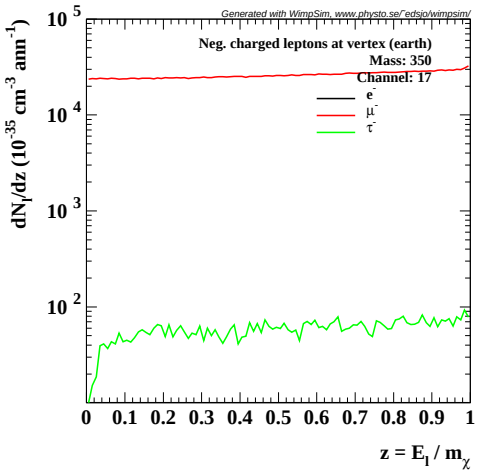


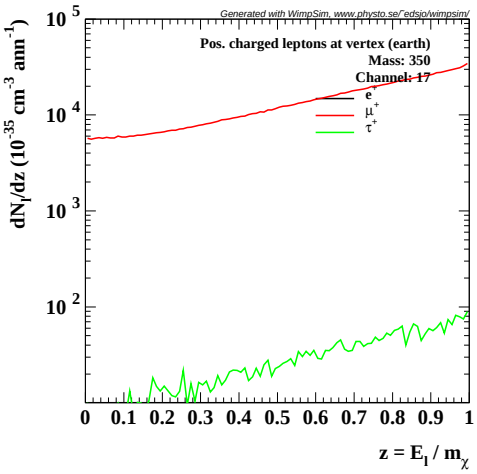
11.9.4 Neutrino fluxes at detector (Earth)



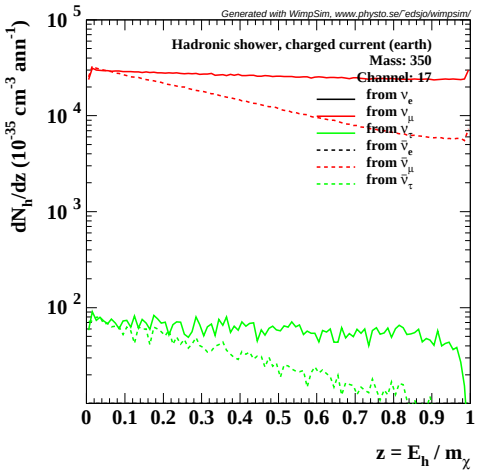


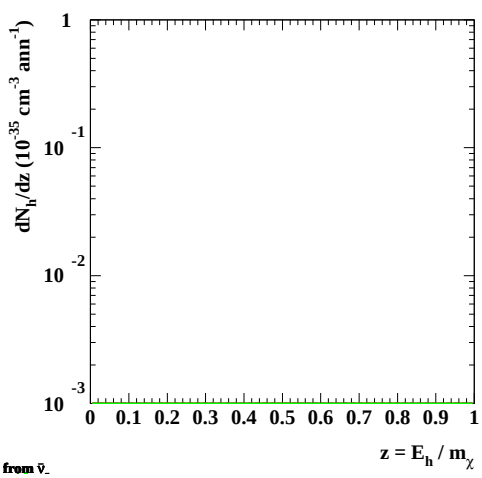
11.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



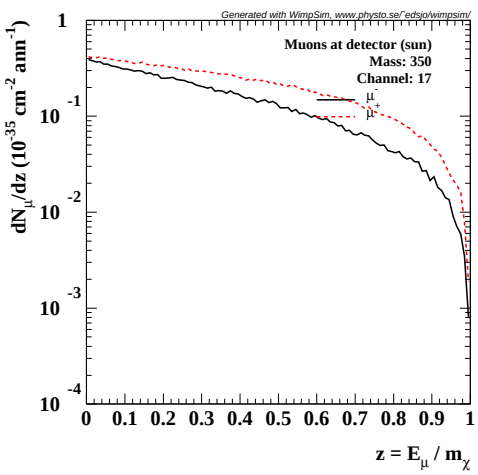


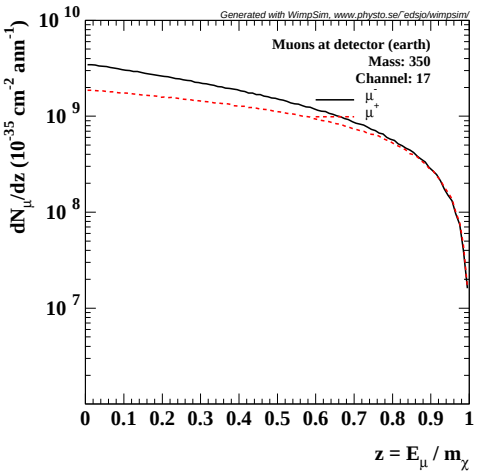
11.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





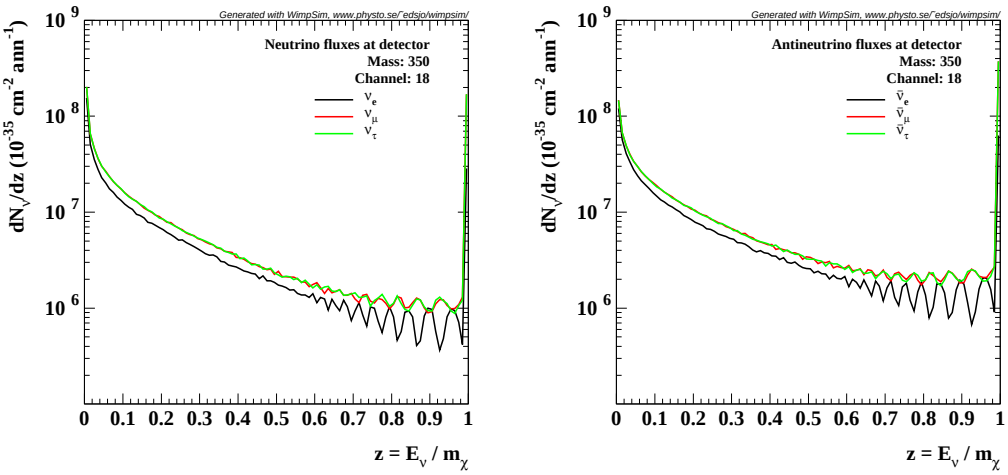
11.9.7 Muons at detector (Sun/Earth)



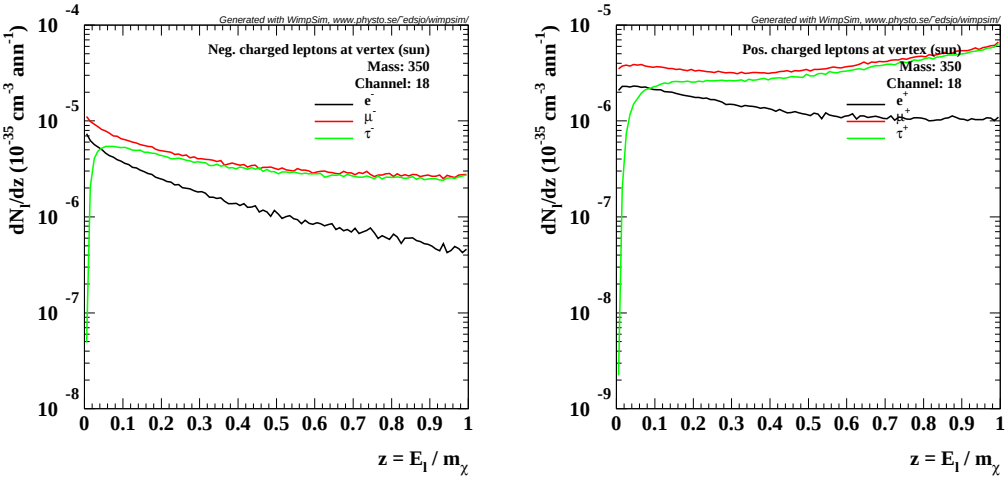


11.10 Channel 18 – $\nu_\tau\bar{\nu}_\tau$

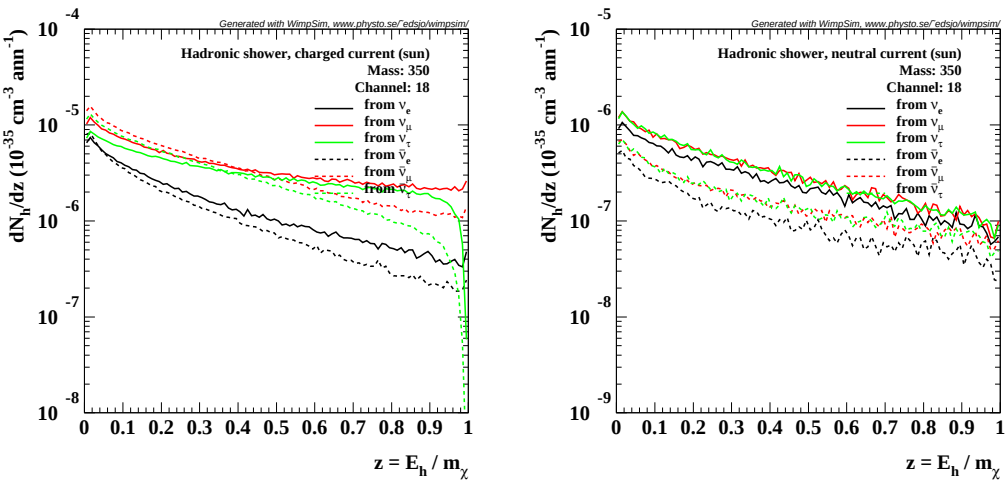
11.10.1 Neutrino fluxes at detector (Sun)



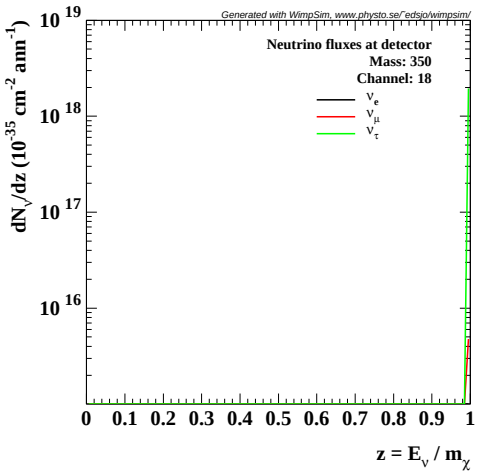
11.10.2 Charged leptons at neutrino-nucleon vertex (Sun)

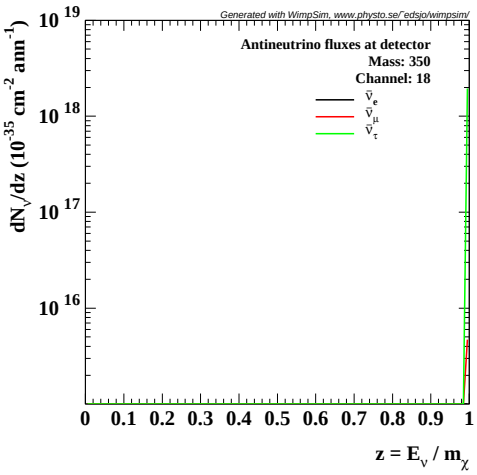


11.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)

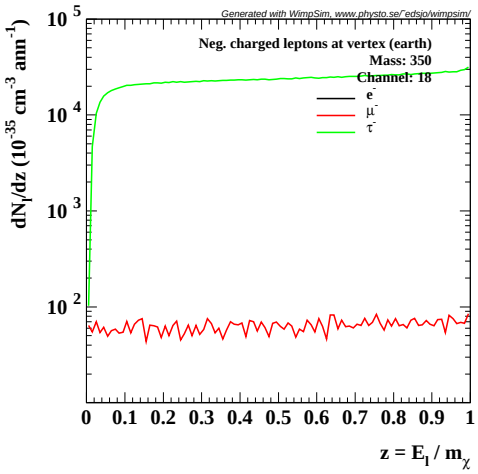


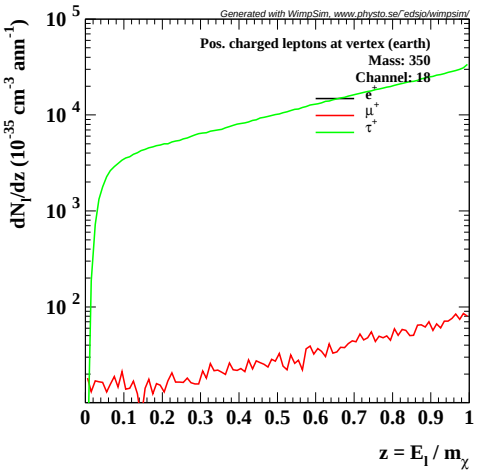
11.10.4 Neutrino fluxes at detector (Earth)



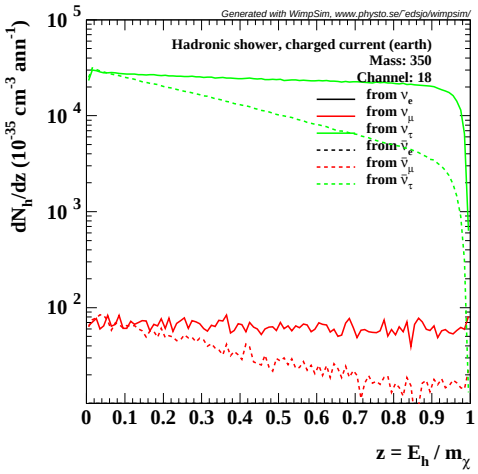


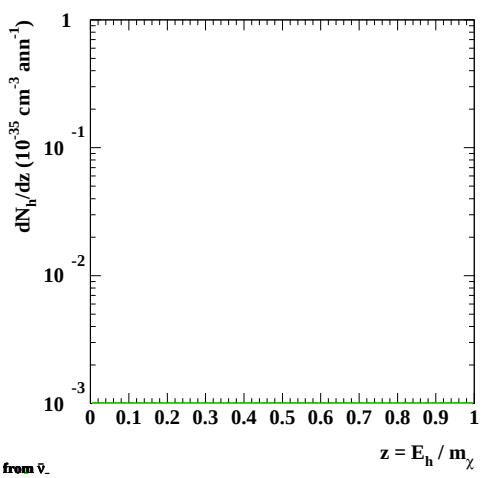
11.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





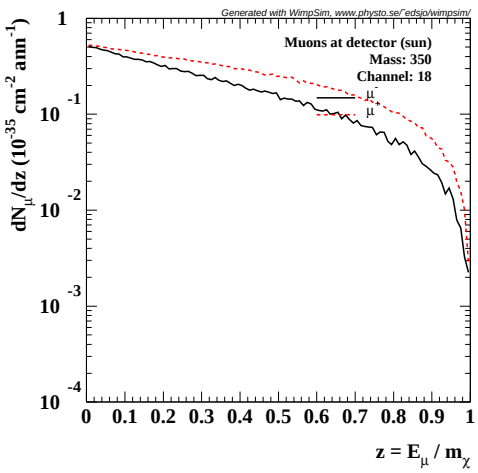
11.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

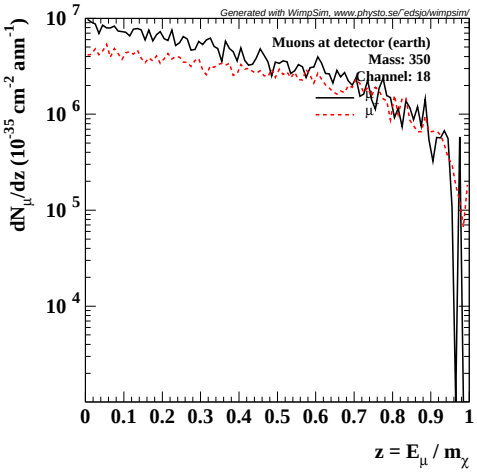




from $\bar{\nu}_\tau$

11.10.7 Muons at detector (Sun/Earth)

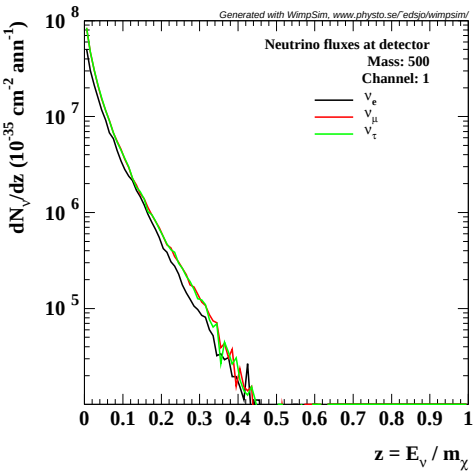


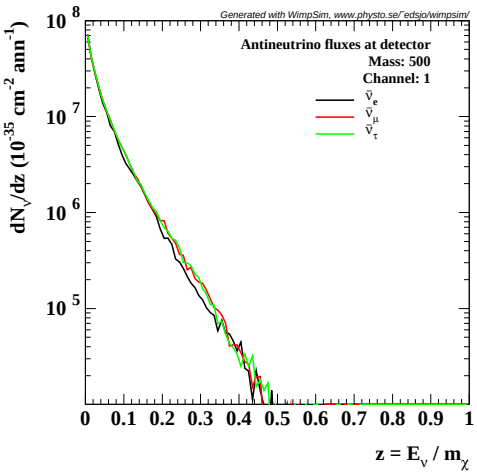


12 Mass 500

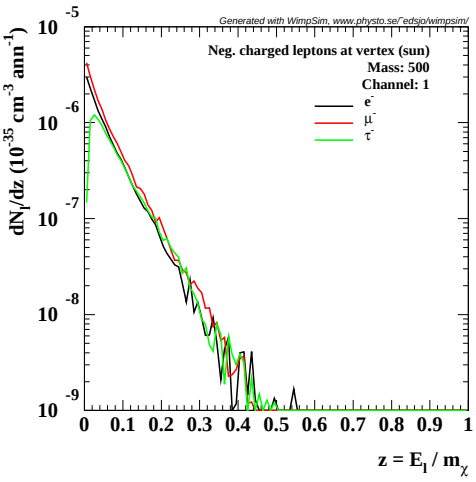
12.1 Channel 1 – $c\bar{c}$

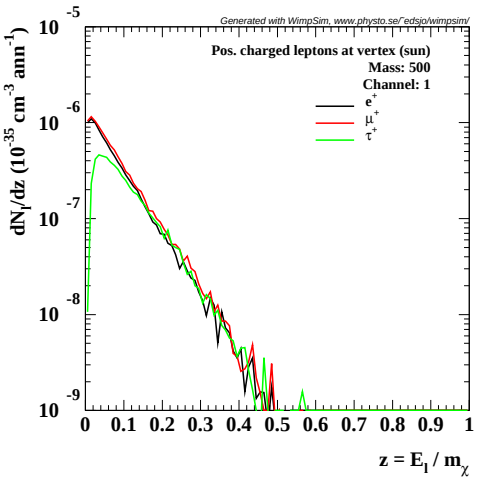
12.1.1 Neutrino fluxes at detector (Sun)



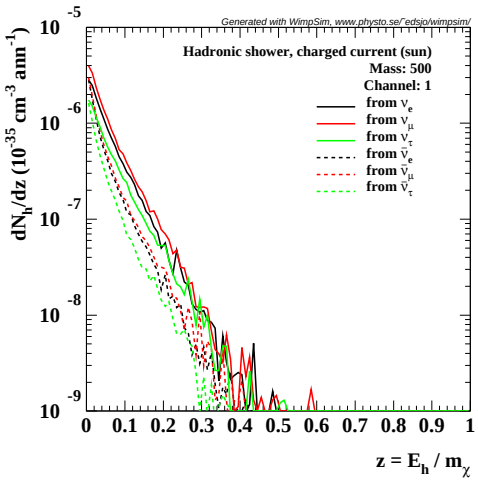


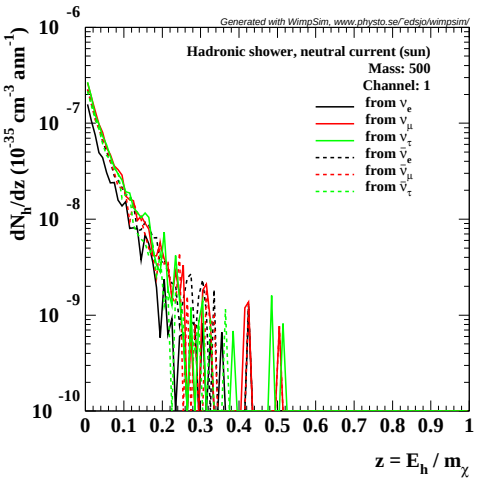
12.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



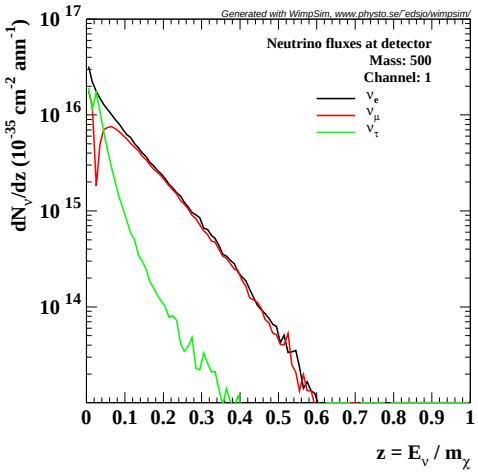


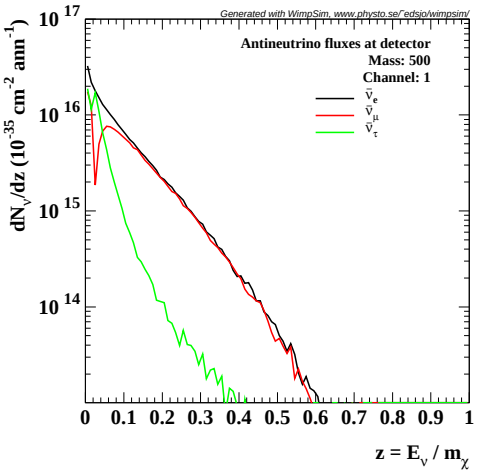
12.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



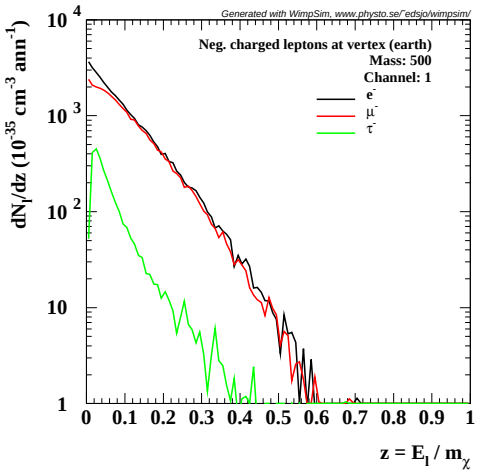


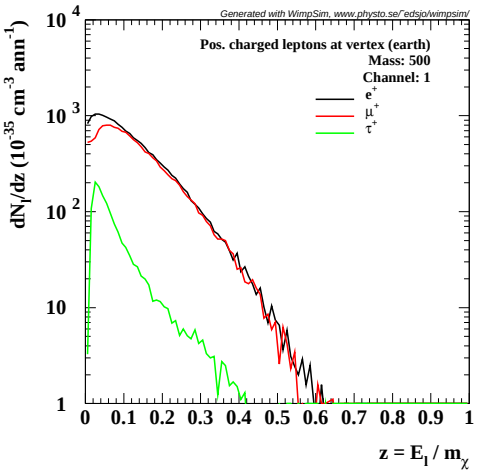
12.1.4 Neutrino fluxes at detector (Earth)



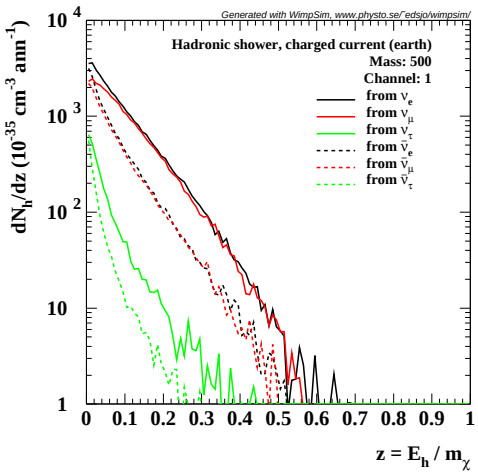


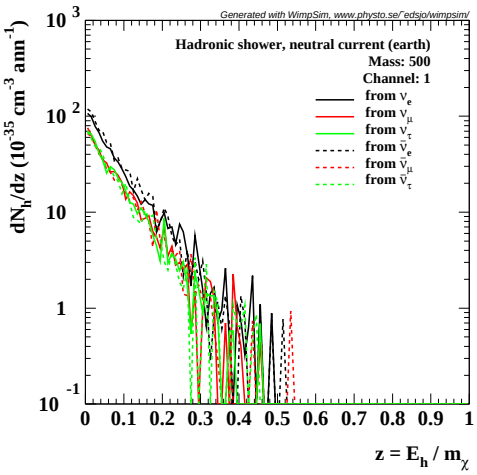
12.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



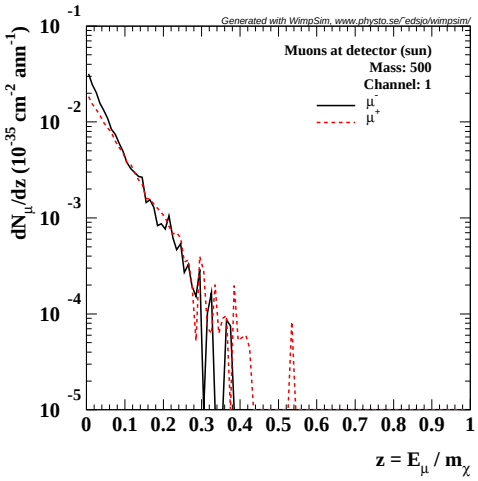


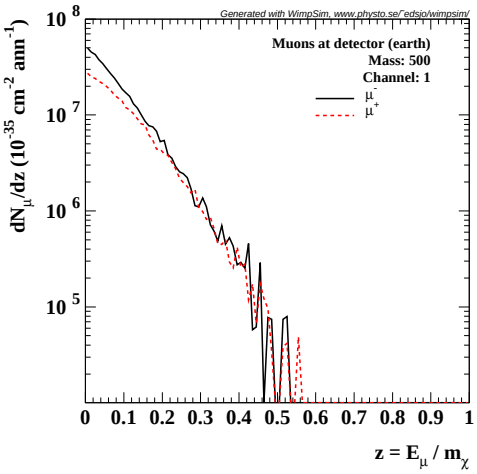
12.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





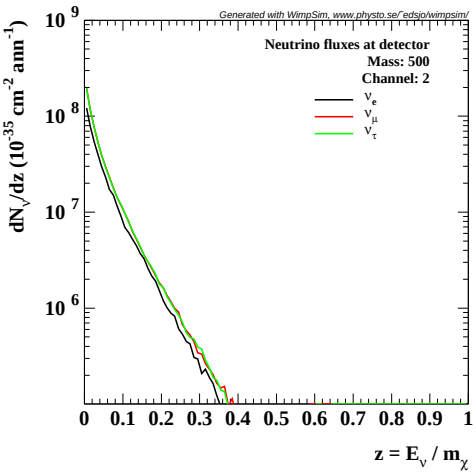
12.1.7 Muons at detector (Sun/Earth)

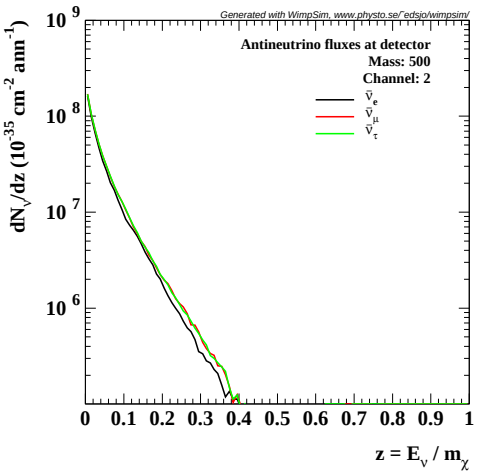




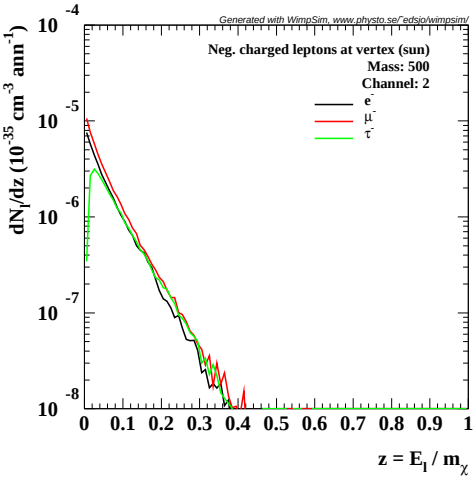
12.2 Channel 2 – $b\bar{b}$

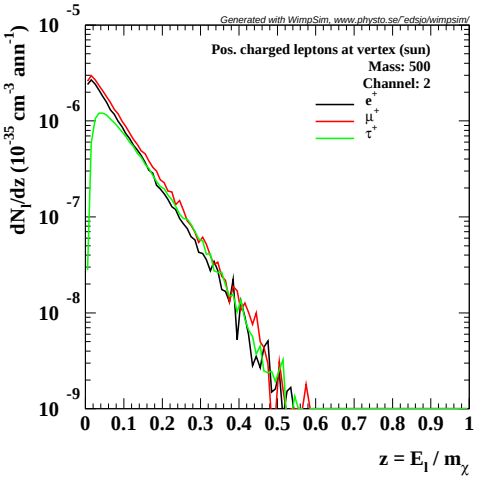
12.2.1 Neutrino fluxes at detector (Sun)



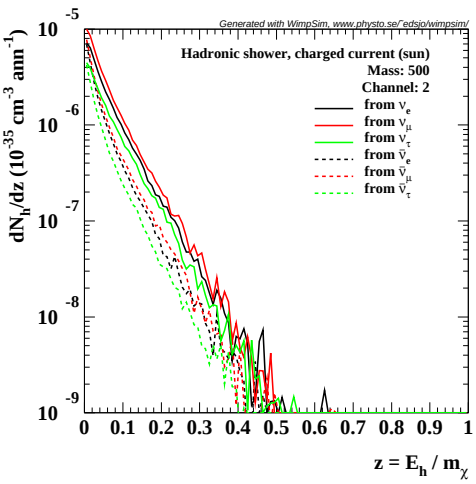


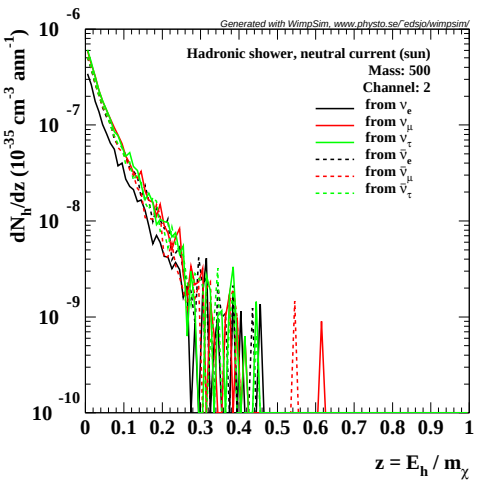
12.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



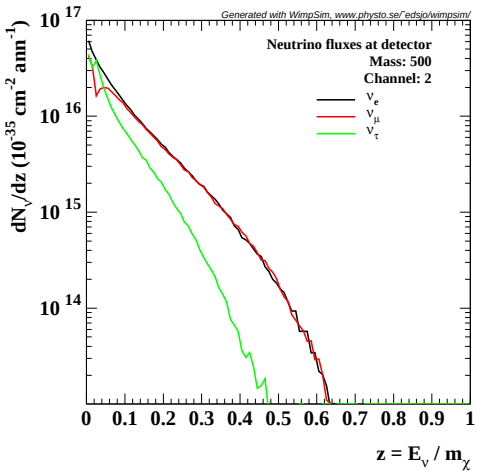


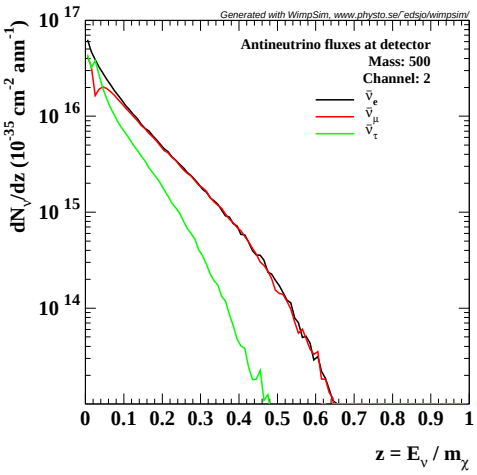
12.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



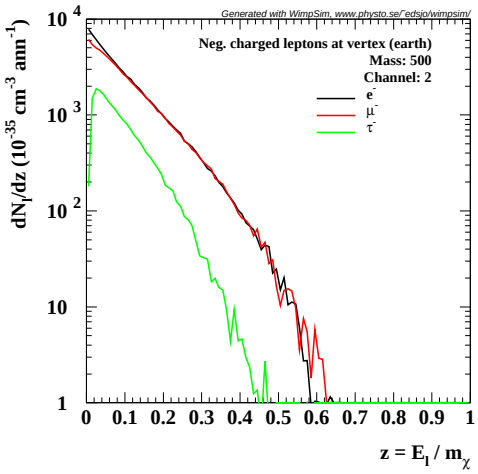


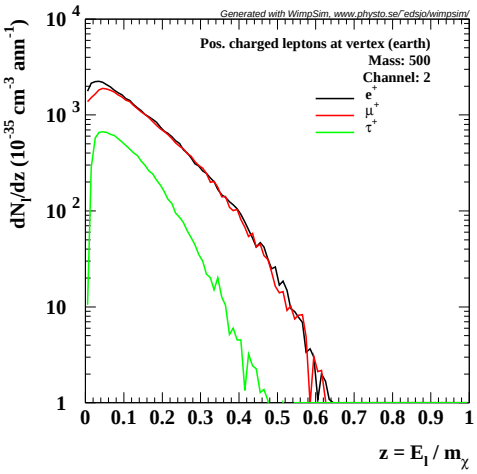
12.2.4 Neutrino fluxes at detector (Earth)



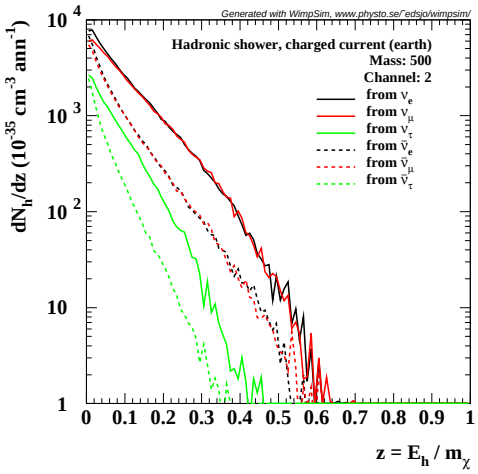


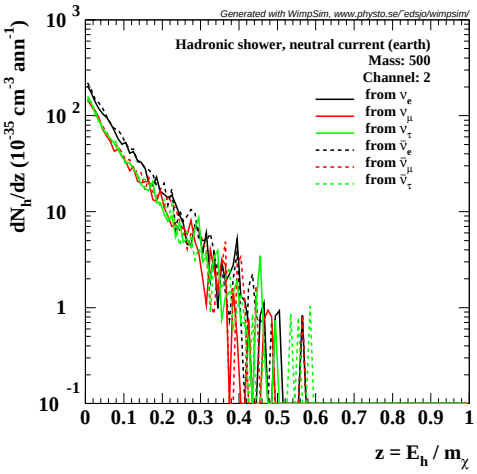
12.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



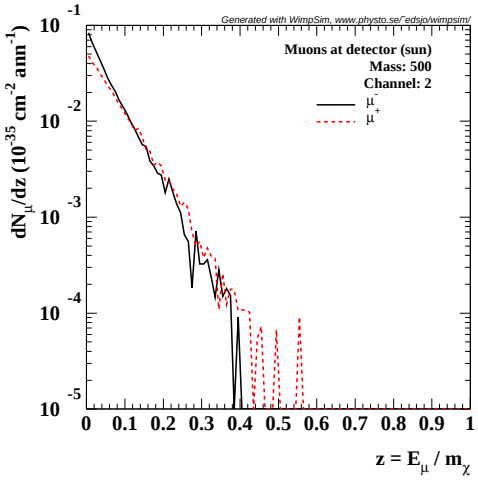


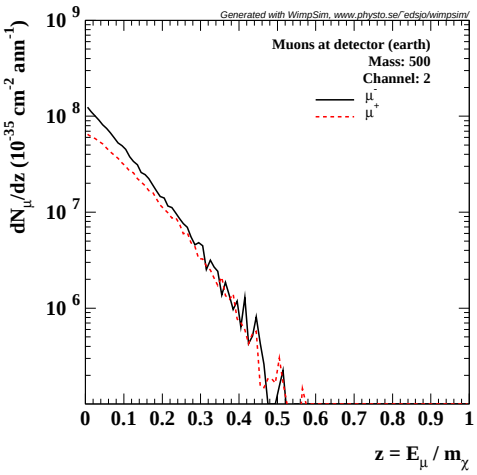
12.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





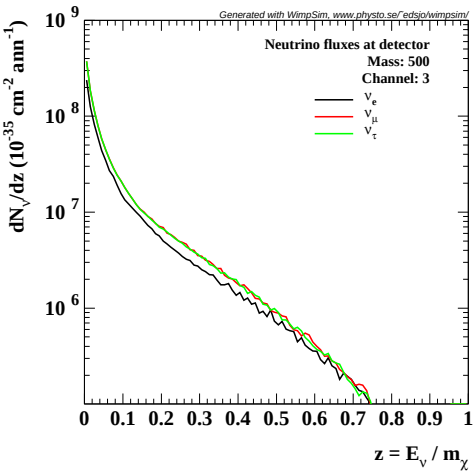
12.2.7 Muons at detector (Sun/Earth)

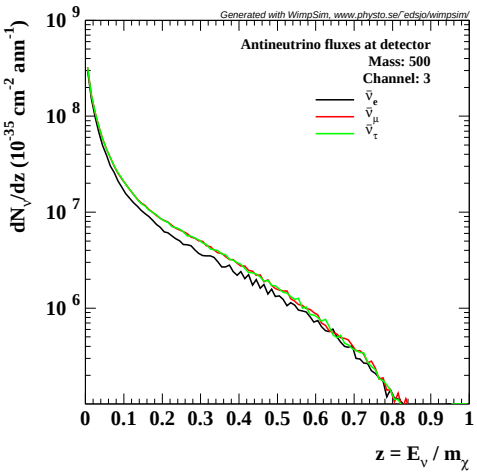




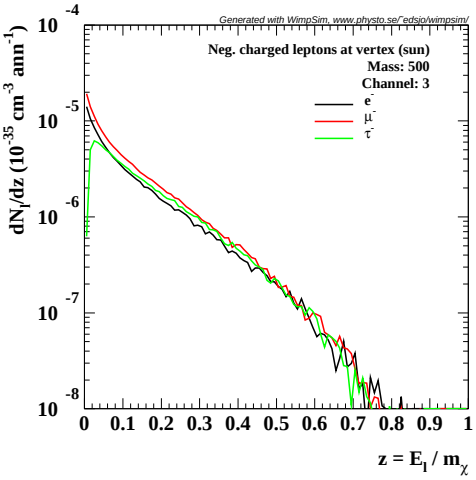
12.3 Channel 3 – $t\bar{t}$

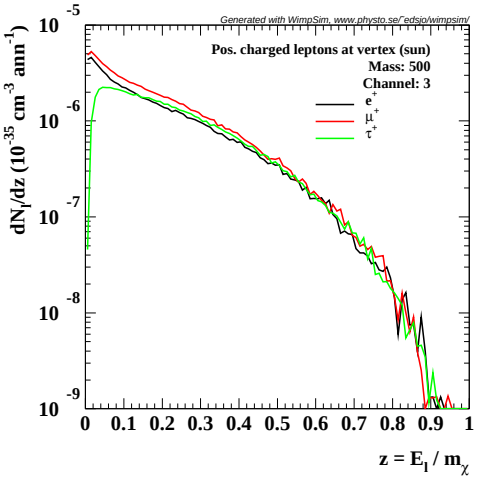
12.3.1 Neutrino fluxes at detector (Sun)



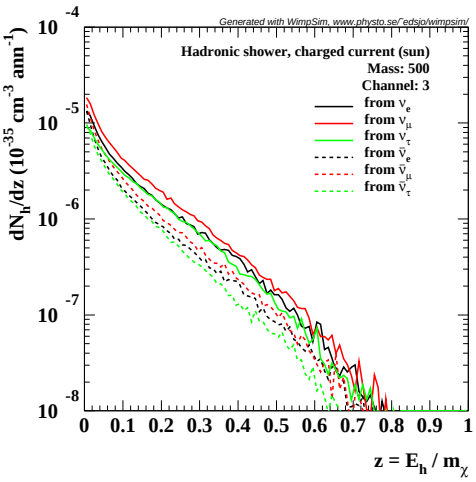


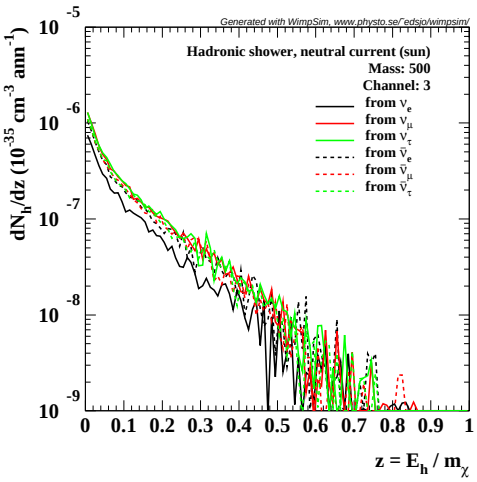
12.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



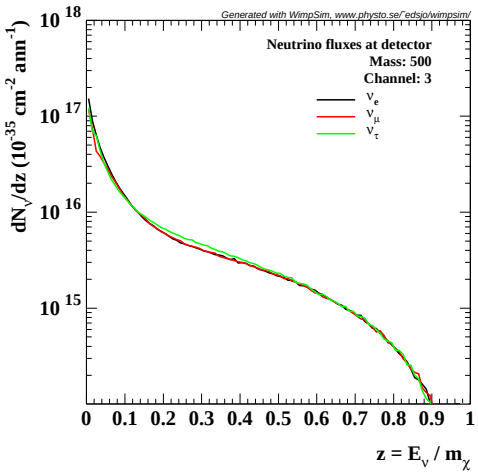


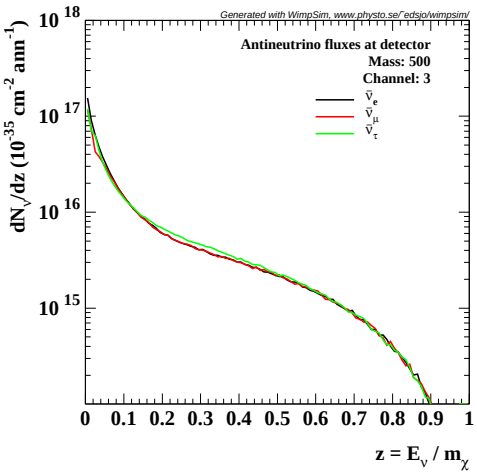
12.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



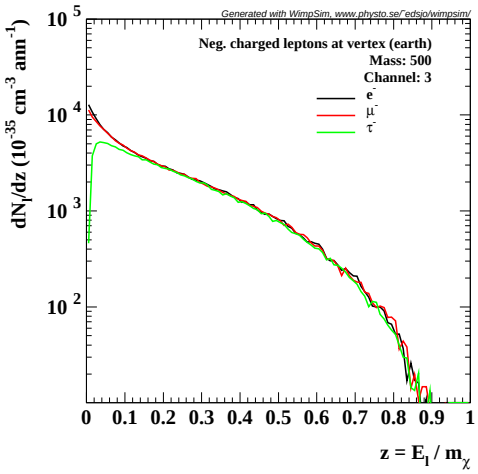


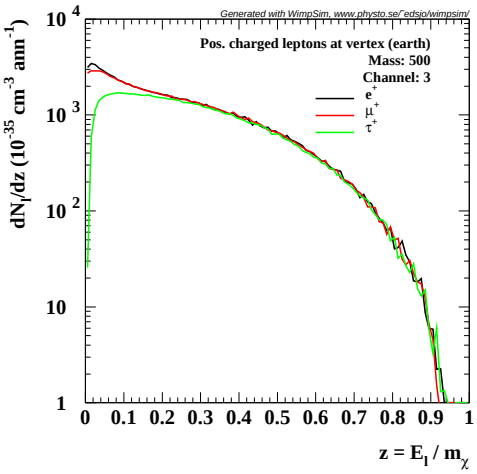
12.3.4 Neutrino fluxes at detector (Earth)



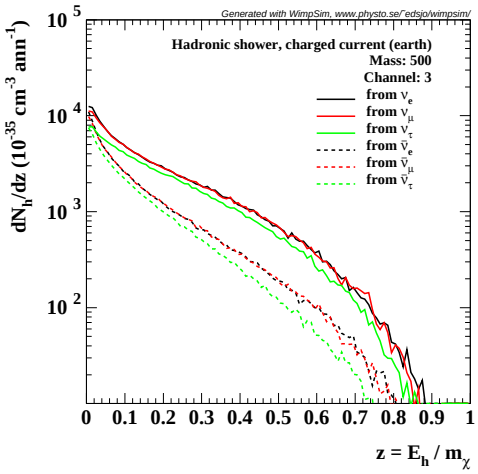


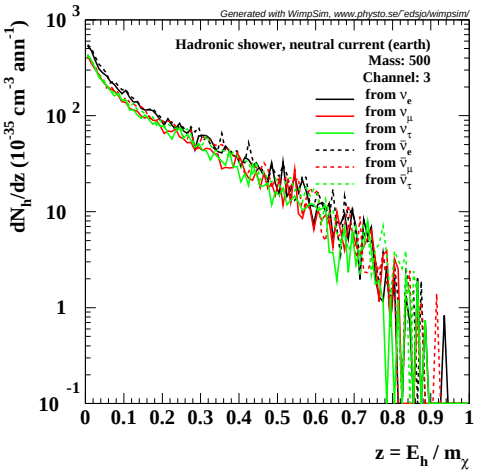
12.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



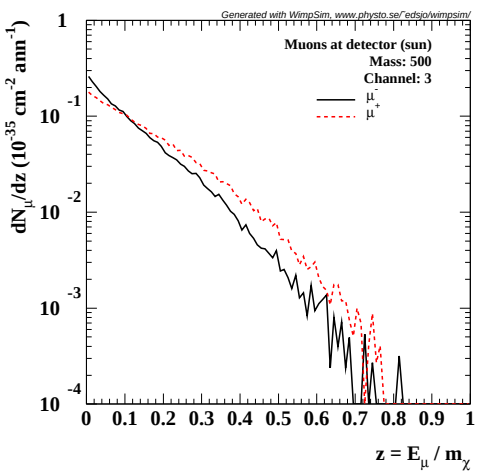


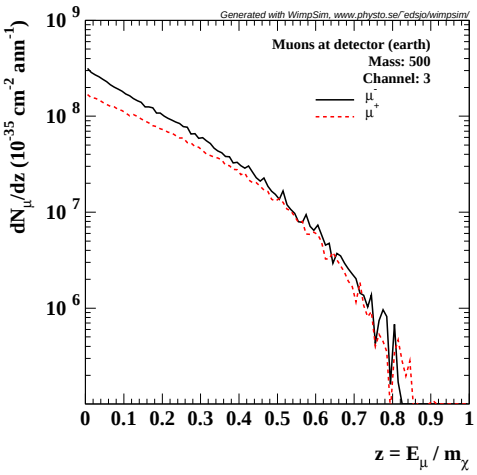
12.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





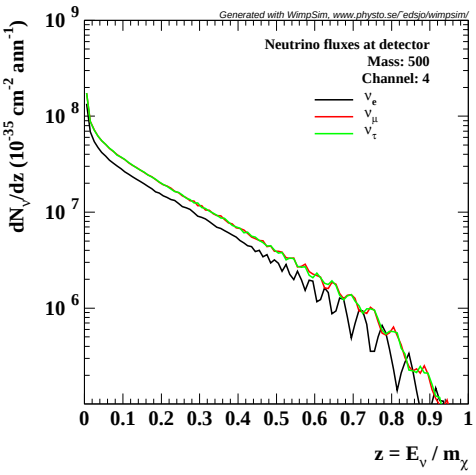
12.3.7 Muons at detector (Sun/Earth)

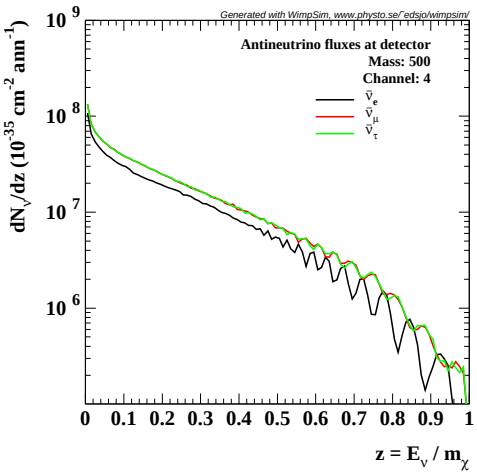




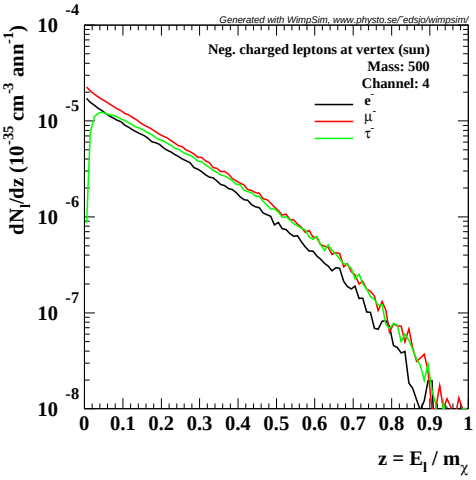
12.4 Channel 4 – $\tau^-\tau^+$

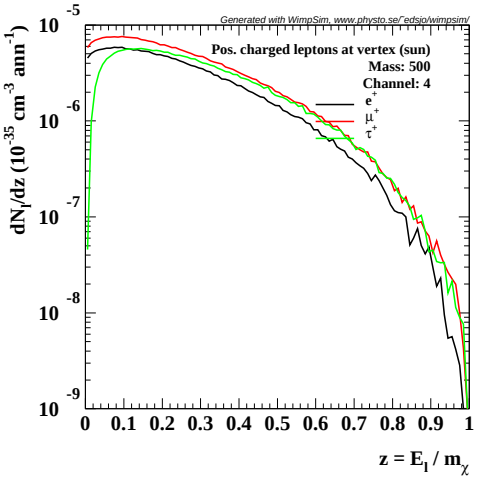
12.4.1 Neutrino fluxes at detector (Sun)



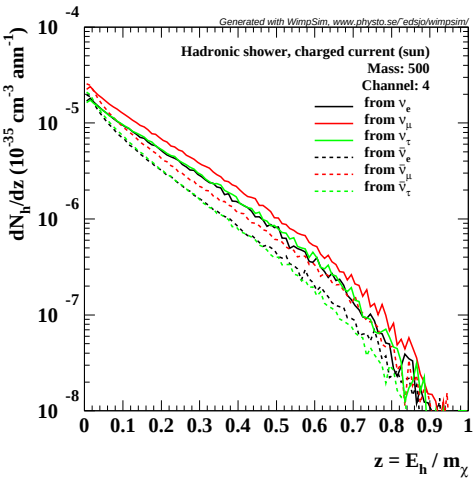


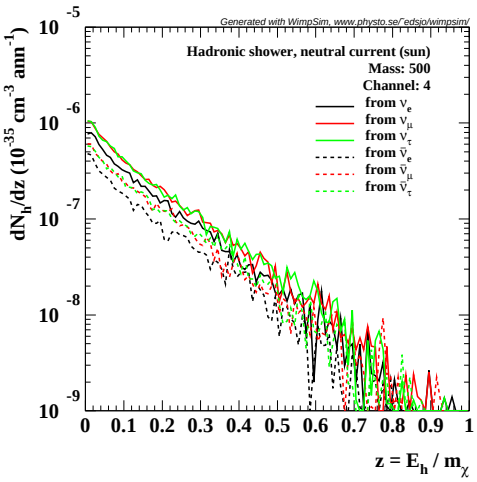
12.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



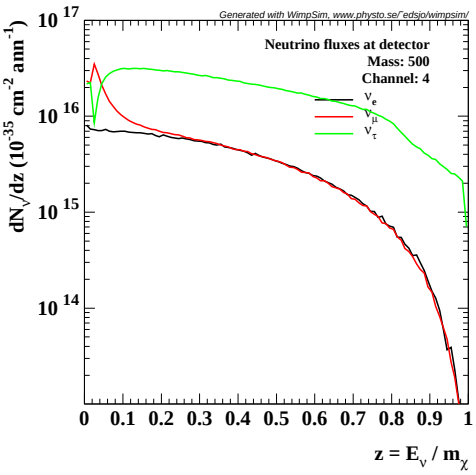


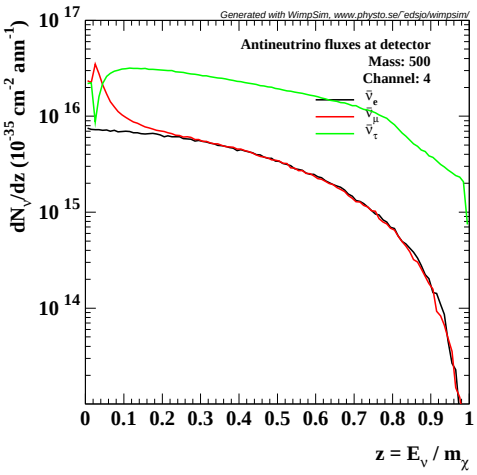
12.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



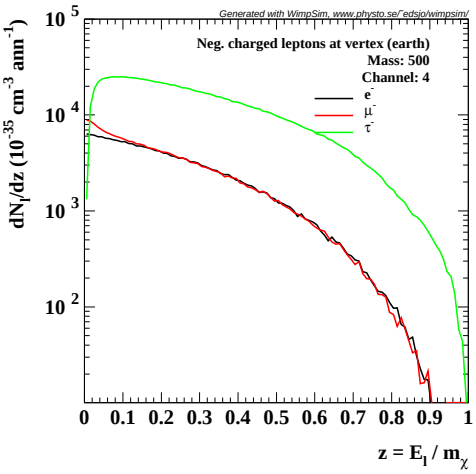


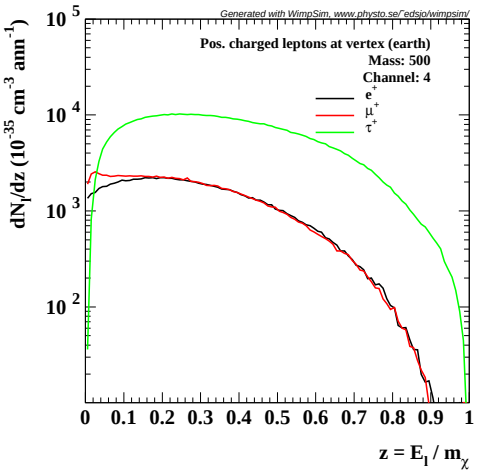
12.4.4 Neutrino fluxes at detector (Earth)



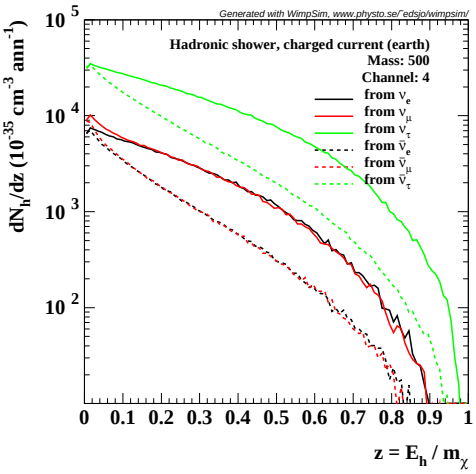


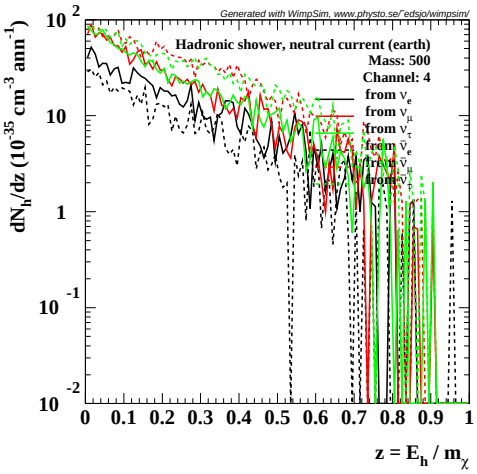
12.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



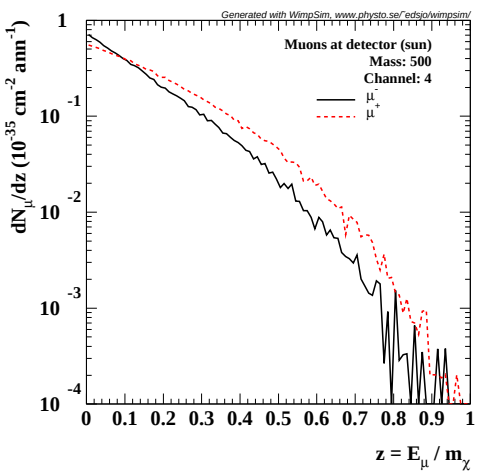


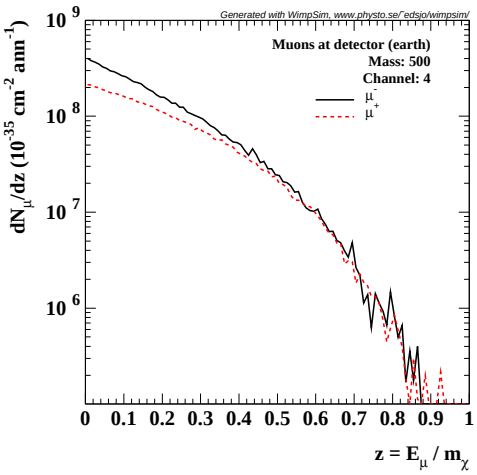
12.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





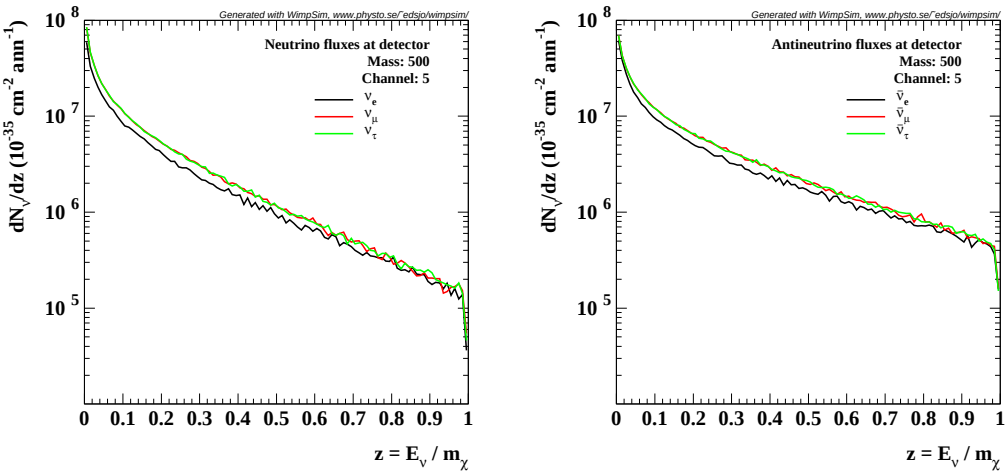
12.4.7 Muons at detector (Sun/Earth)



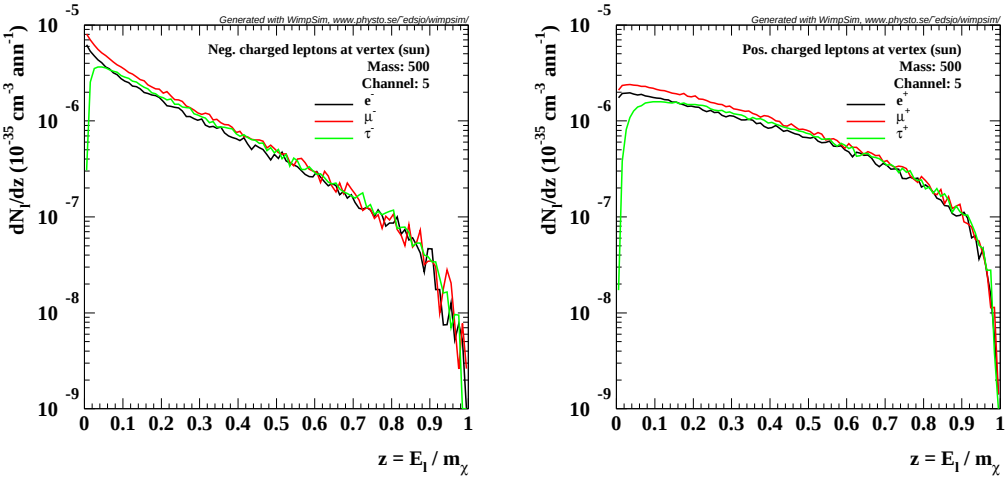


12.5 Channel 5 – W^-W^+

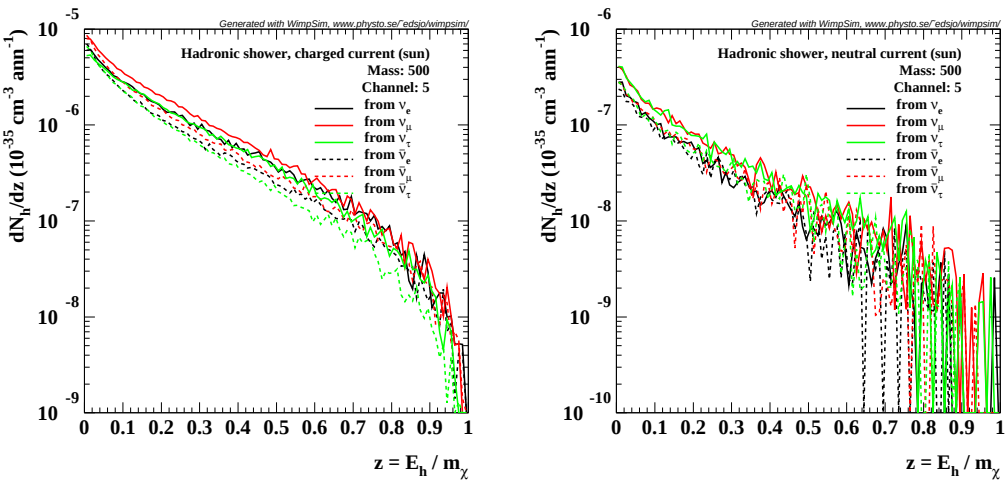
12.5.1 Neutrino fluxes at detector (Sun)



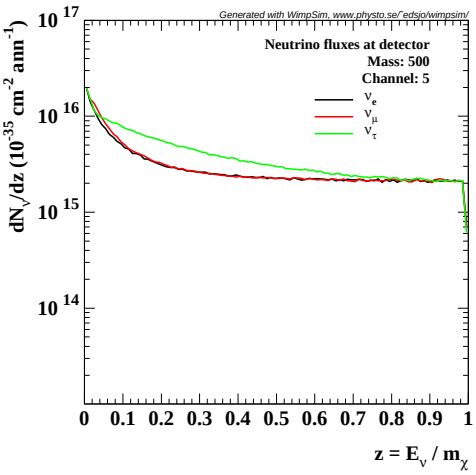
12.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

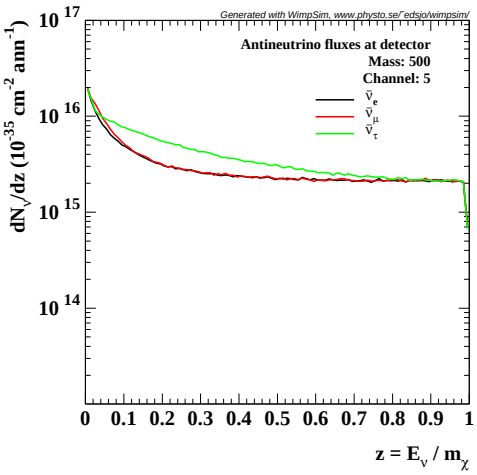


12.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

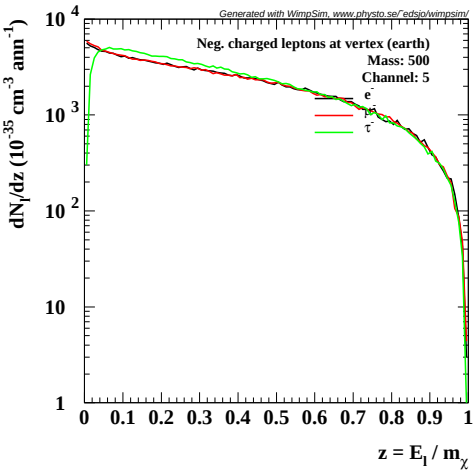


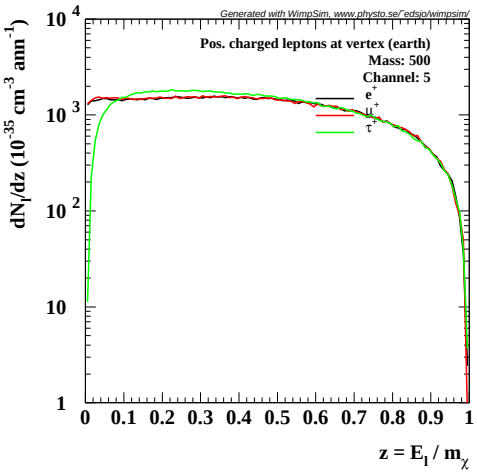
12.5.4 Neutrino fluxes at detector (Earth)



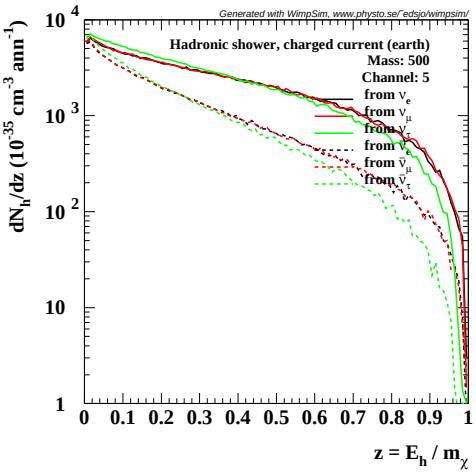


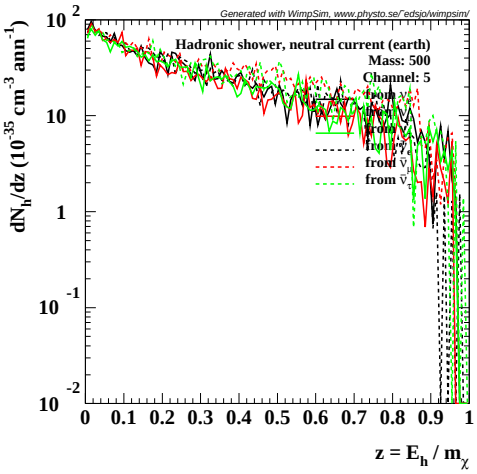
12.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



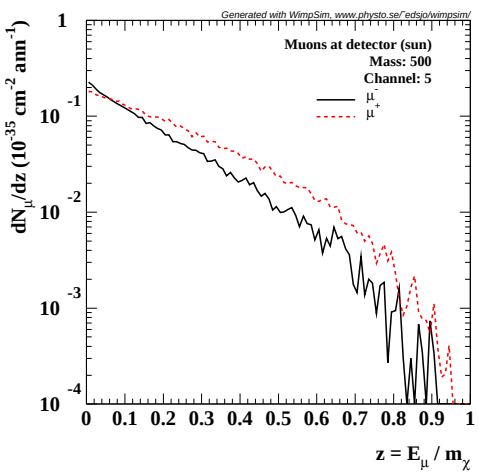


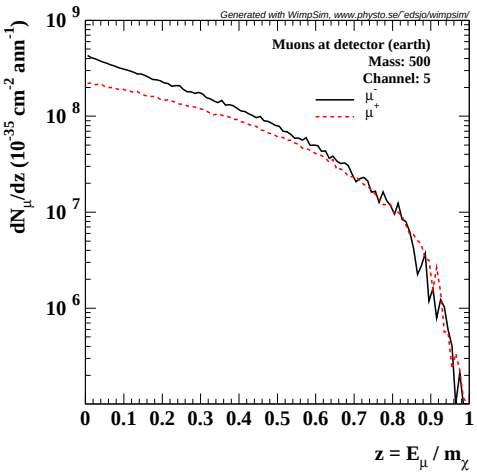
12.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





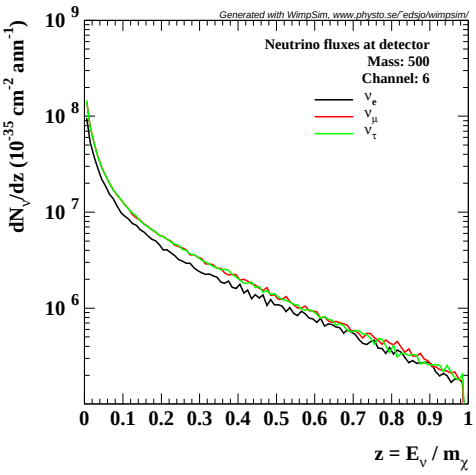
12.5.7 Muons at detector (Sun/Earth)

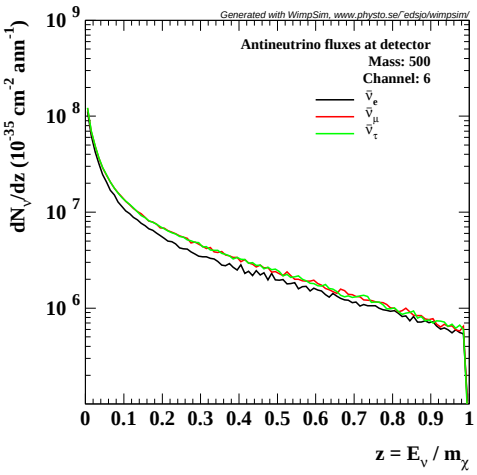




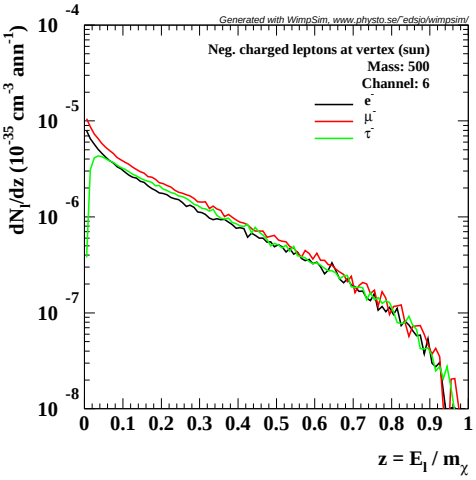
12.6 Channel 6 – $Z^0 Z^0$

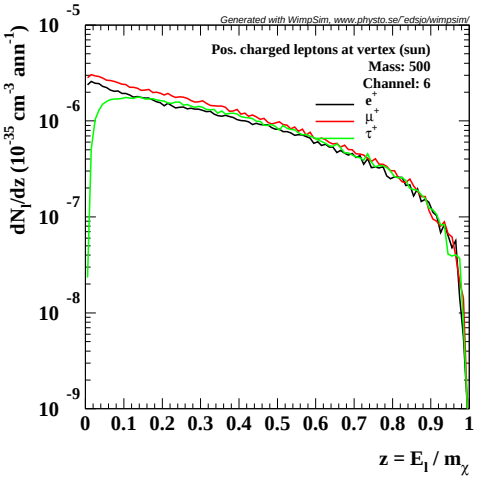
12.6.1 Neutrino fluxes at detector (Sun)



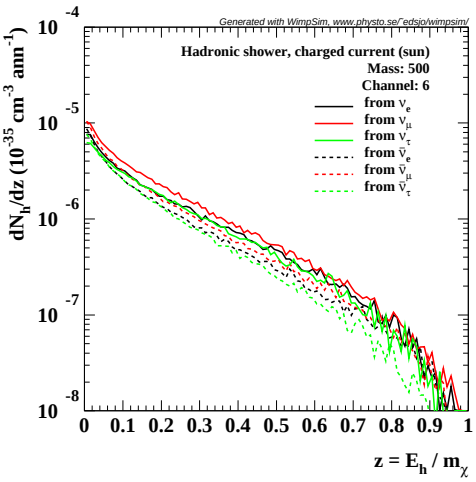


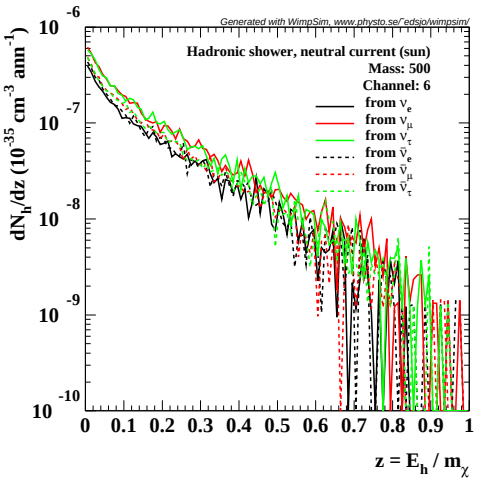
12.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



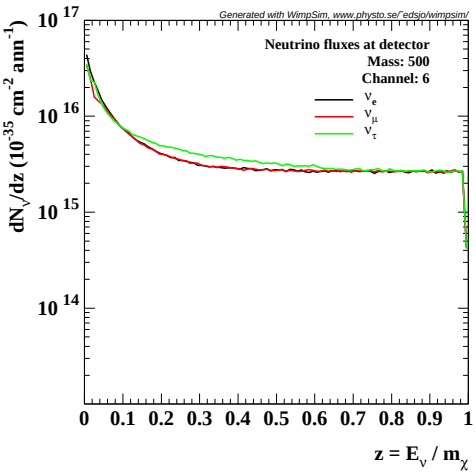


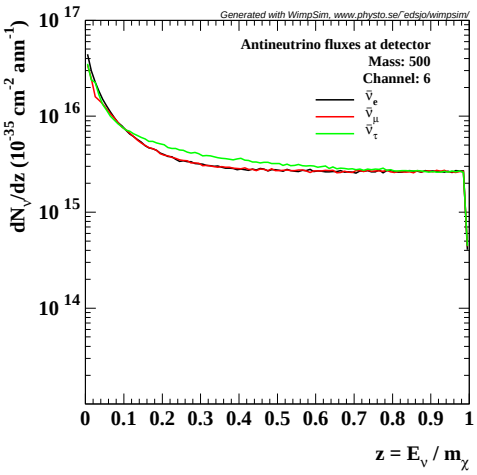
12.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



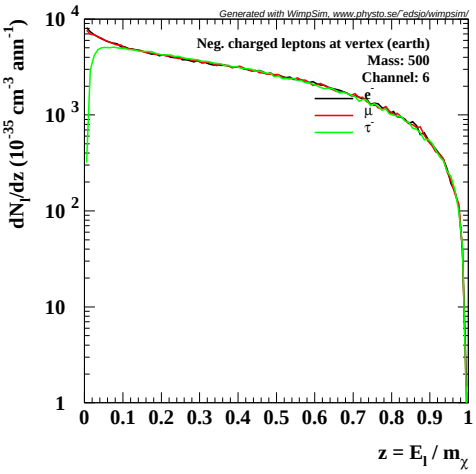


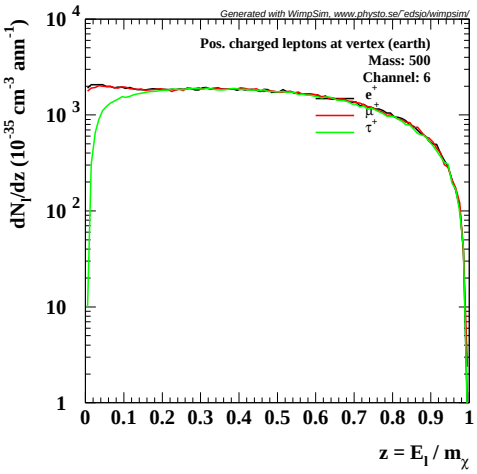
12.6.4 Neutrino fluxes at detector (Earth)



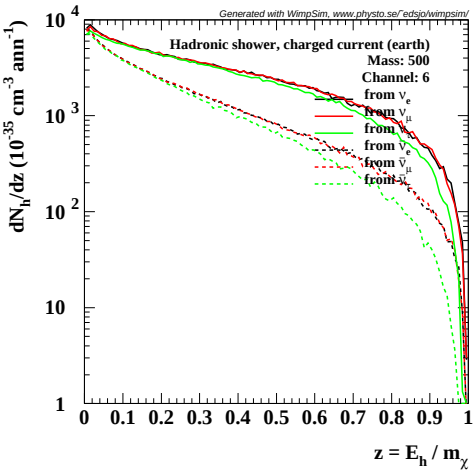


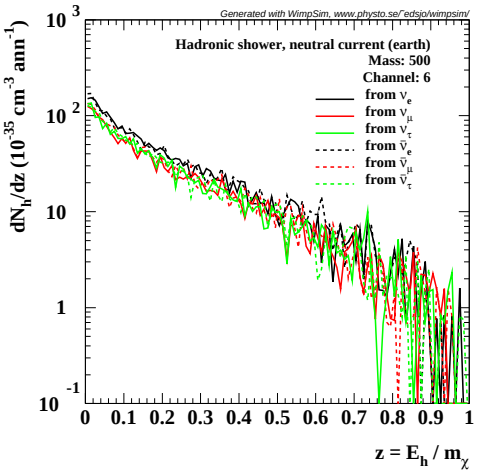
12.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



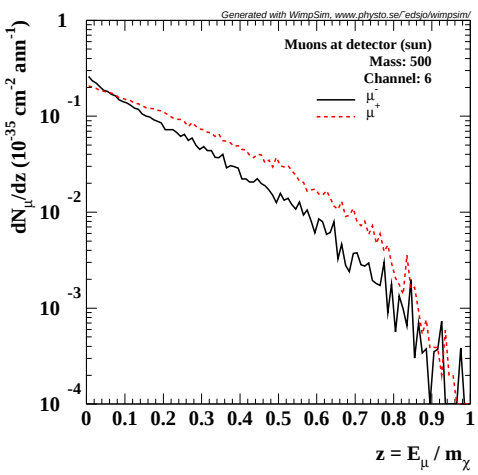


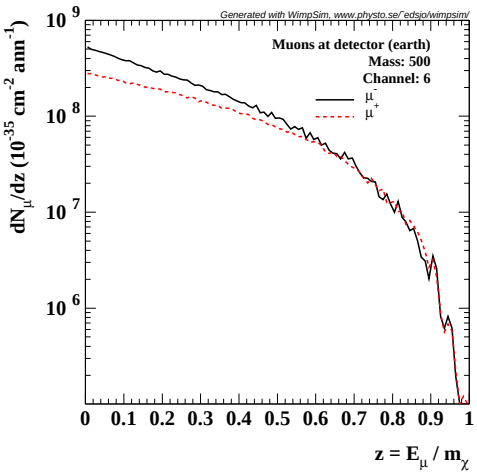
12.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





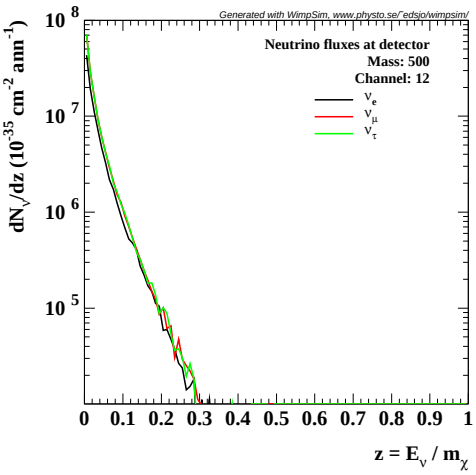
12.6.7 Muons at detector (Sun/Earth)

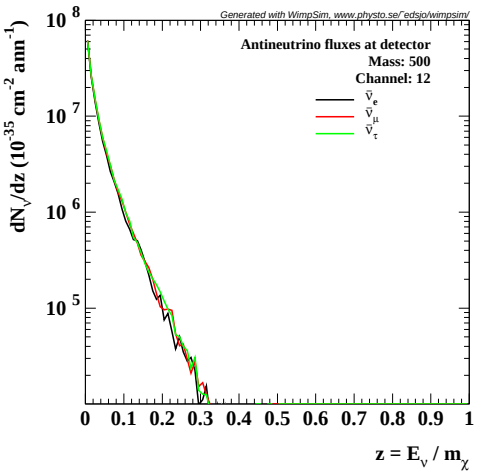




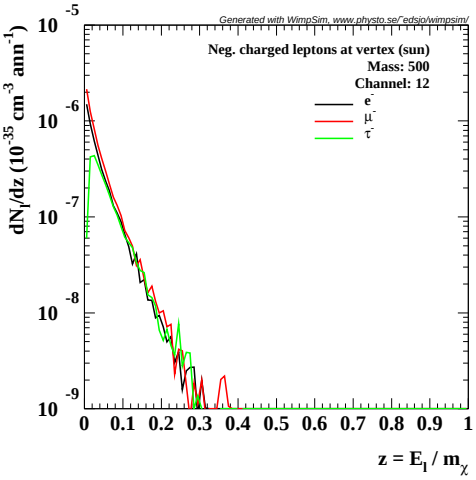
12.7 Channel 12 – gg

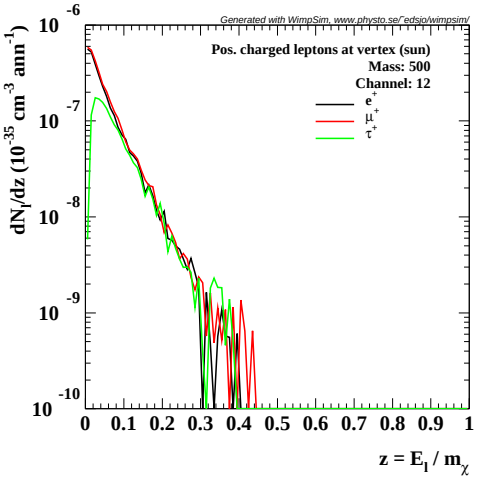
12.7.1 Neutrino fluxes at detector (Sun)



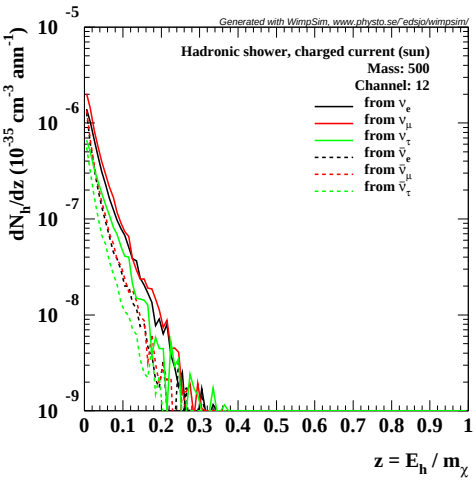


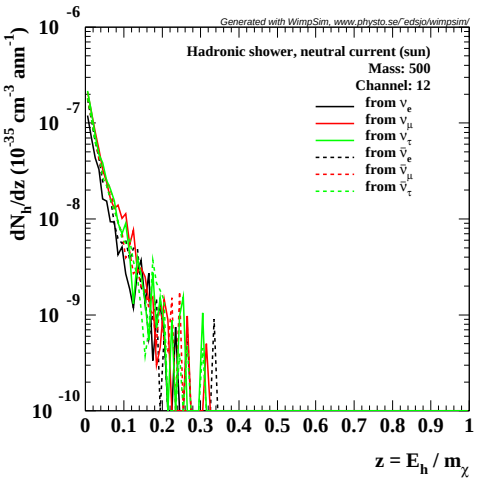
12.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



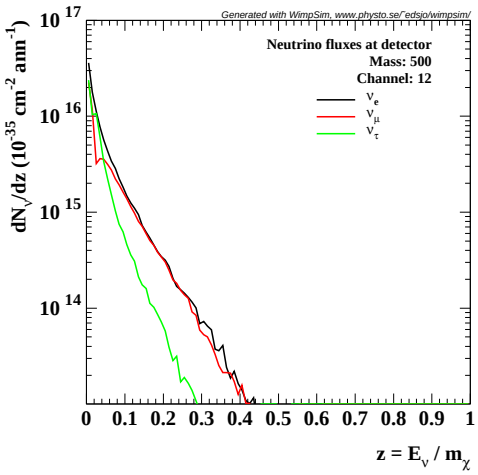


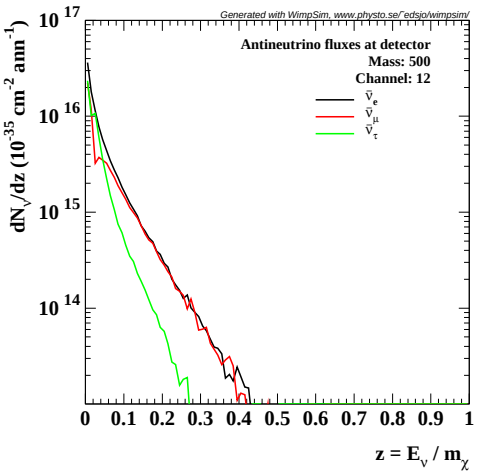
12.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



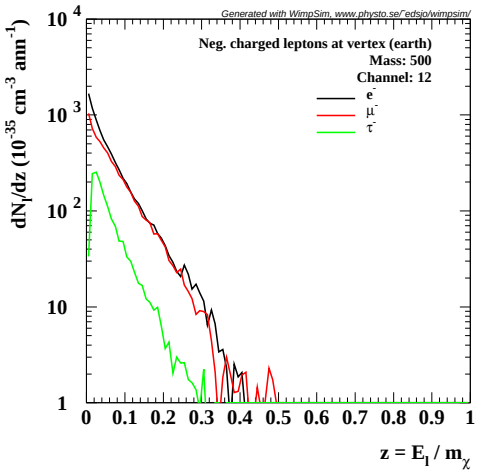


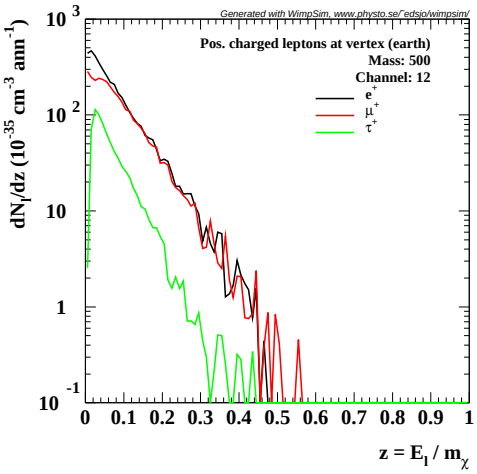
12.7.4 Neutrino fluxes at detector (Earth)



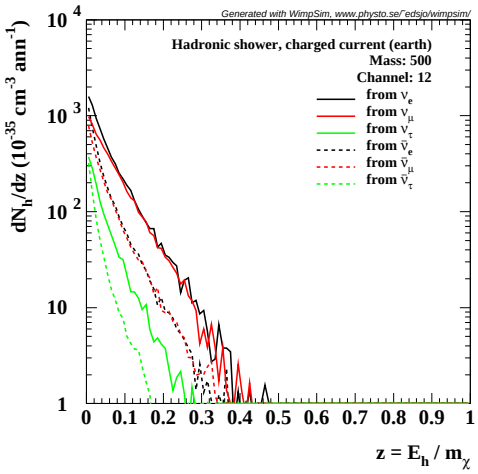


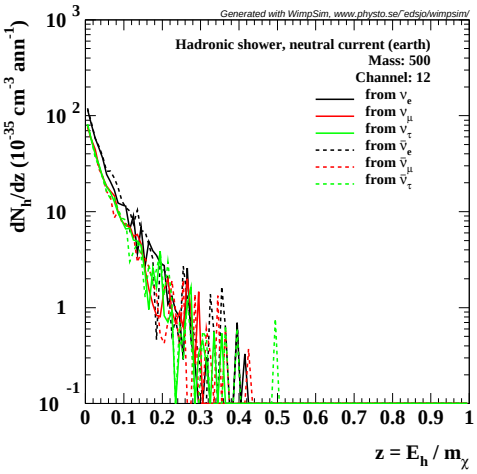
12.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



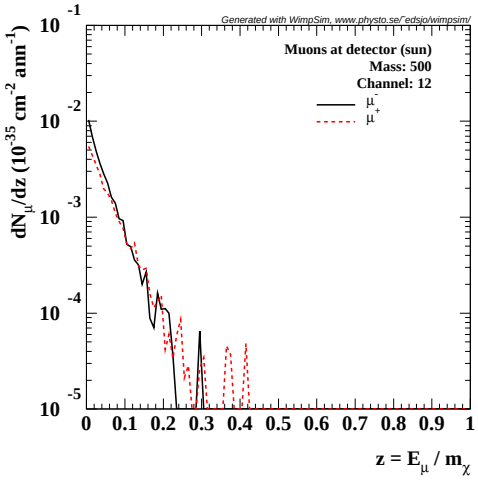


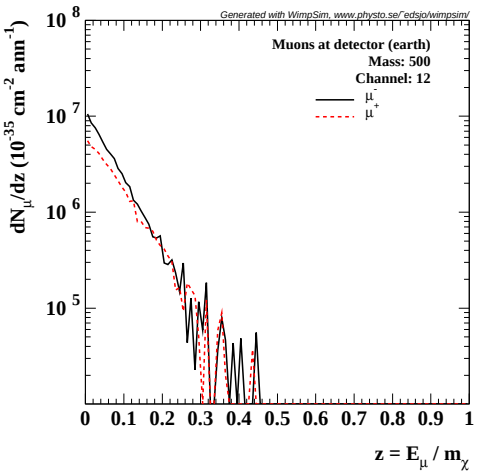
12.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





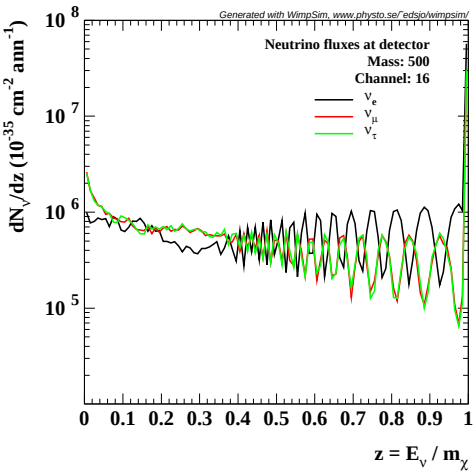
12.7.7 Muons at detector (Sun/Earth)

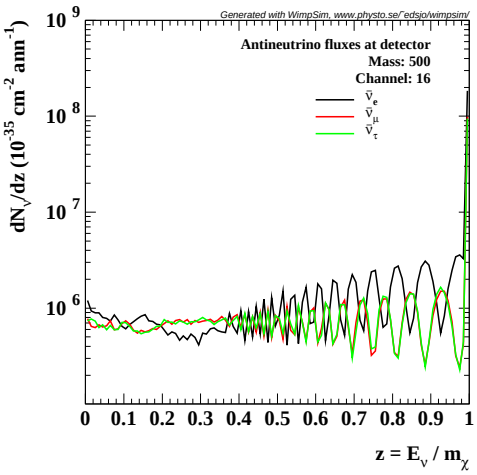




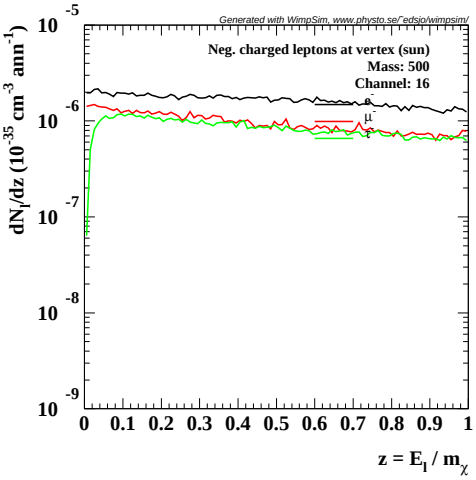
12.8 Channel 16 – $\nu_e\bar{\nu}_e$

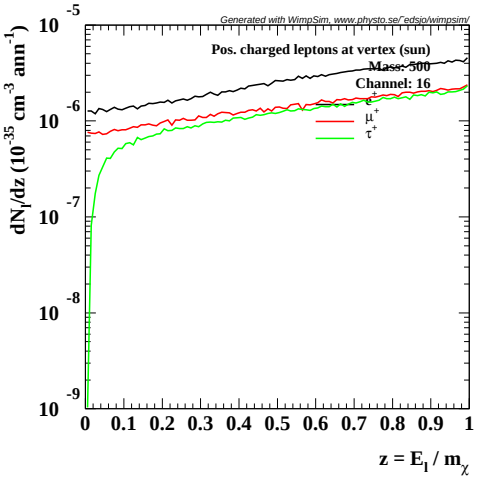
12.8.1 Neutrino fluxes at detector (Sun)



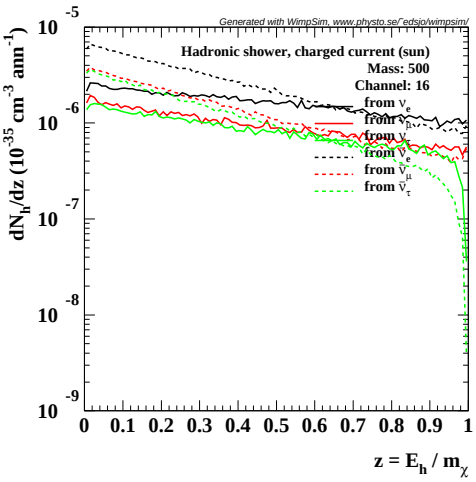


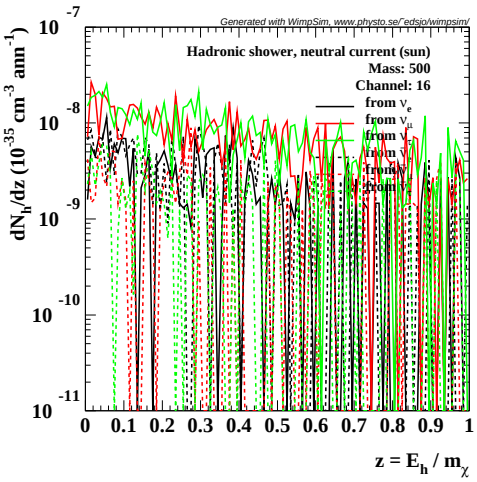
12.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



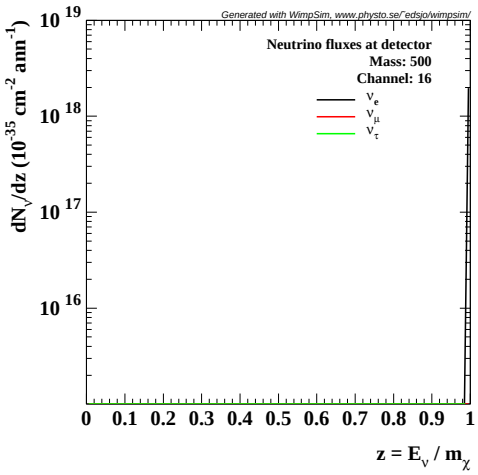


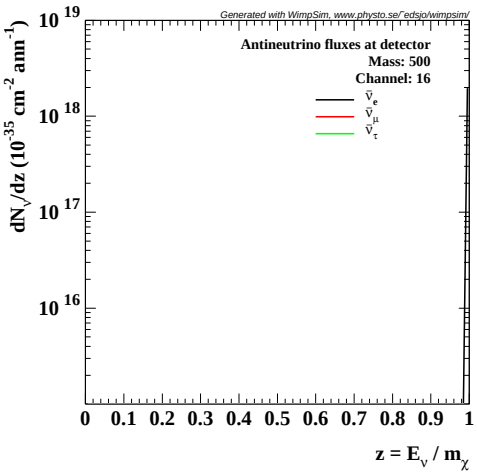
12.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



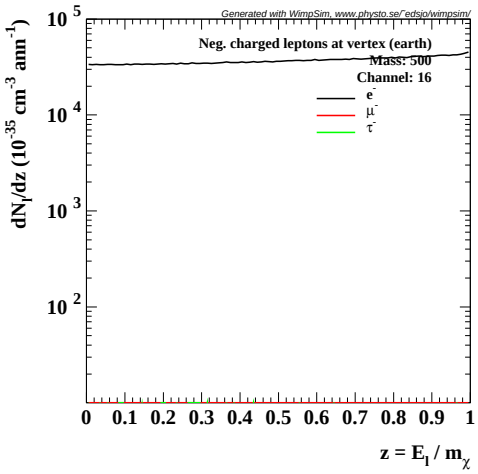


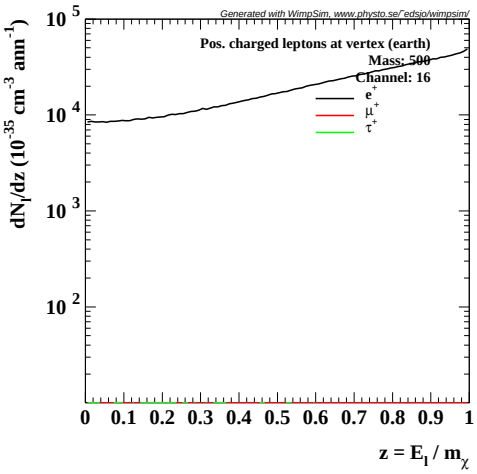
12.8.4 Neutrino fluxes at detector (Earth)



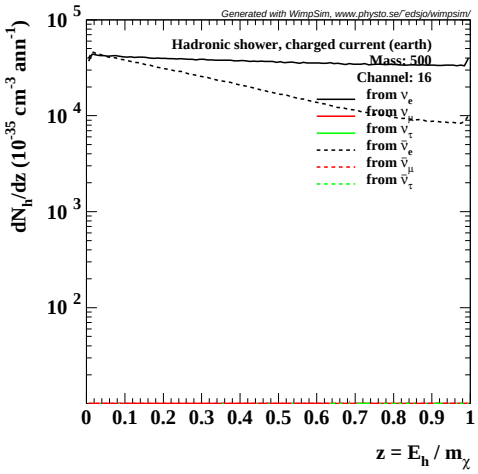


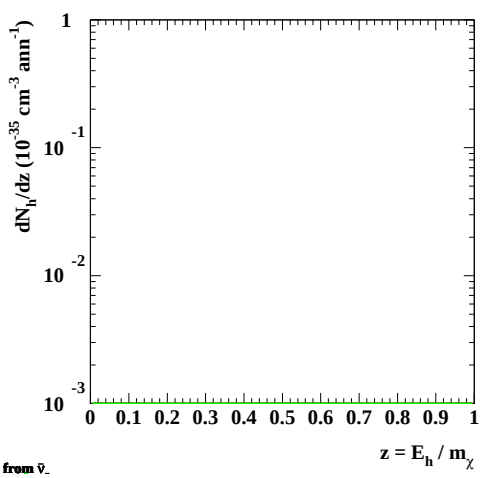
12.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





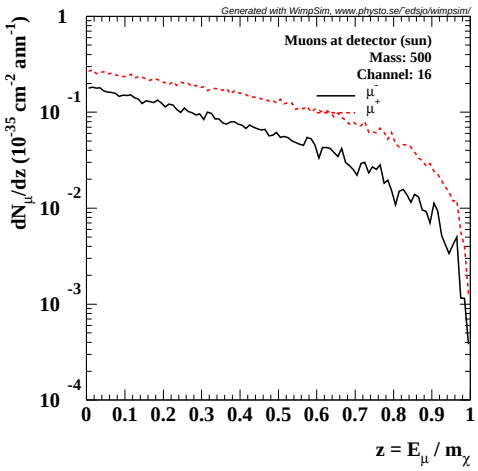
12.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

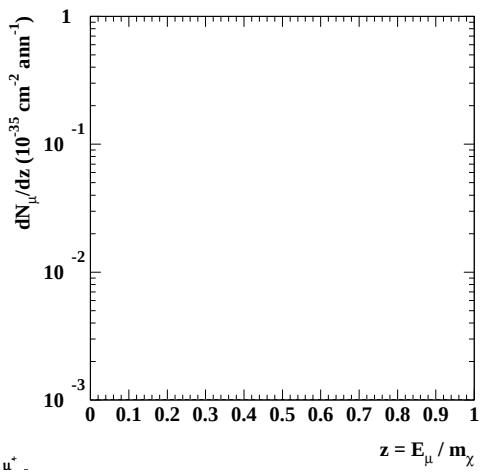




from $\bar{\nu}_\tau$

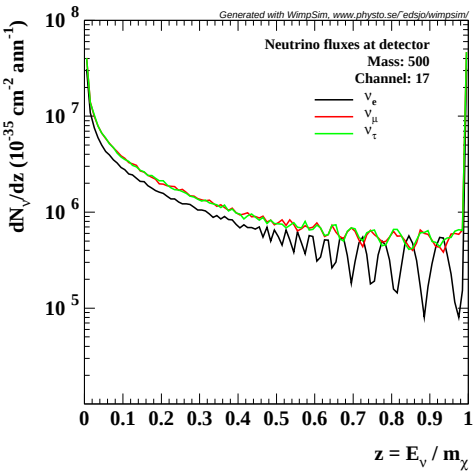
12.8.7 Muons at detector (Sun/Earth)

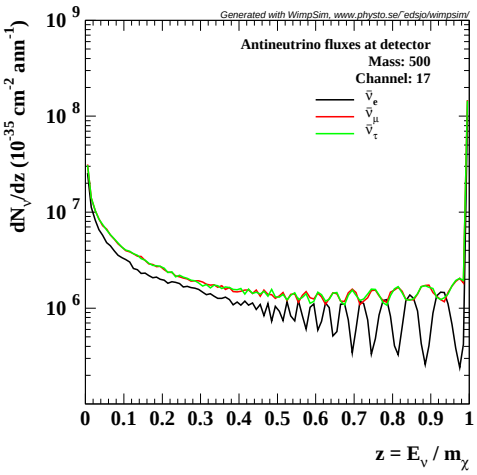




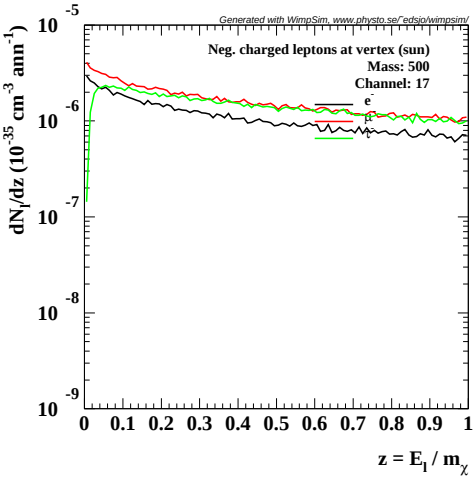
12.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

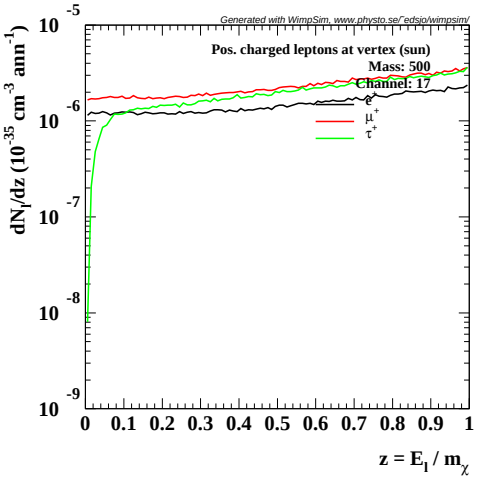
12.9.1 Neutrino fluxes at detector (Sun)



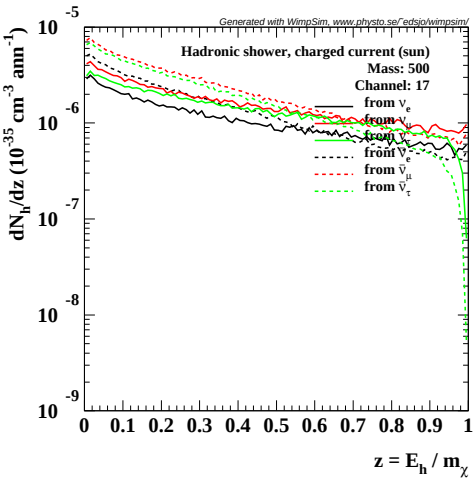


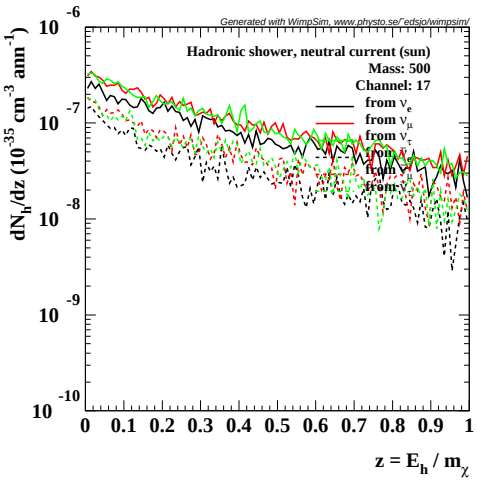
12.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



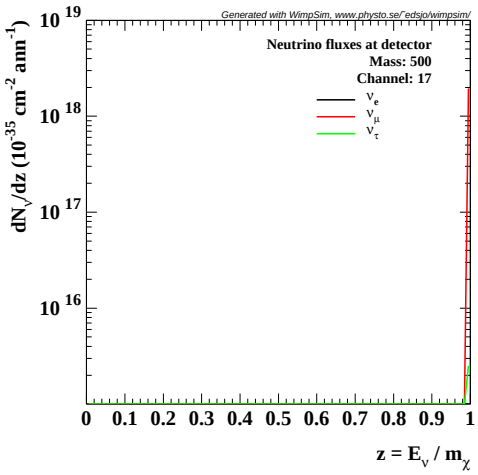


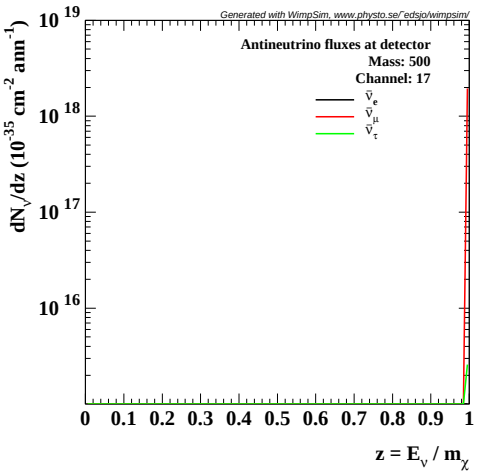
12.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



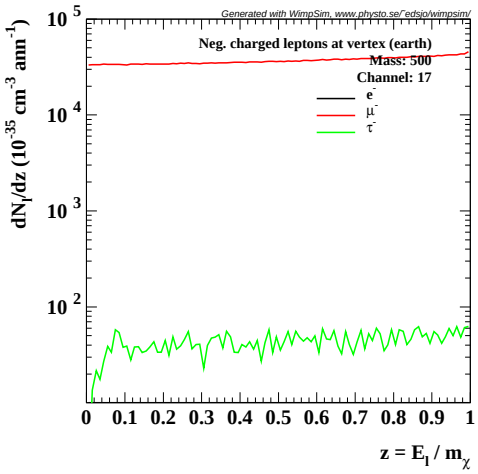


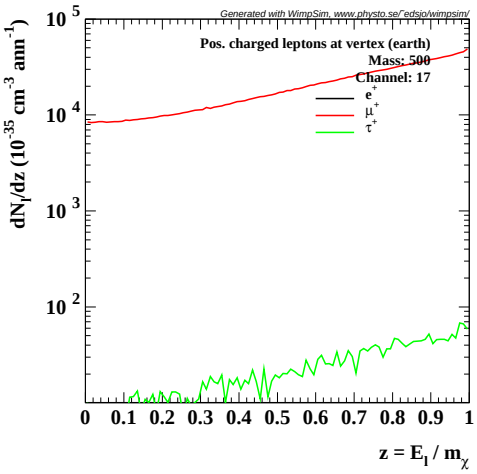
12.9.4 Neutrino fluxes at detector (Earth)



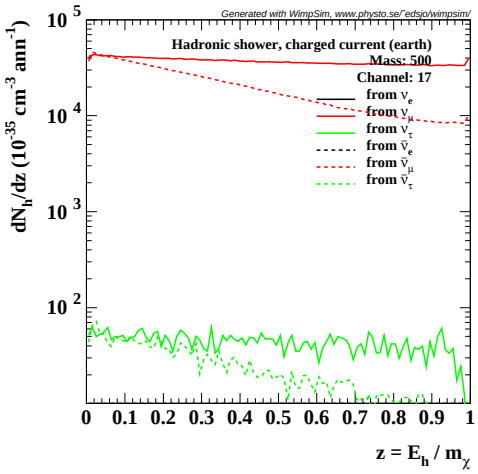


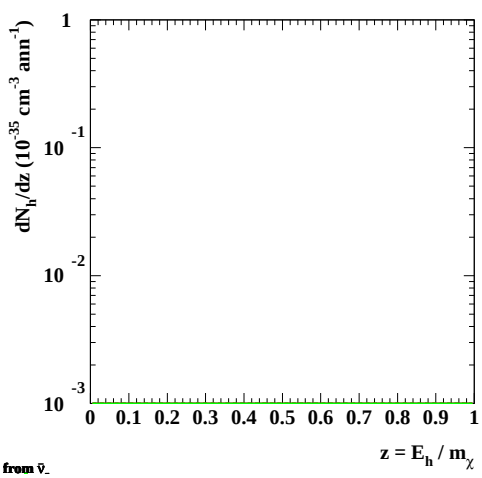
12.9.5 Charged leptons at neutrino-nucleon vertex (Earth)





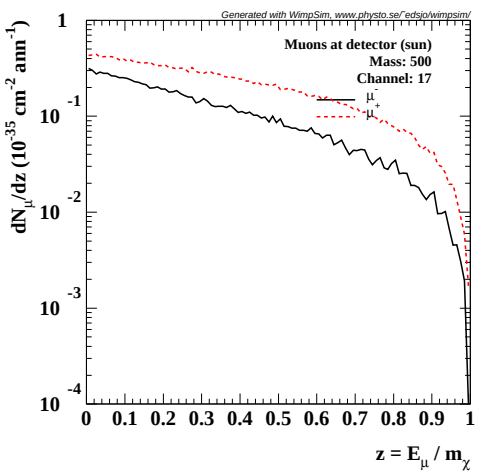
12.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)

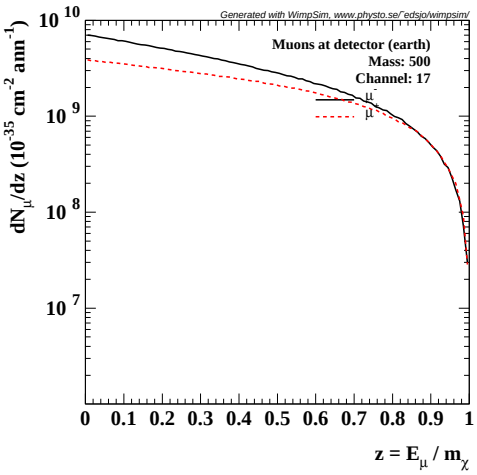




from $\bar{\nu}_-$

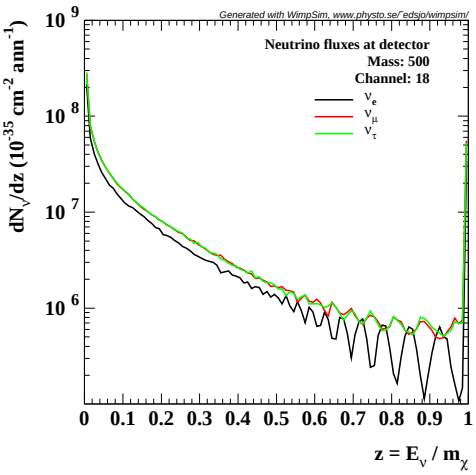
12.9.7 Muons at detector (Sun/Earth)

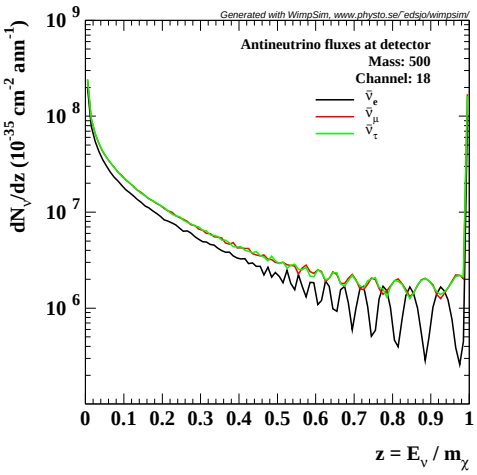




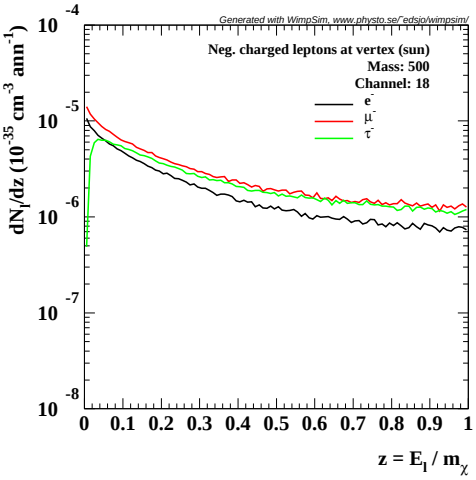
12.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

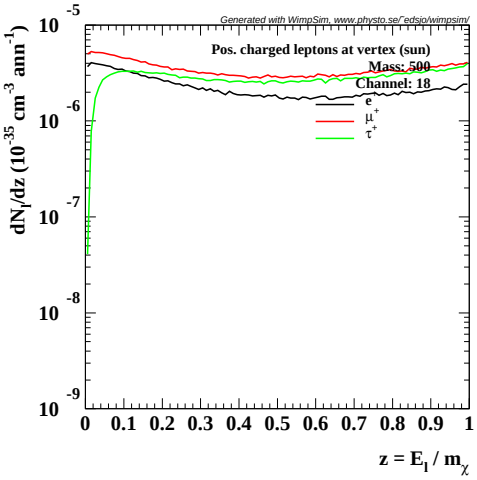
12.10.1 Neutrino fluxes at detector (Sun)



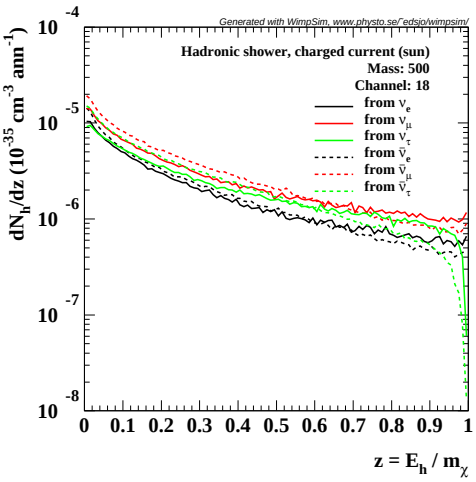


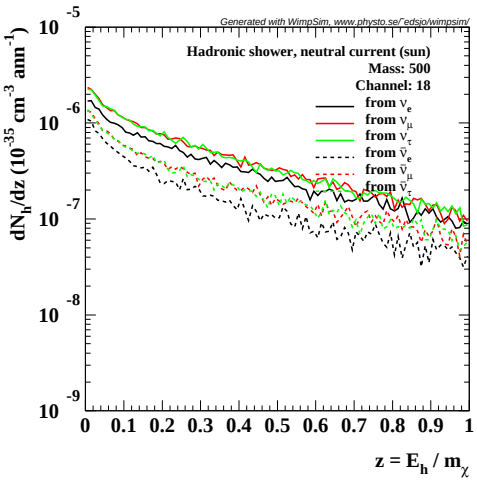
12.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



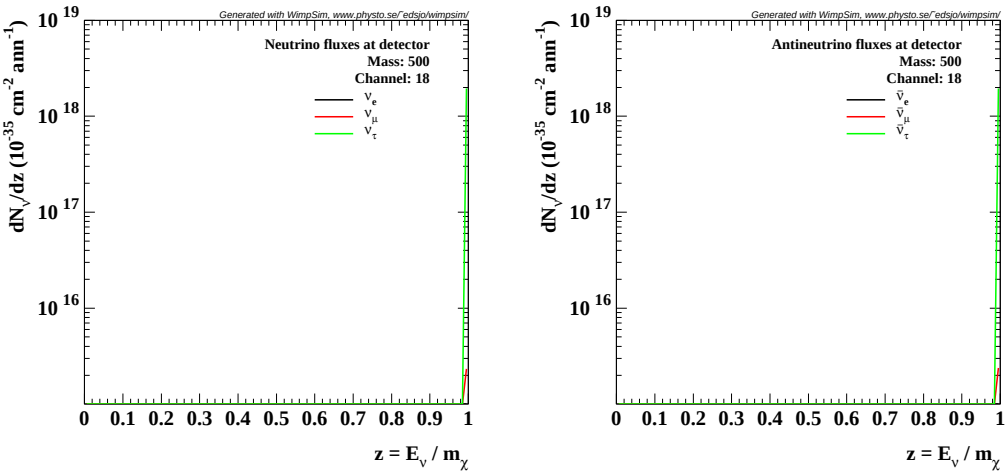


12.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)

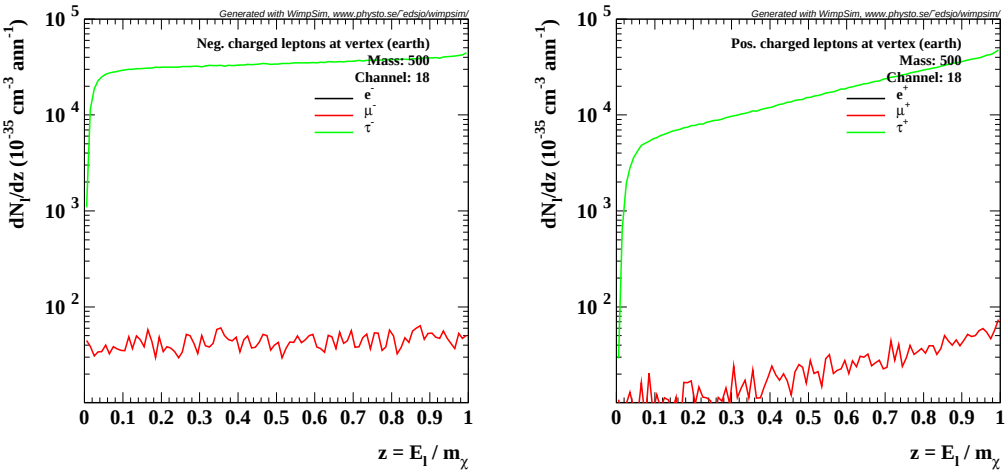




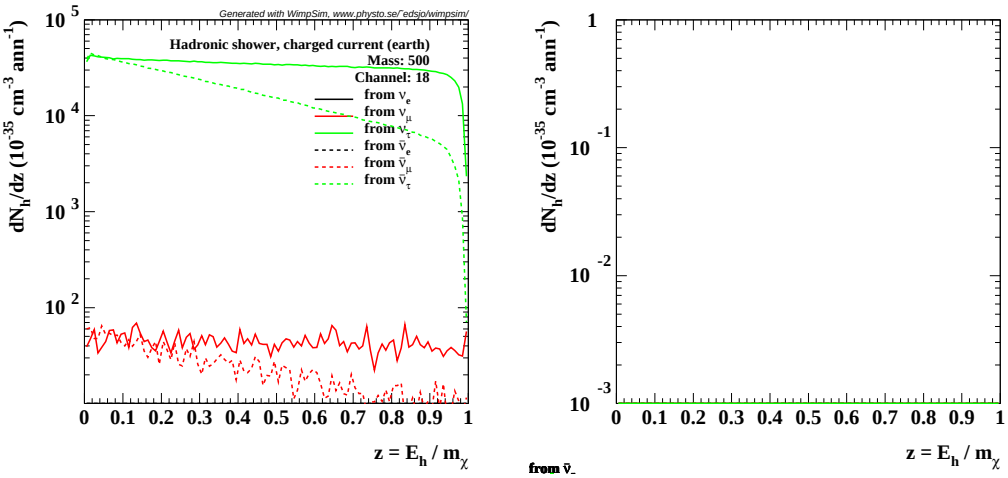
12.10.4 Neutrino fluxes at detector (Earth)



12.10.5 Charged leptons at neutrino-nucleon vertex (Earth)

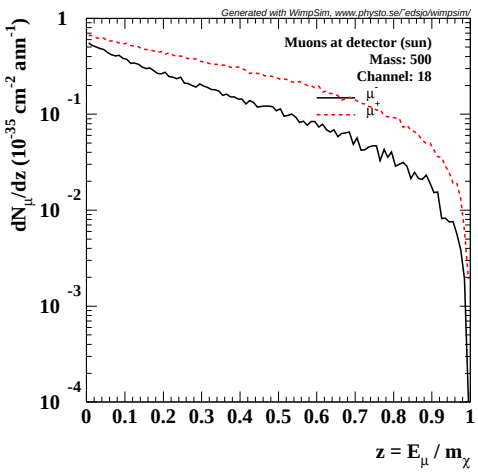


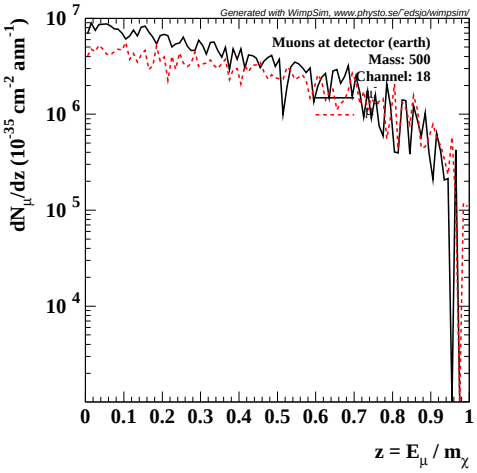
12.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

12.10.7 Muons at detector (Sun/Earth)

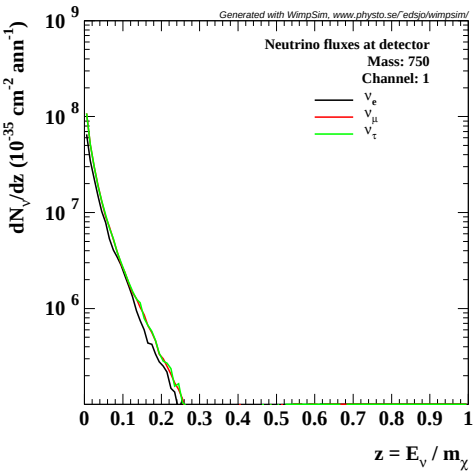


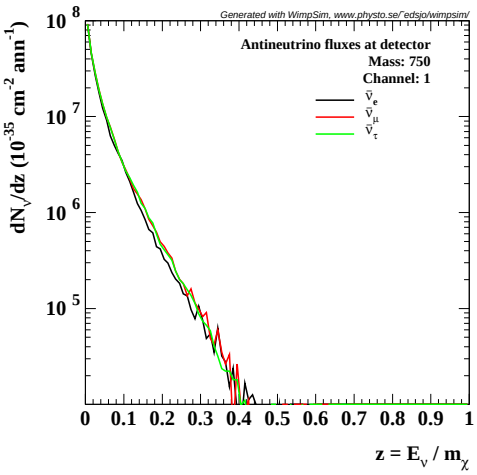


13 Mass 750

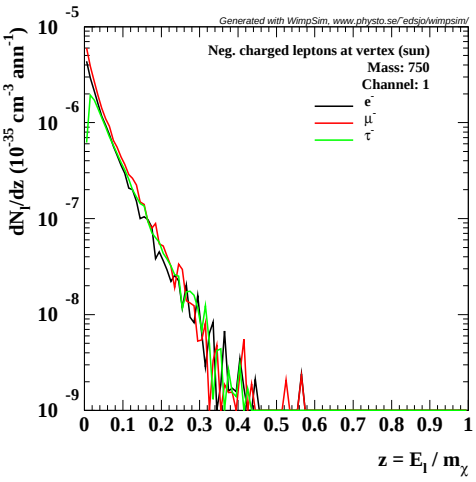
13.1 Channel 1 – $c\bar{c}$

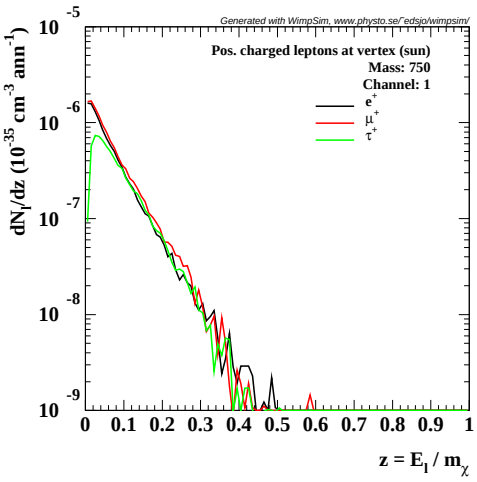
13.1.1 Neutrino fluxes at detector (Sun)



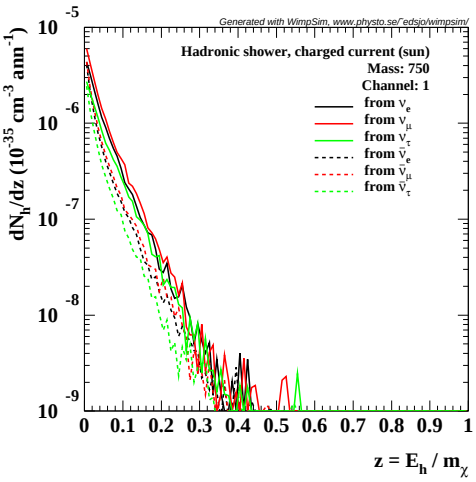


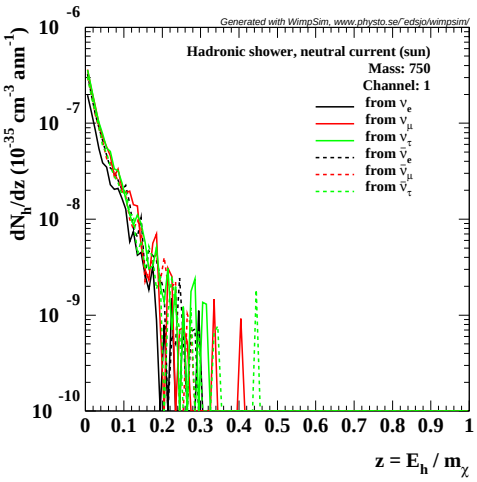
13.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



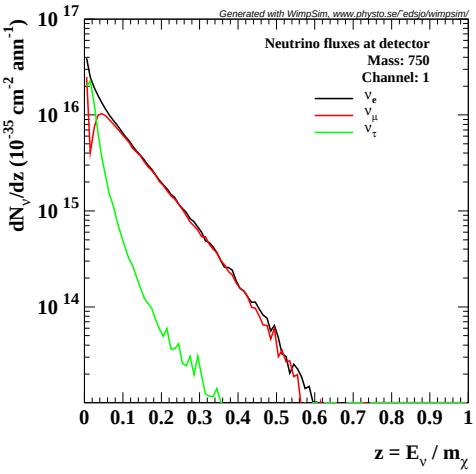


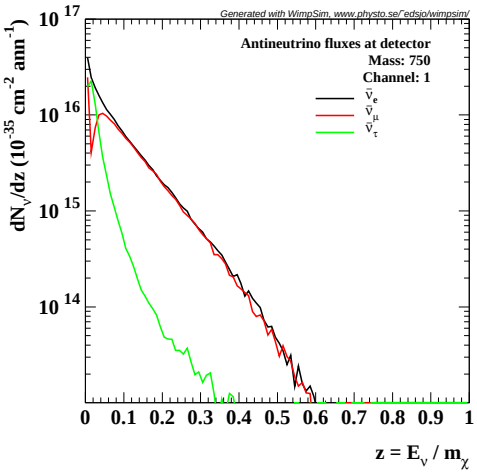
13.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



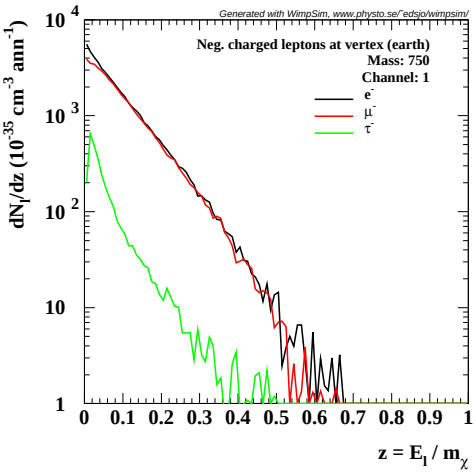


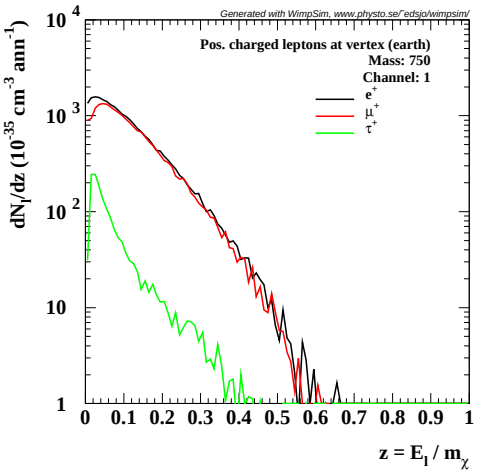
13.1.4 Neutrino fluxes at detector (Earth)



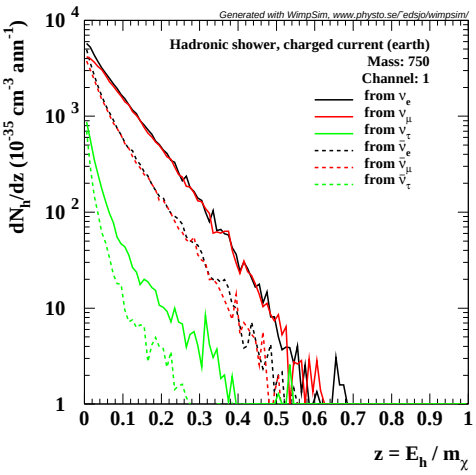


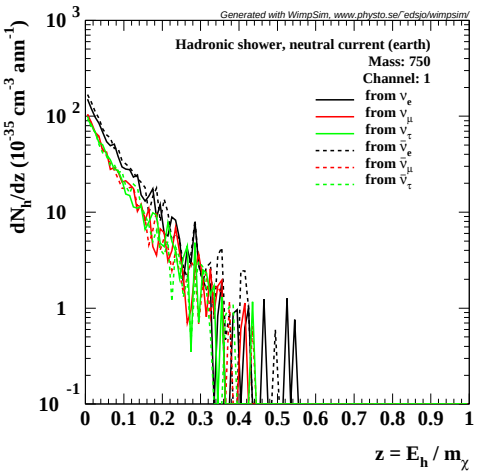
13.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



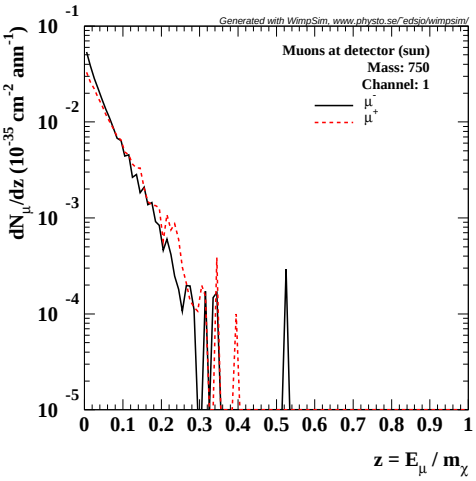


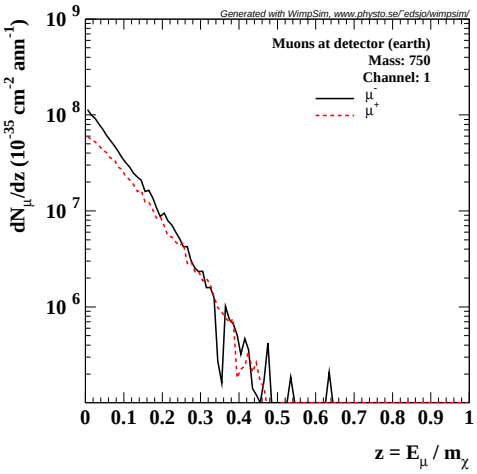
13.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





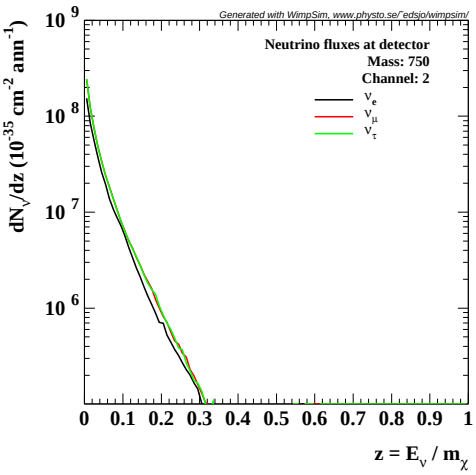
13.1.7 Muons at detector (Sun/Earth)

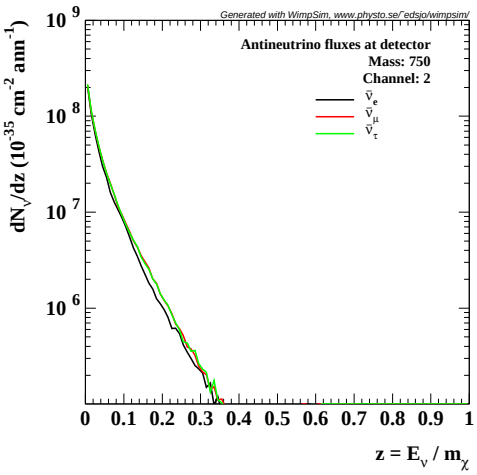




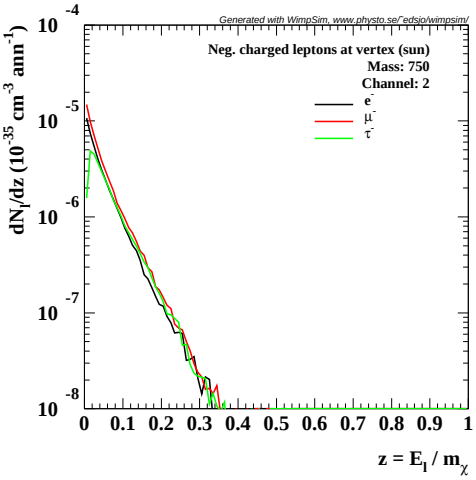
13.2 Channel 2 – $b\bar{b}$

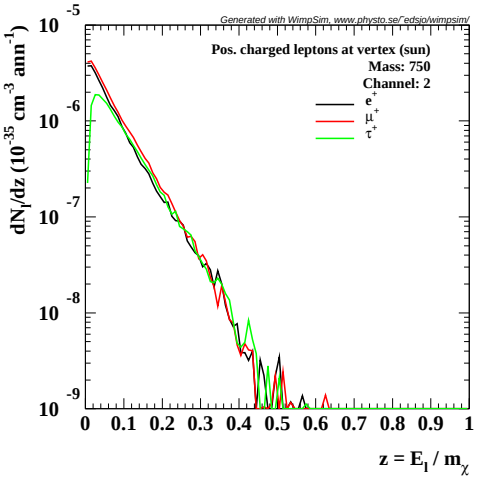
13.2.1 Neutrino fluxes at detector (Sun)



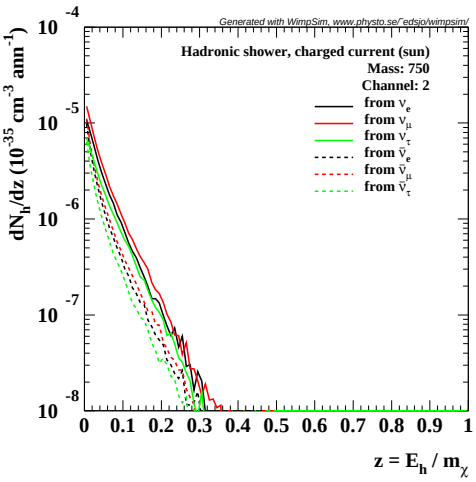


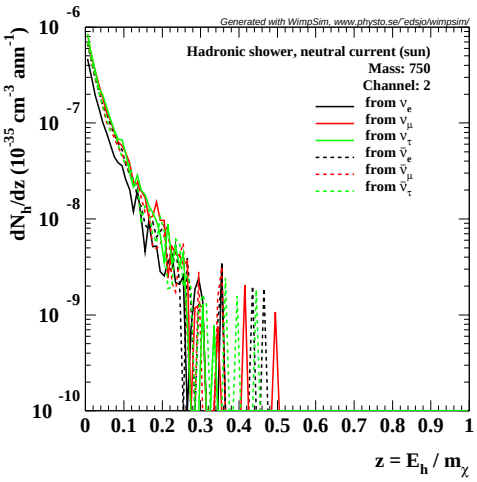
13.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



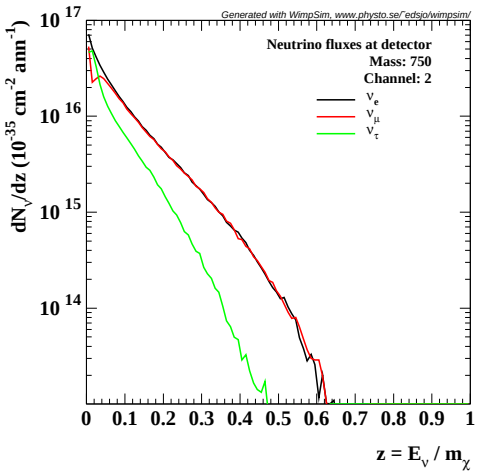


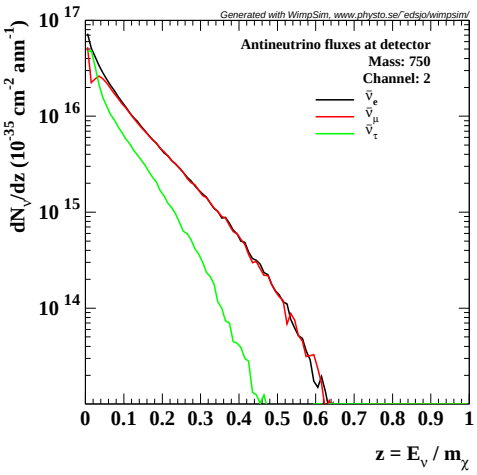
13.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



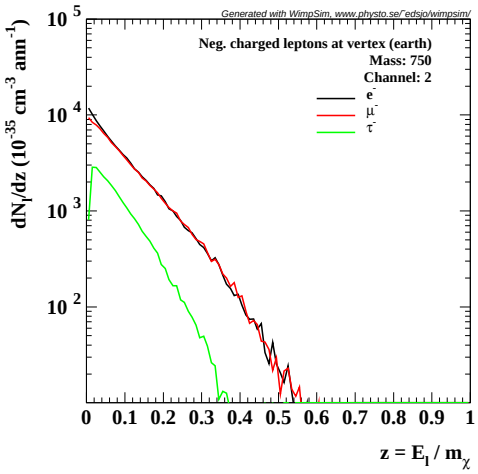


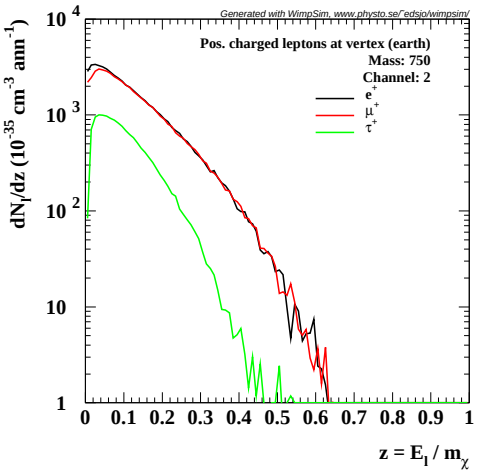
13.2.4 Neutrino fluxes at detector (Earth)



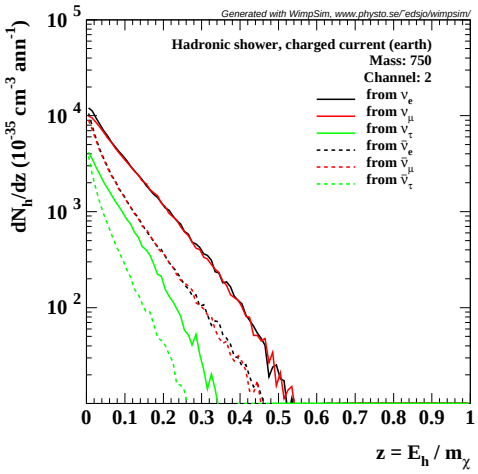


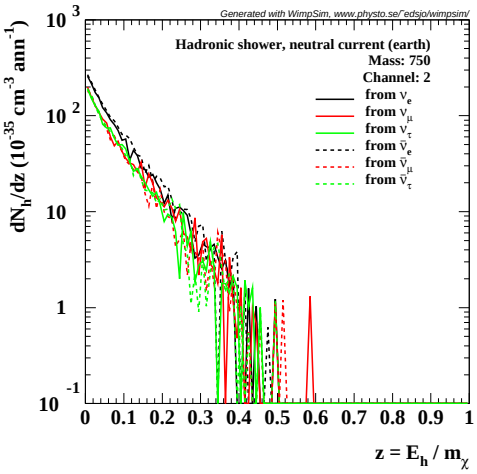
13.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



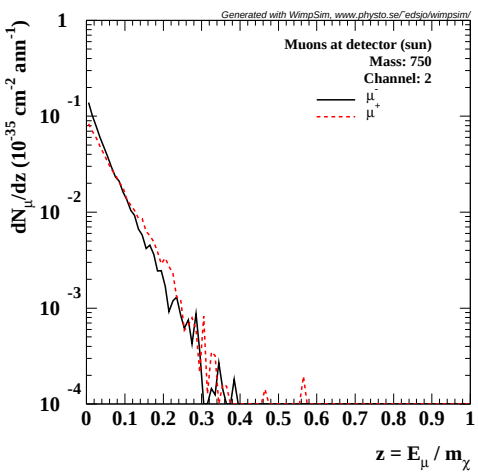


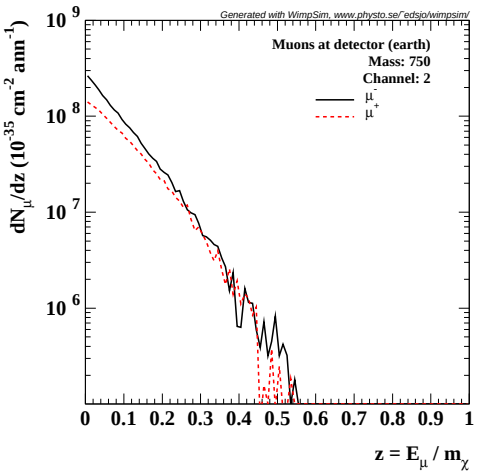
13.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





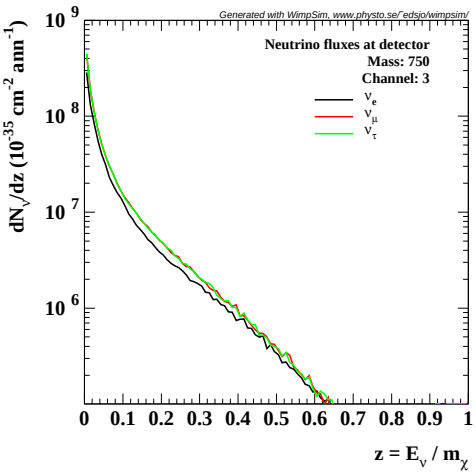
13.2.7 Muons at detector (Sun/Earth)

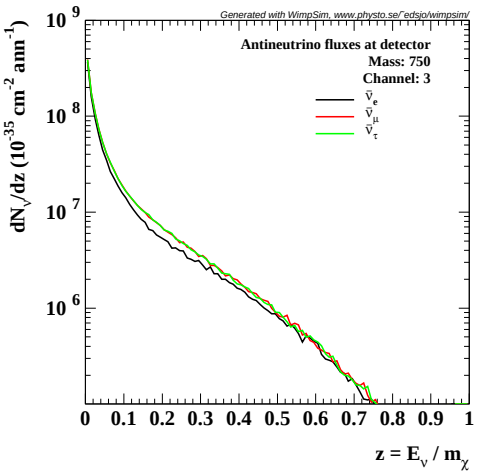




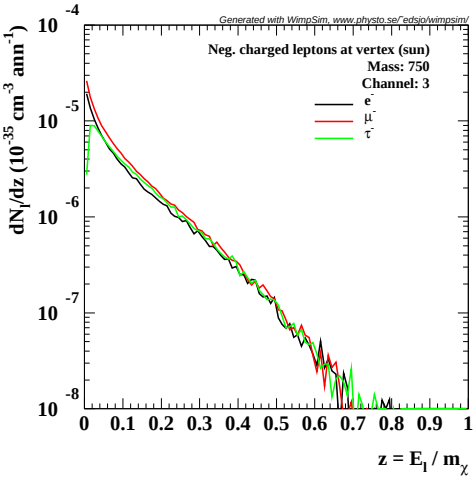
13.3 Channel 3 – $t\bar{t}$

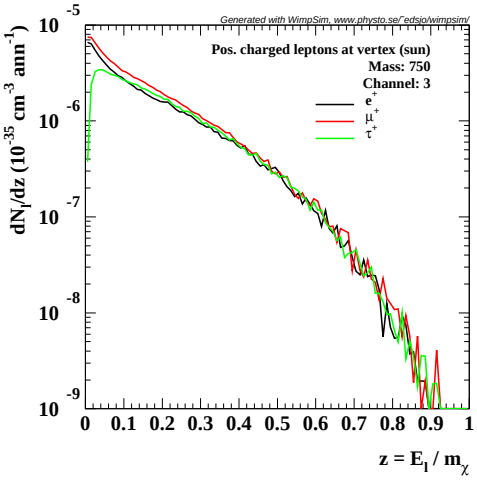
13.3.1 Neutrino fluxes at detector (Sun)



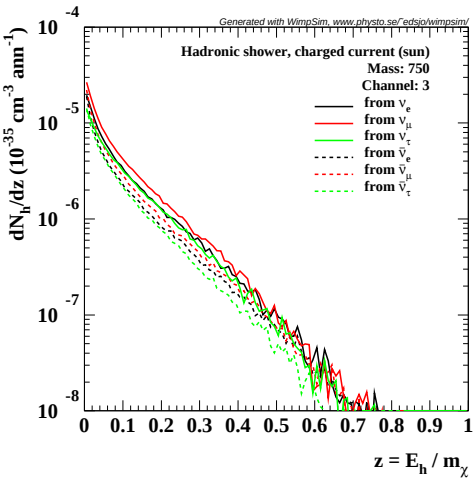


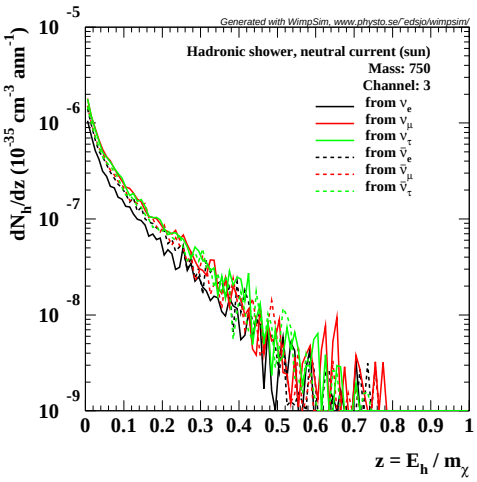
13.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



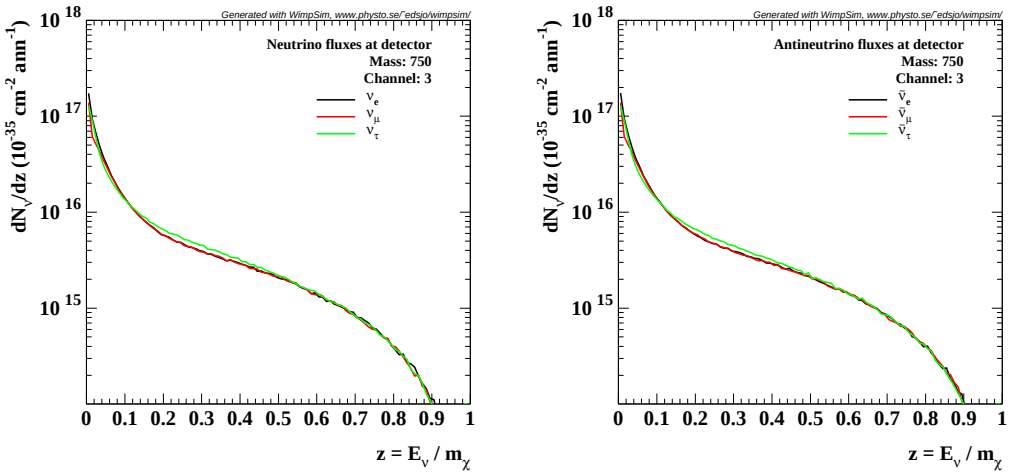


13.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

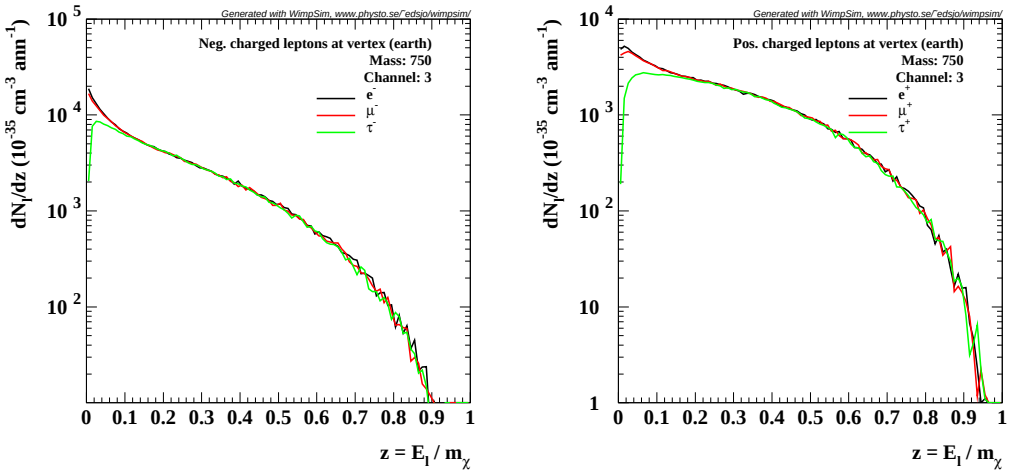




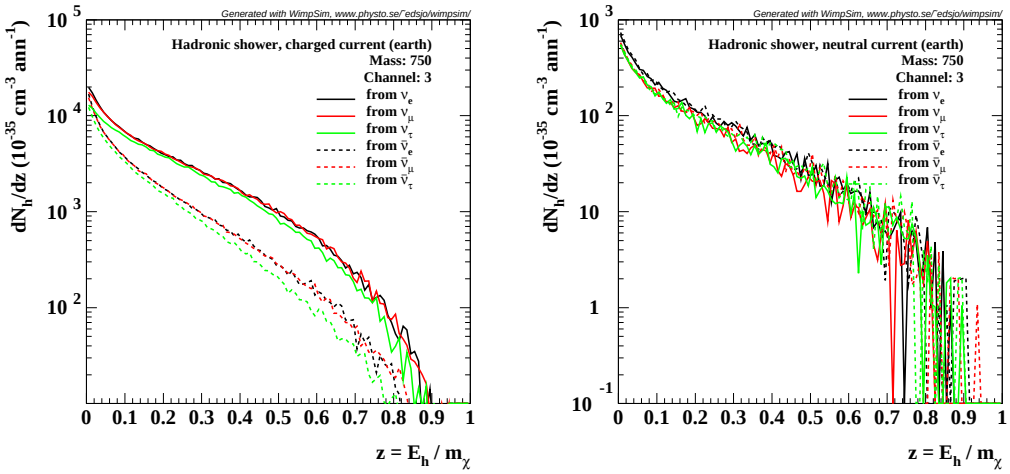
13.3.4 Neutrino fluxes at detector (Earth)



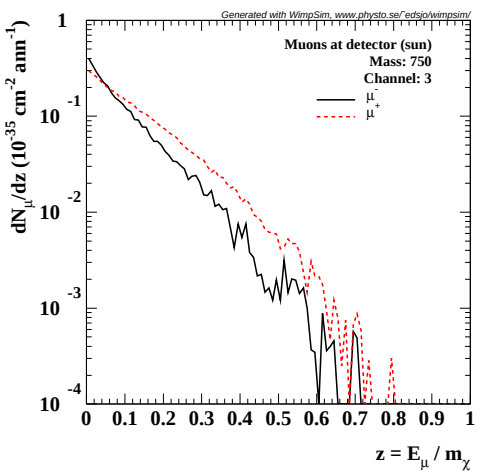
13.3.5 Charged leptons at neutrino-nucleon vertex (Earth)

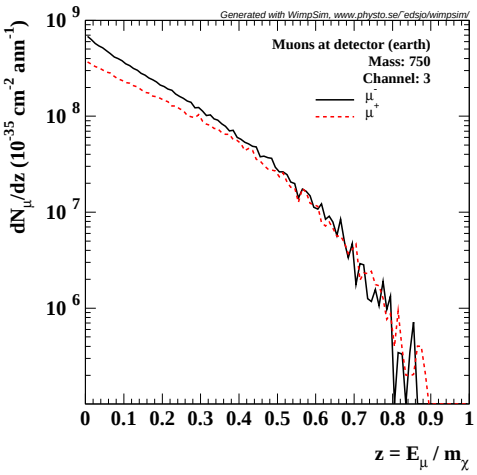


13.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)



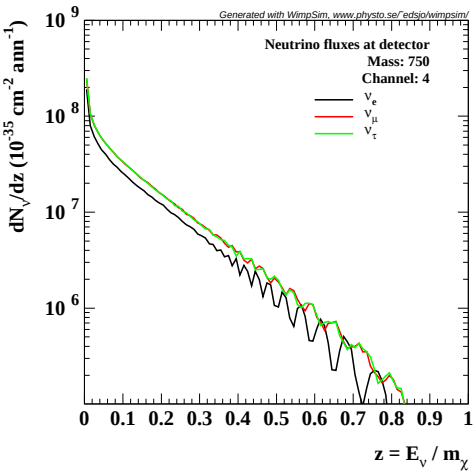
13.3.7 Muons at detector (Sun/Earth)

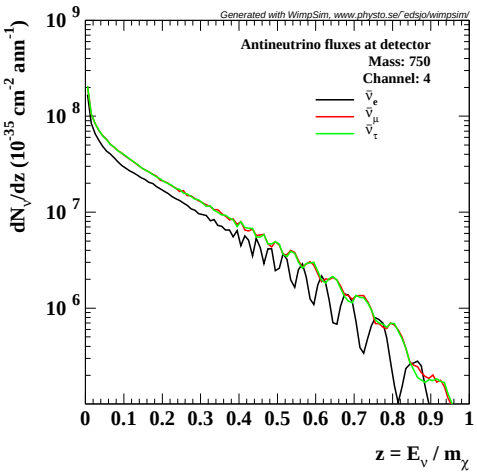




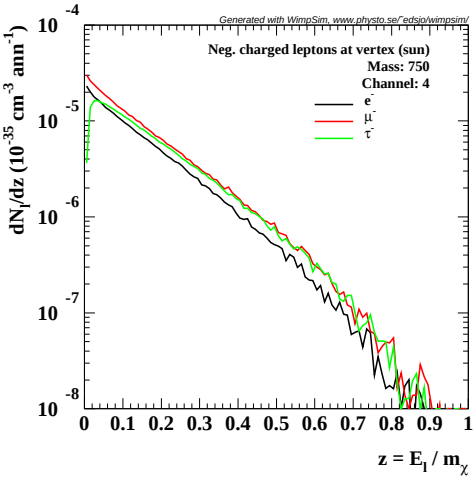
13.4 Channel 4 – $\tau^-\tau^+$

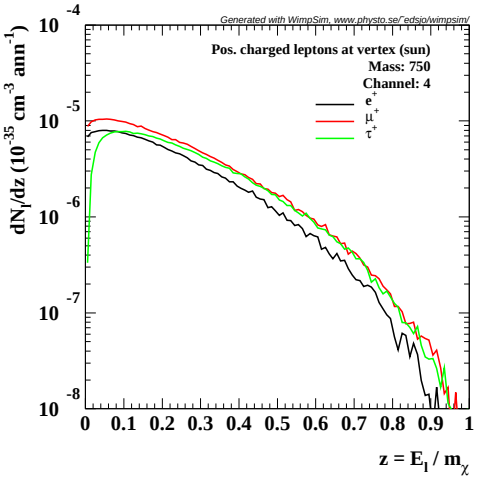
13.4.1 Neutrino fluxes at detector (Sun)



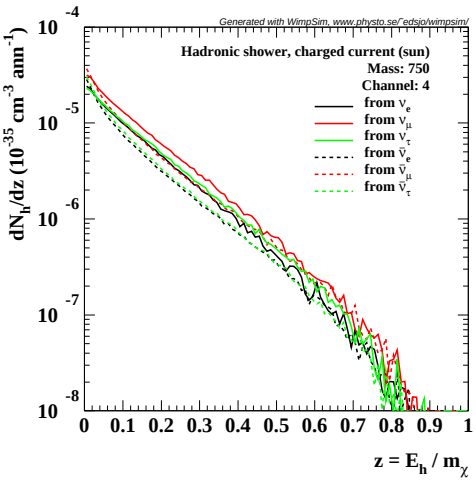


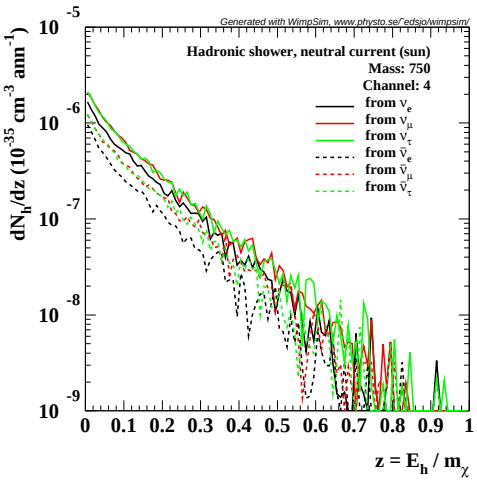
13.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



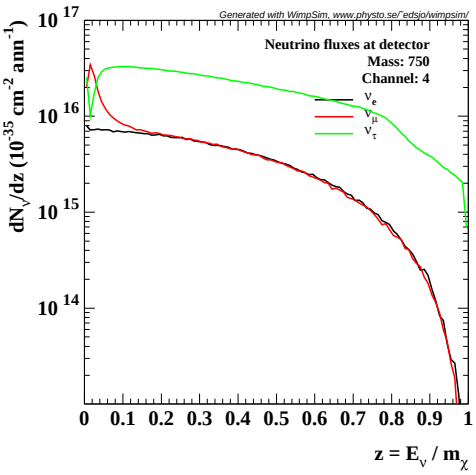


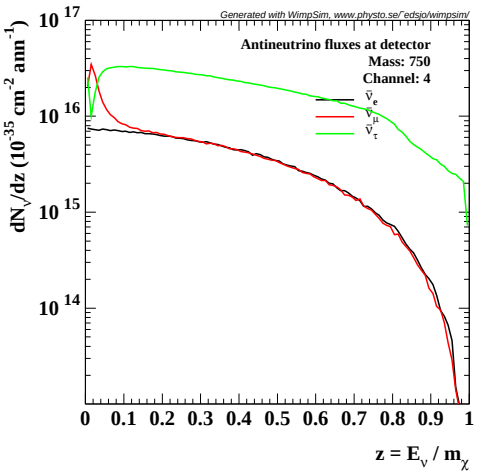
13.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



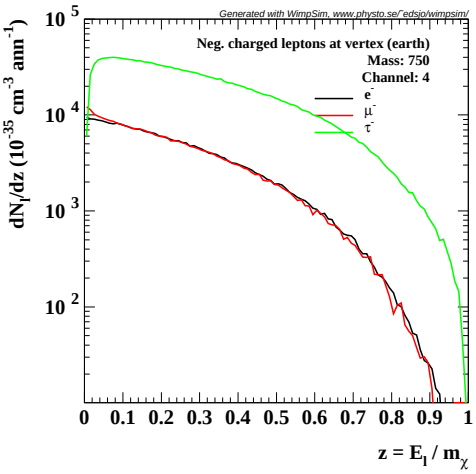


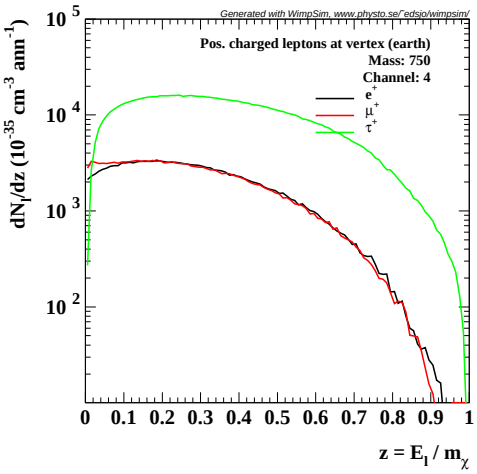
13.4.4 Neutrino fluxes at detector (Earth)



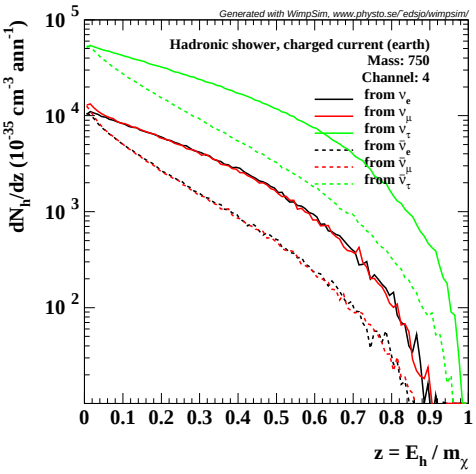


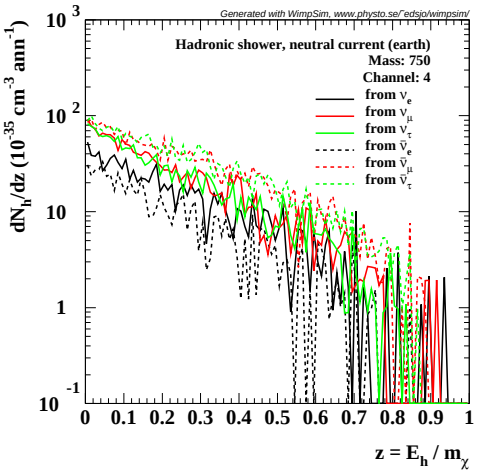
13.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



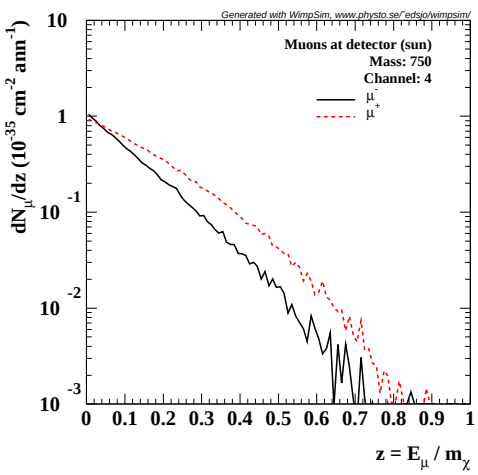


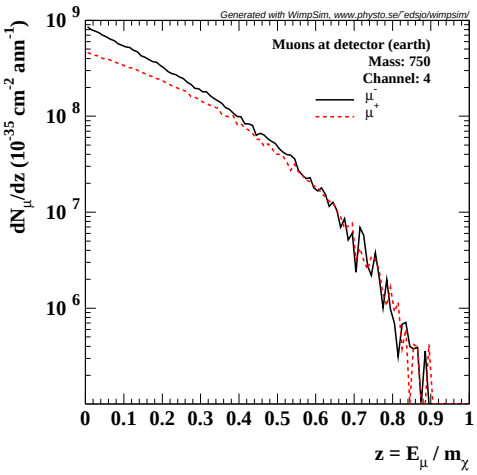
13.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





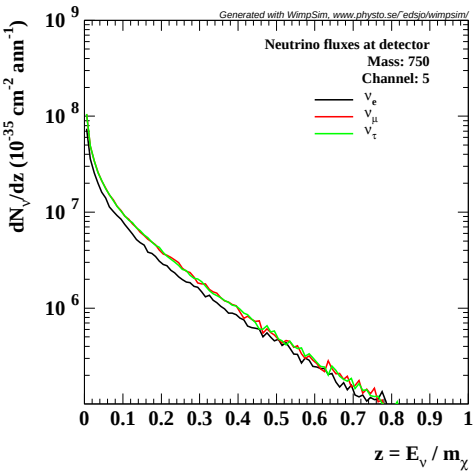
13.4.7 Muons at detector (Sun/Earth)

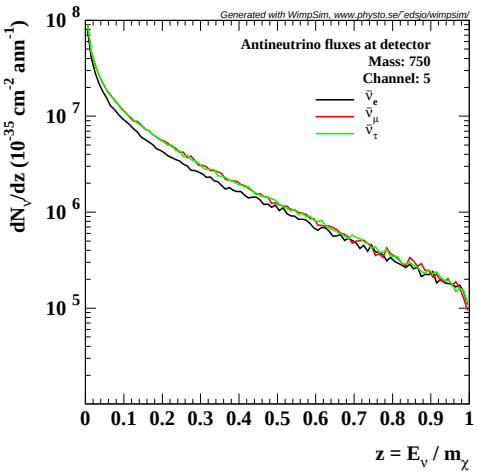




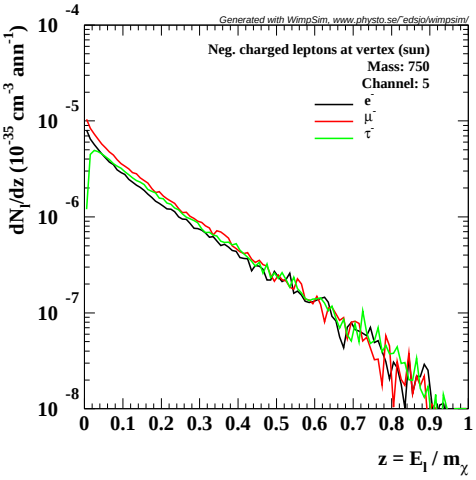
13.5 Channel 5 – W^-W^+

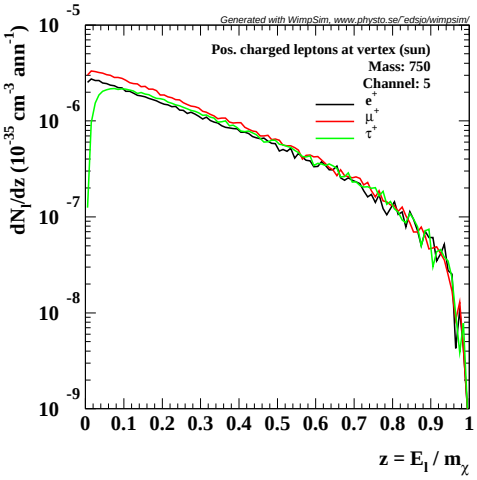
13.5.1 Neutrino fluxes at detector (Sun)



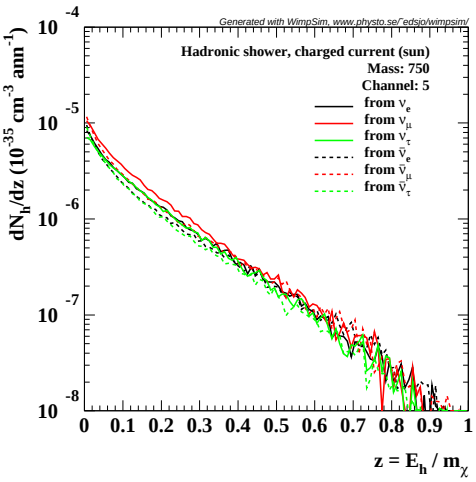


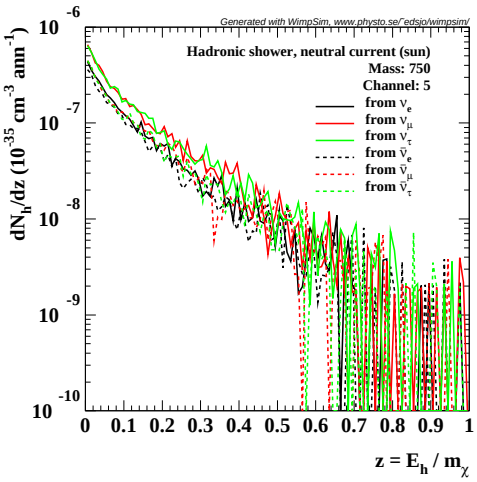
13.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



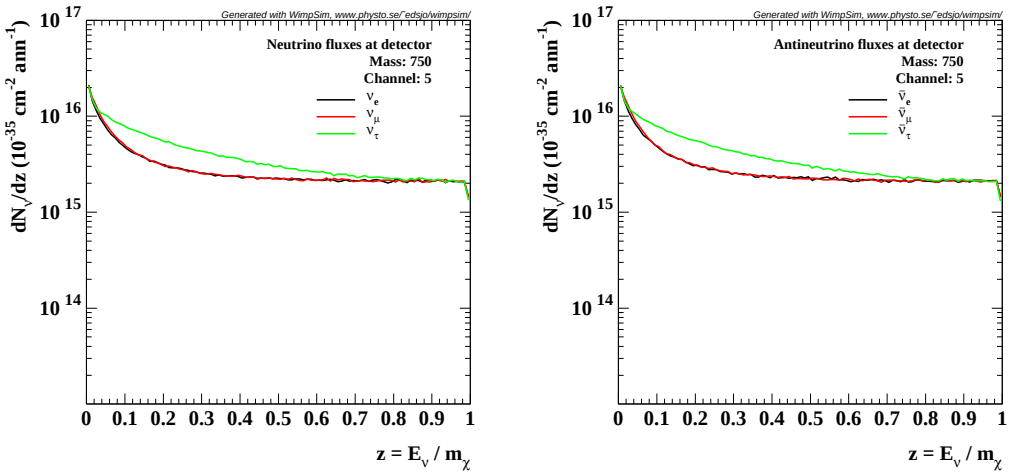


13.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

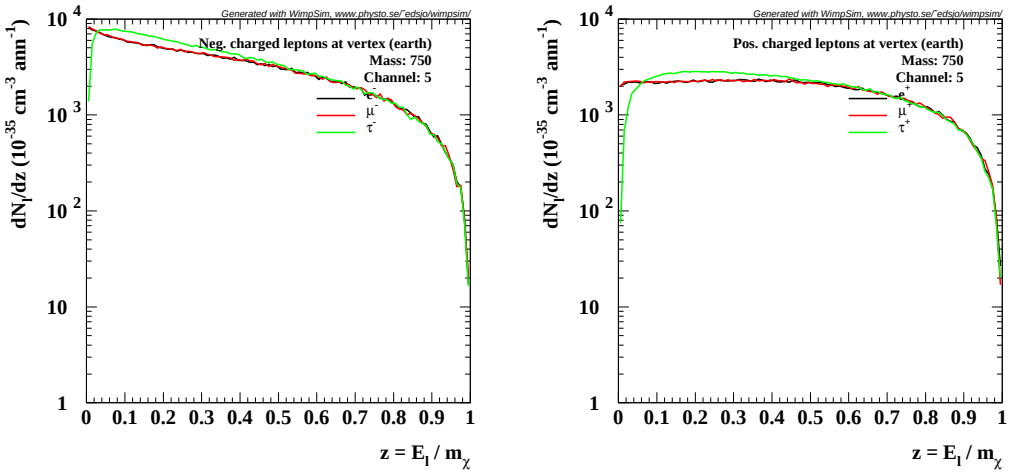




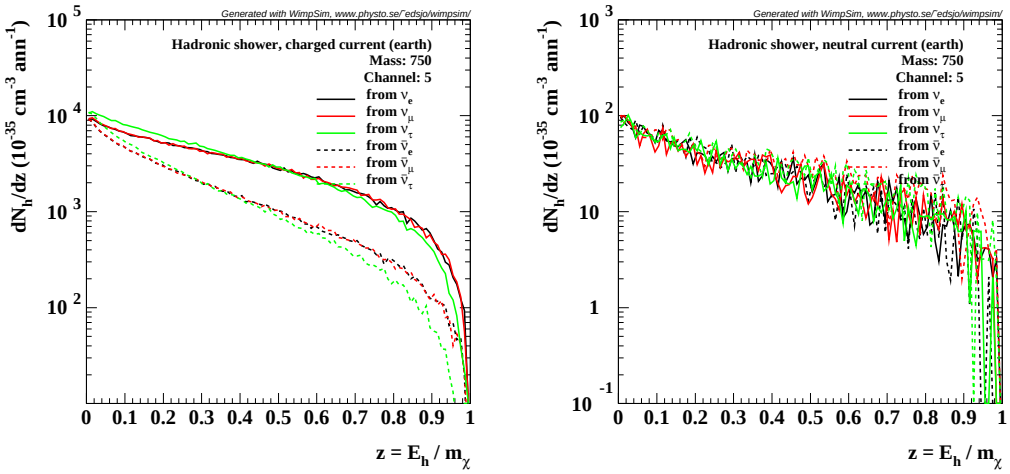
13.5.4 Neutrino fluxes at detector (Earth)



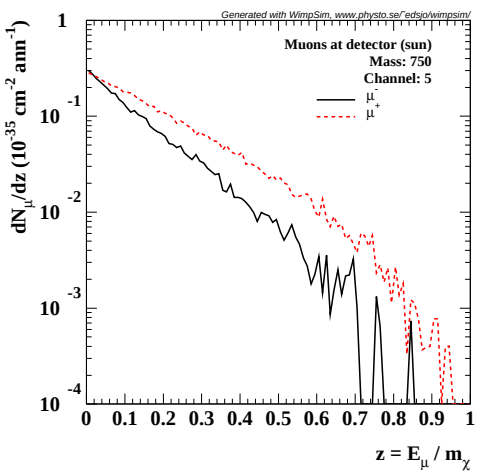
13.5.5 Charged leptons at neutrino-nucleon vertex (Earth)

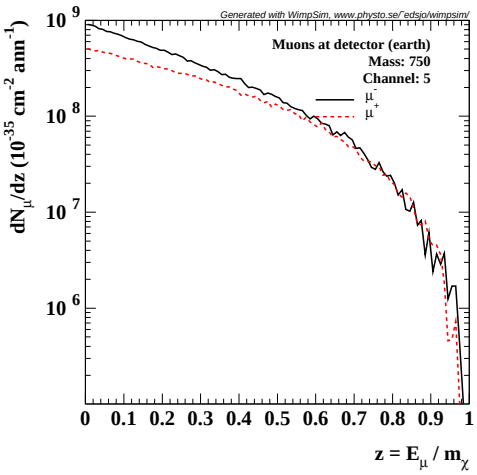


13.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)



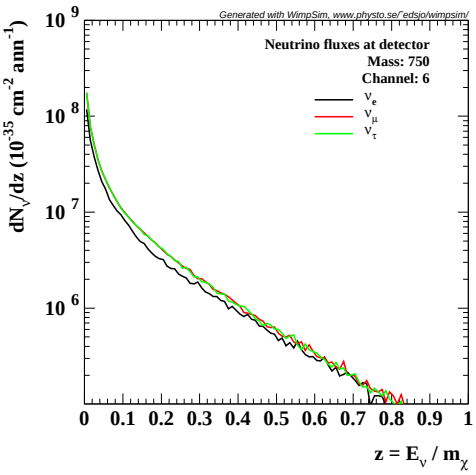
13.5.7 Muons at detector (Sun/Earth)

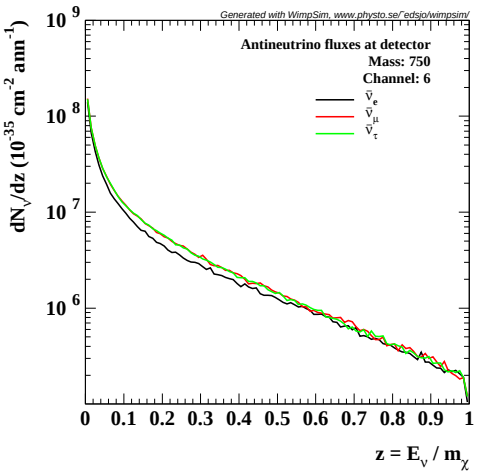




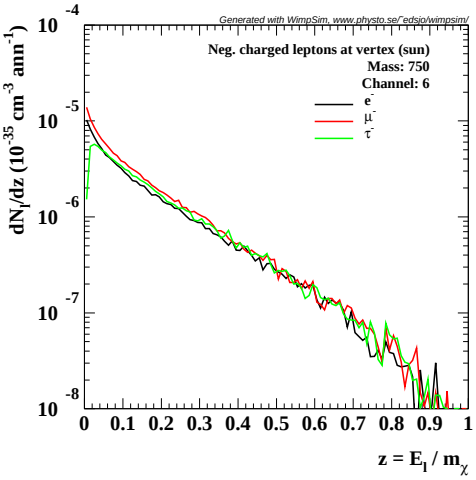
13.6 Channel 6 – $Z^0 Z^0$

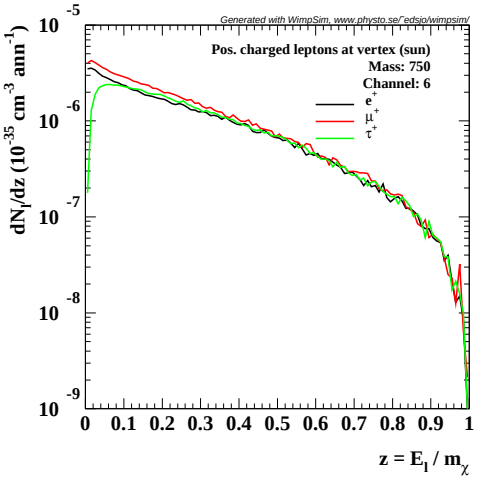
13.6.1 Neutrino fluxes at detector (Sun)



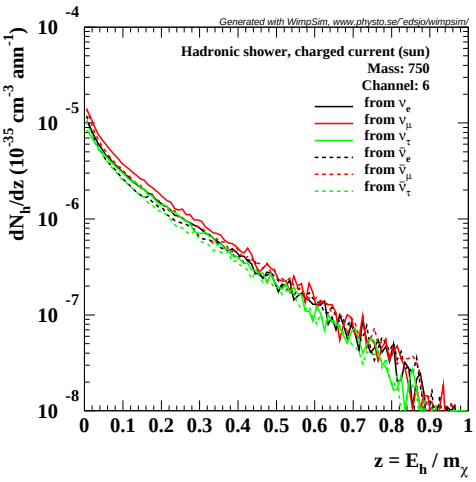


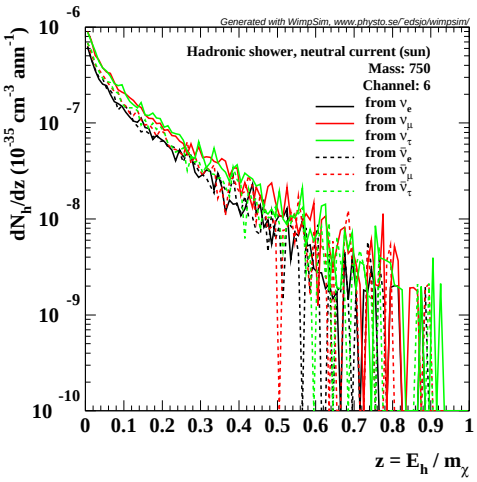
13.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



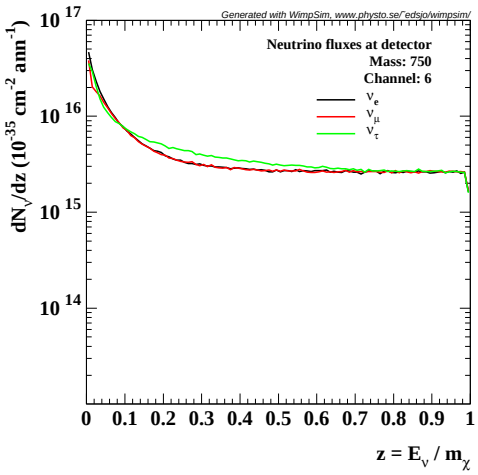


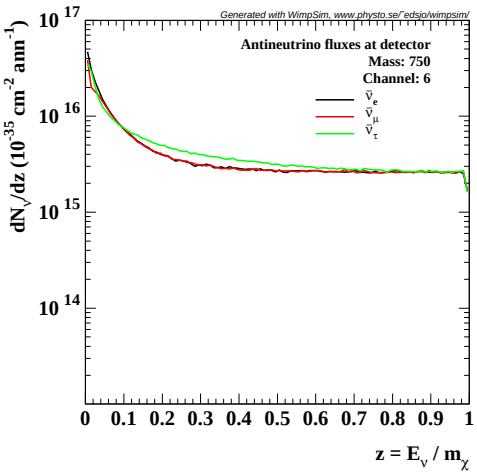
13.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



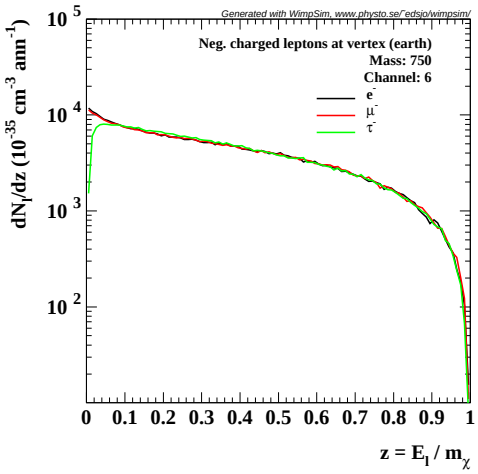


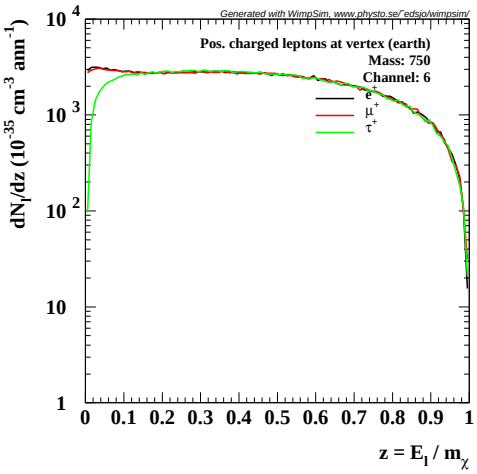
13.6.4 Neutrino fluxes at detector (Earth)



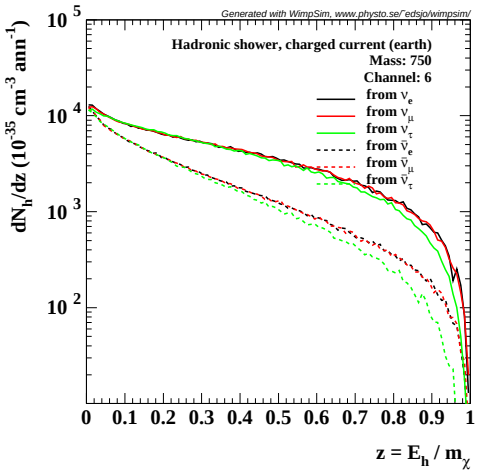


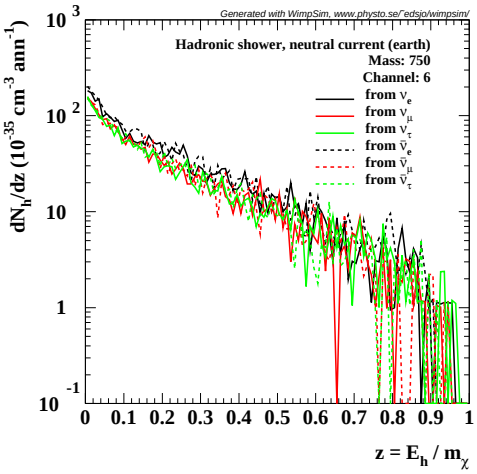
13.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



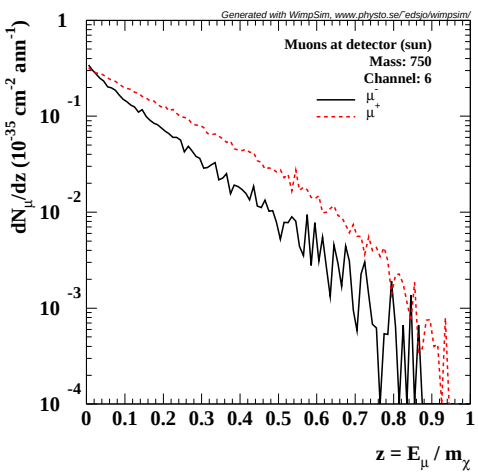


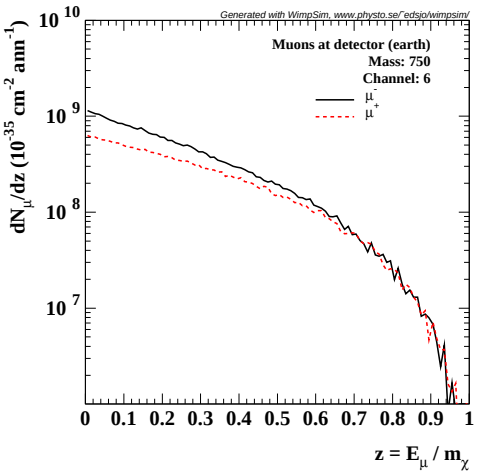
13.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





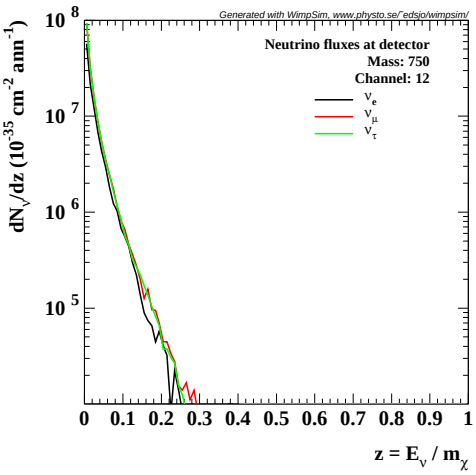
13.6.7 Muons at detector (Sun/Earth)

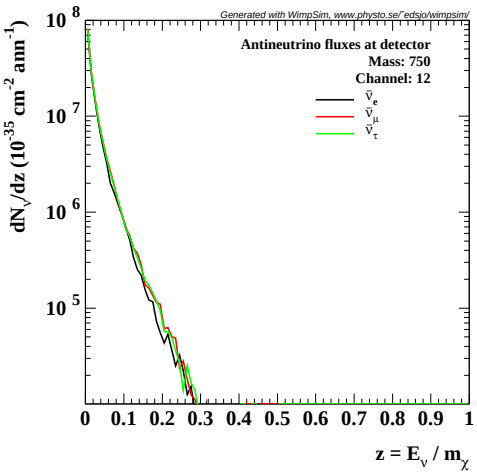




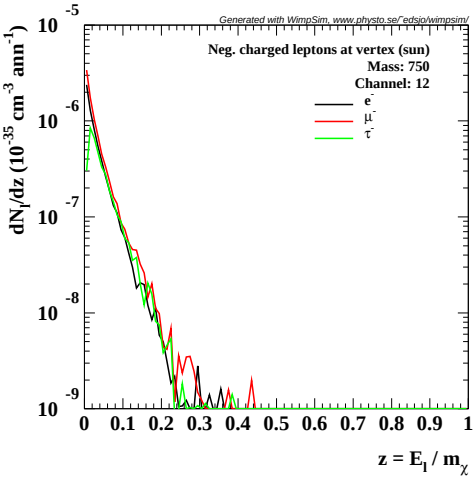
13.7 Channel 12 – gg

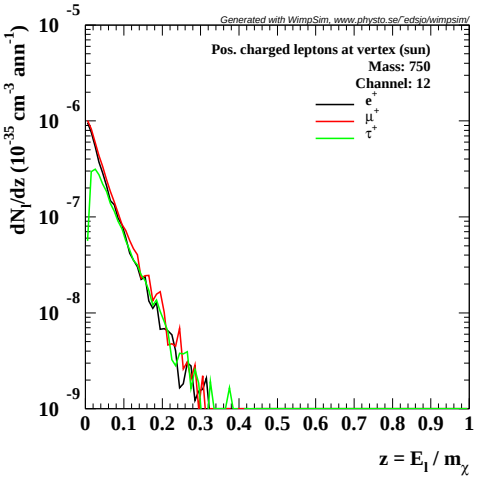
13.7.1 Neutrino fluxes at detector (Sun)



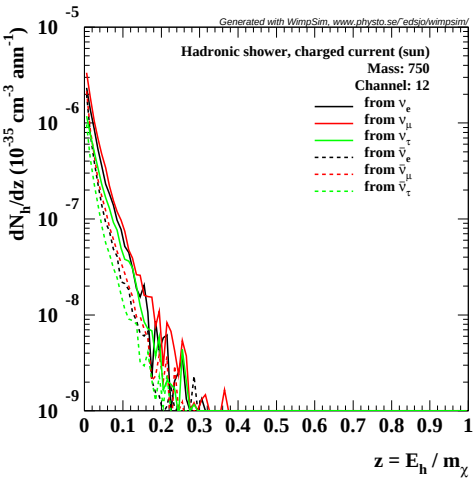


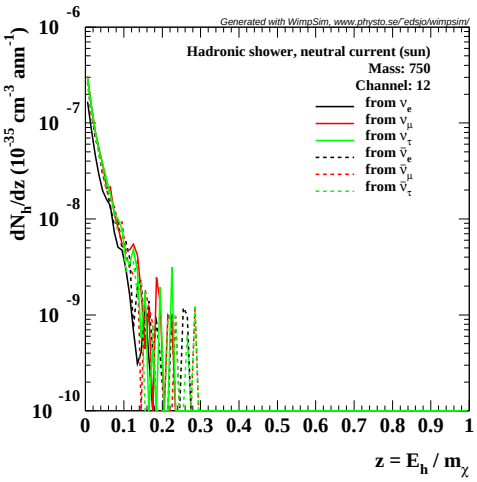
13.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



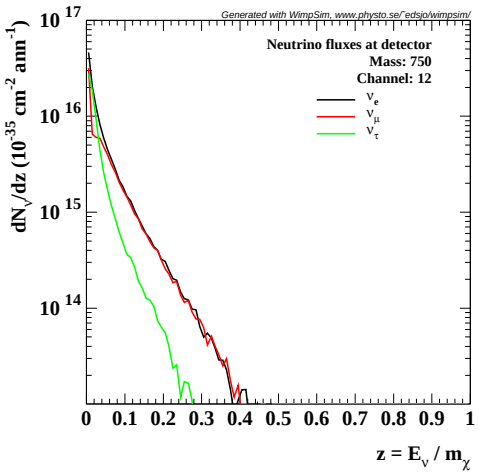


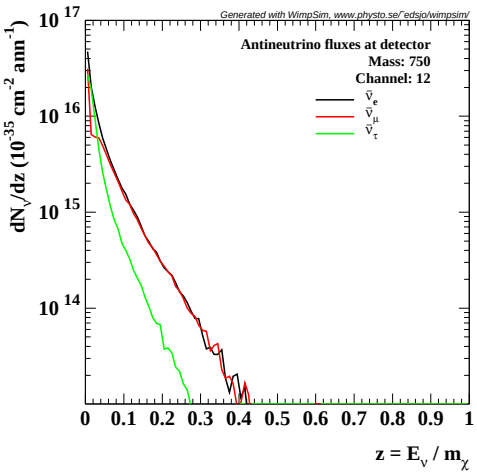
13.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



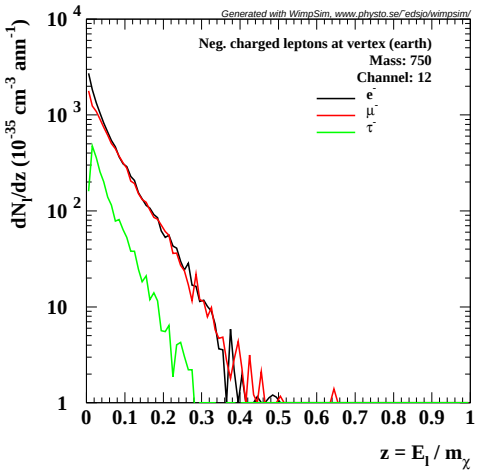


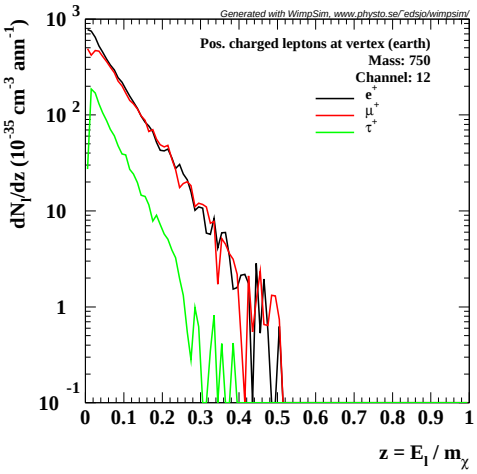
13.7.4 Neutrino fluxes at detector (Earth)



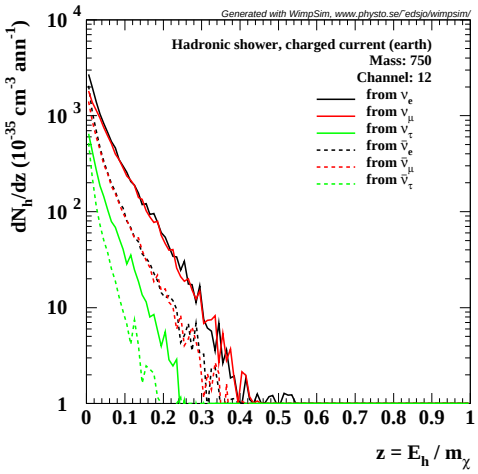


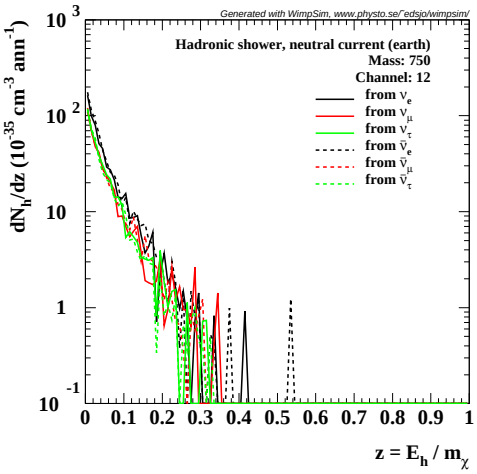
13.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



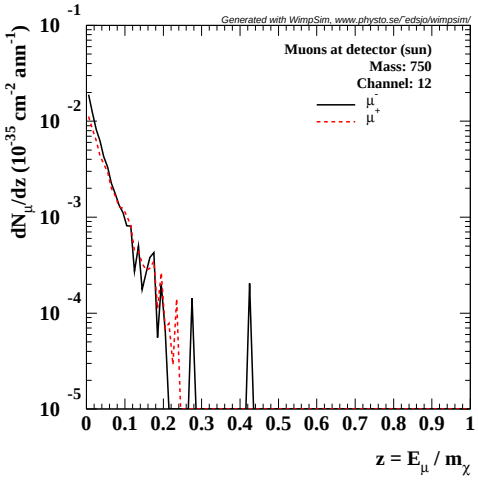


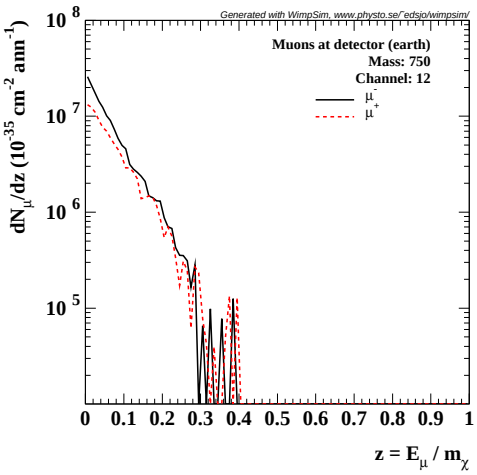
13.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





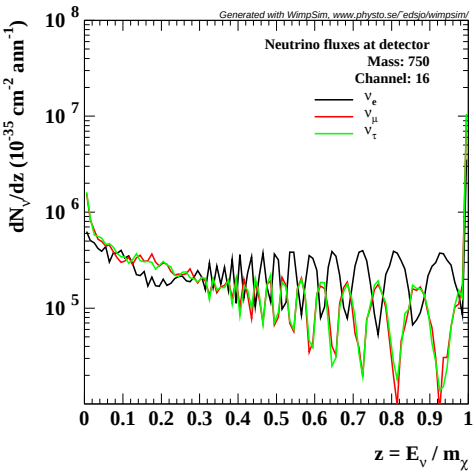
13.7.7 Muons at detector (Sun/Earth)

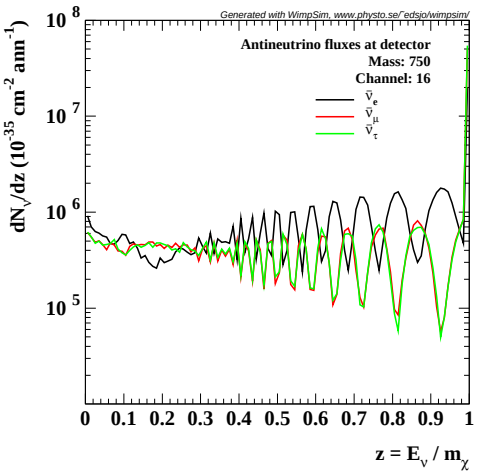




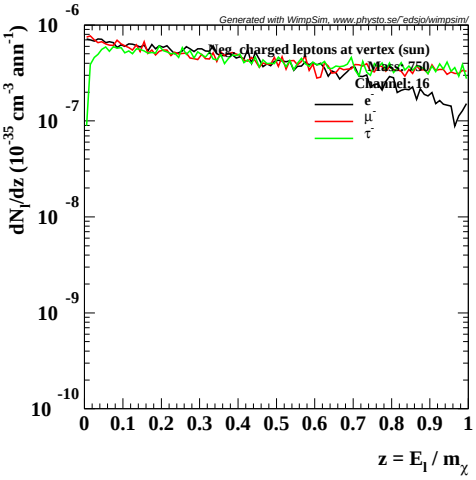
13.8 Channel 16 – $\nu_e\bar{\nu}_e$

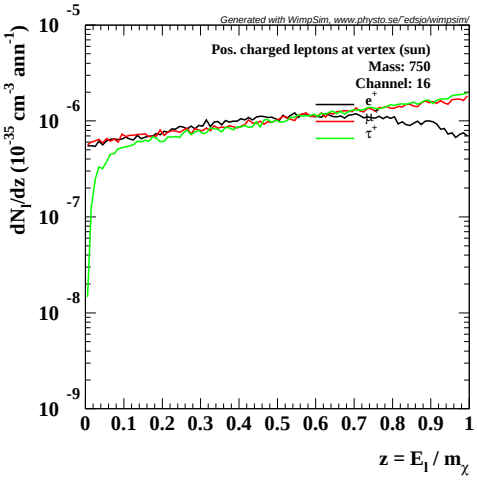
13.8.1 Neutrino fluxes at detector (Sun)



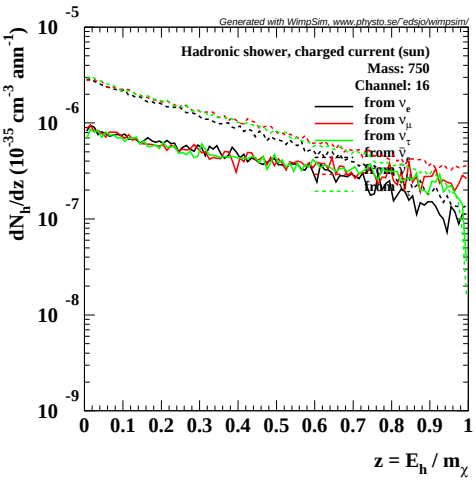


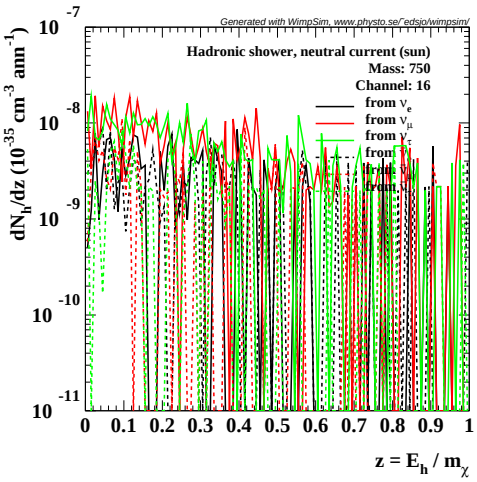
13.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



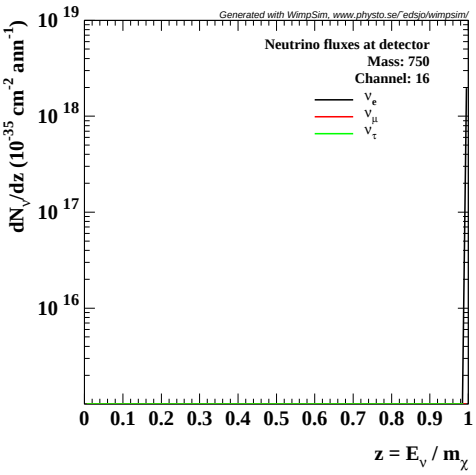


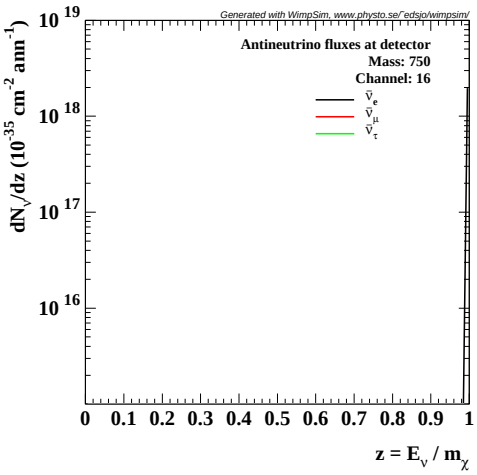
13.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



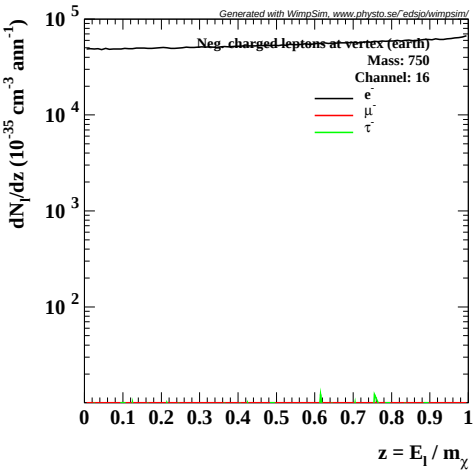


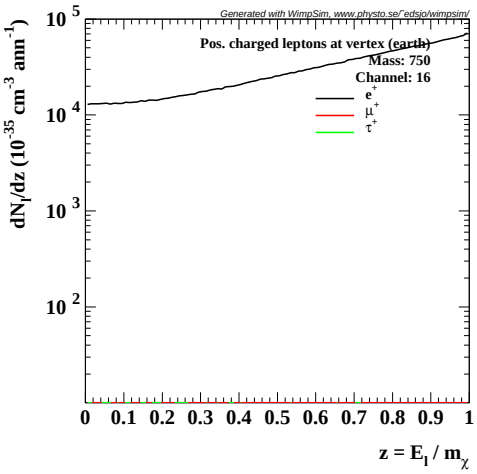
13.8.4 Neutrino fluxes at detector (Earth)



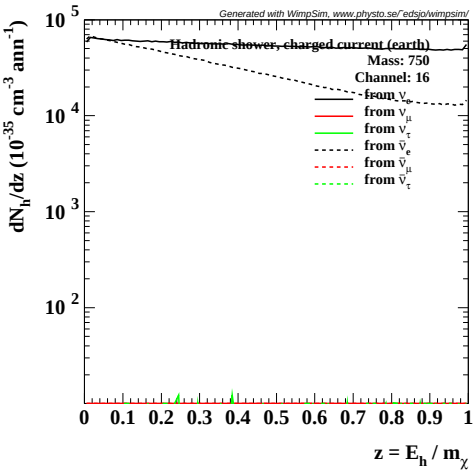


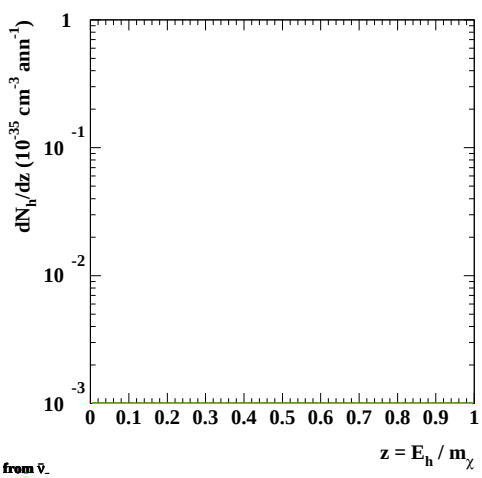
13.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





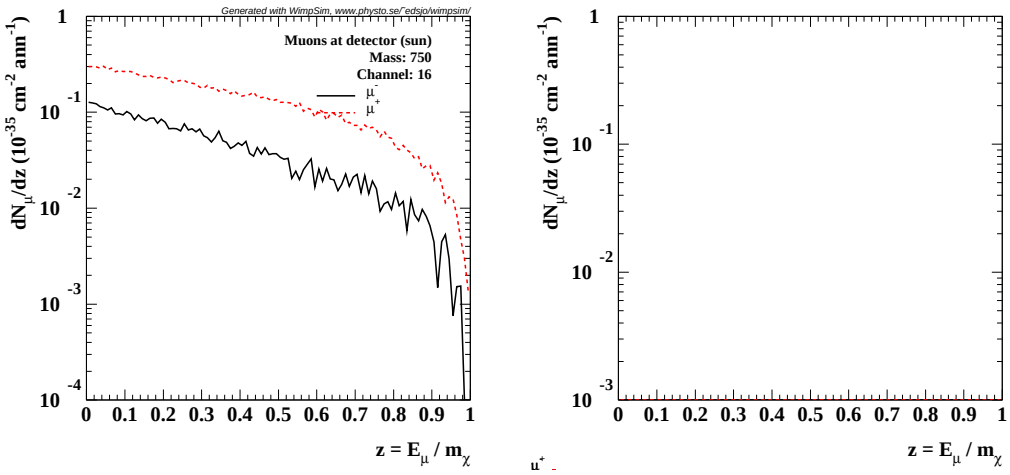
13.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





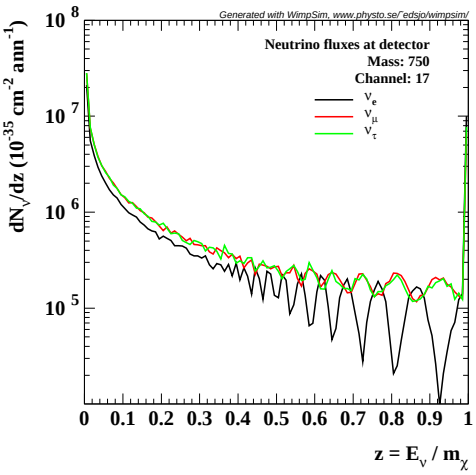
from $\bar{\nu}_\tau$

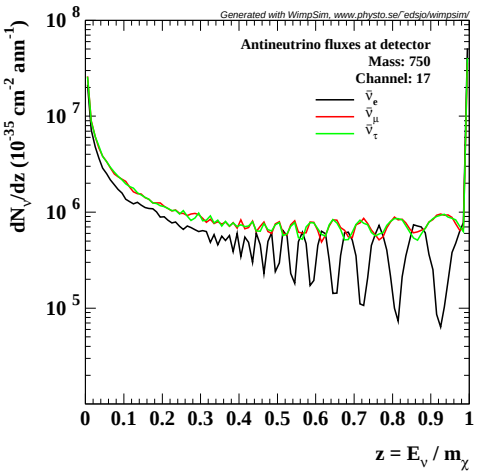
13.8.7 Muons at detector (Sun/Earth)



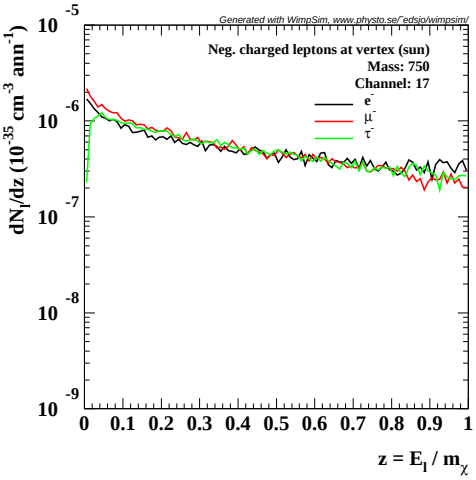
13.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

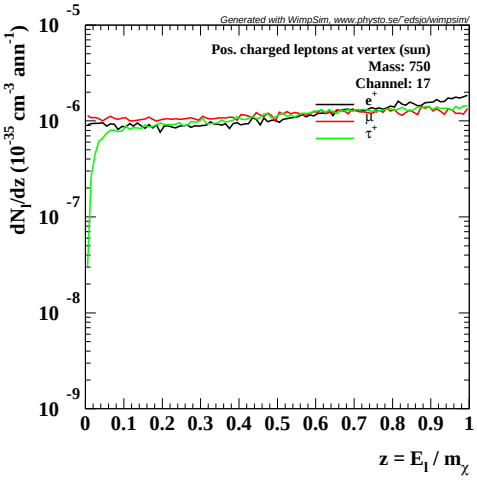
13.9.1 Neutrino fluxes at detector (Sun)



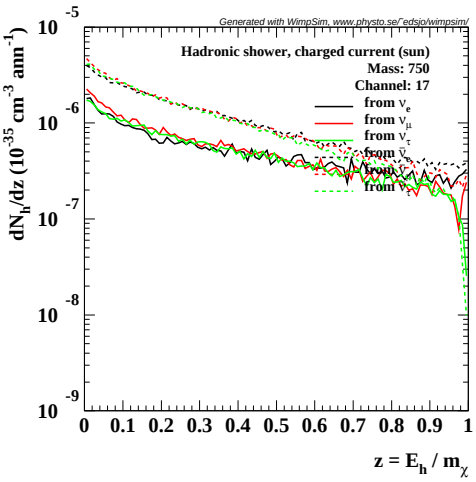


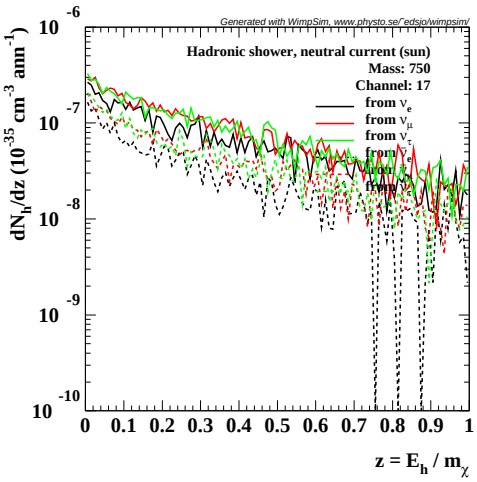
13.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



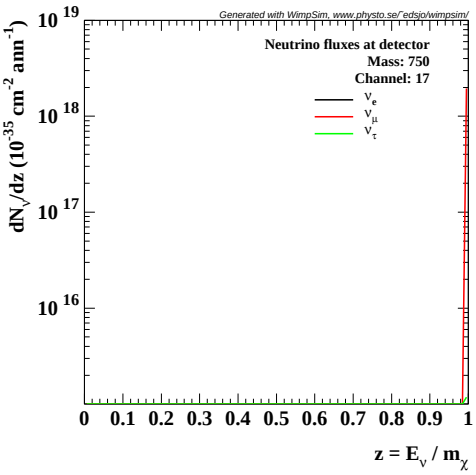


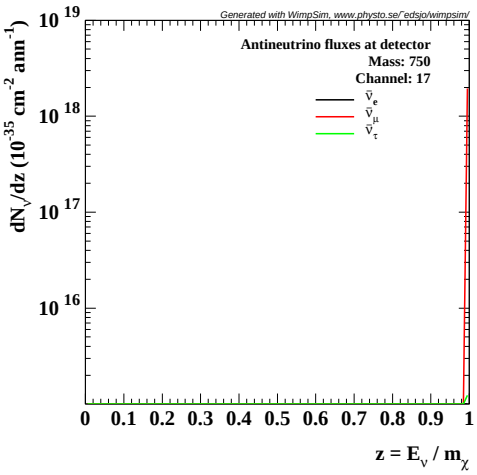
13.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



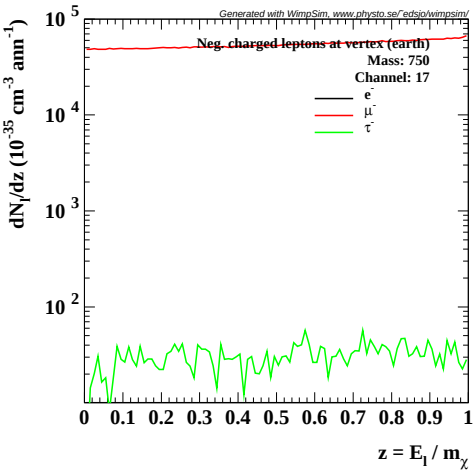


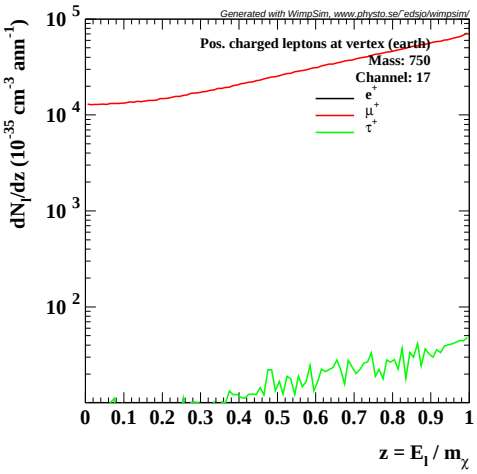
13.9.4 Neutrino fluxes at detector (Earth)



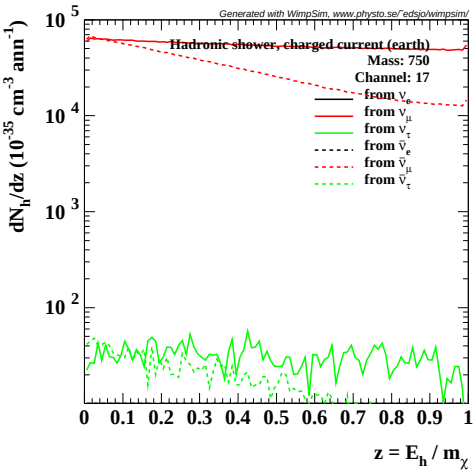


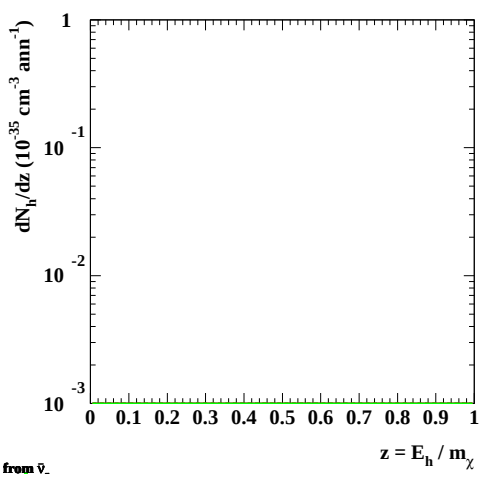
13.9.5 Charged leptons at neutrino-nucleon vertex (Earth)





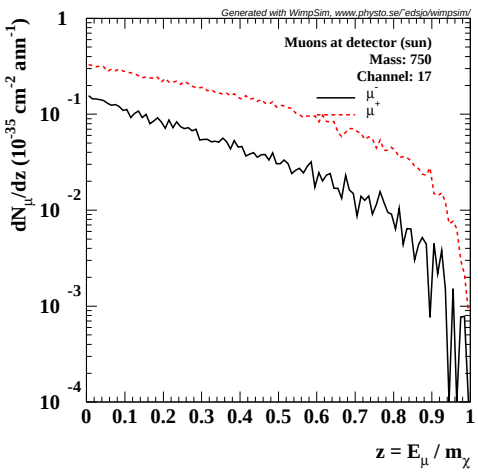
13.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)

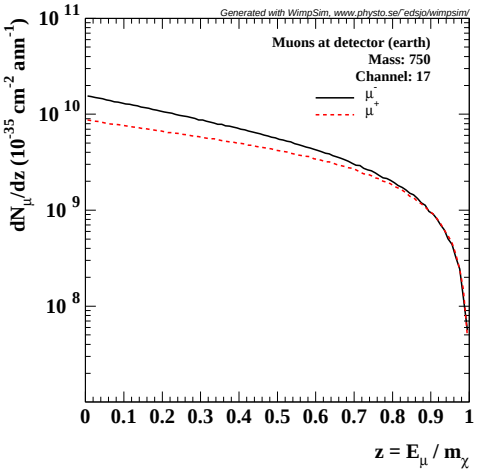




from $\bar{\nu}_\tau$

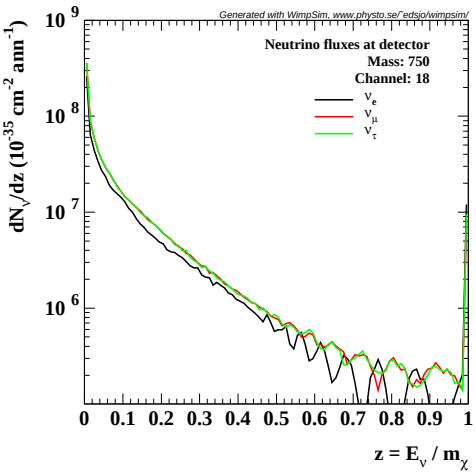
13.9.7 Muons at detector (Sun/Earth)

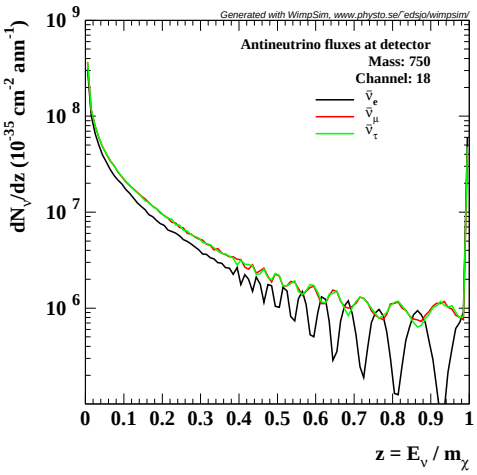




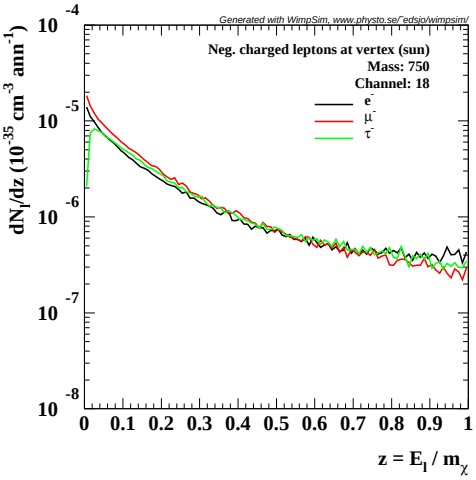
13.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

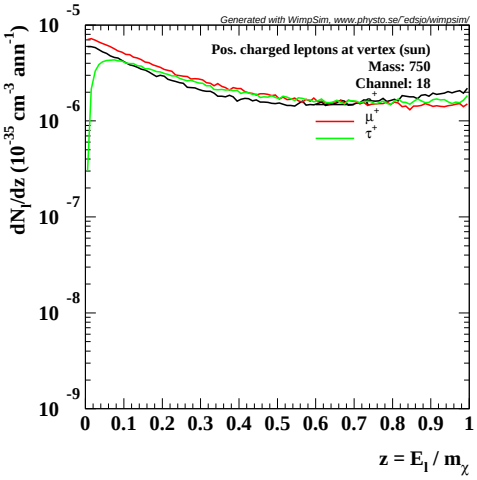
13.10.1 Neutrino fluxes at detector (Sun)



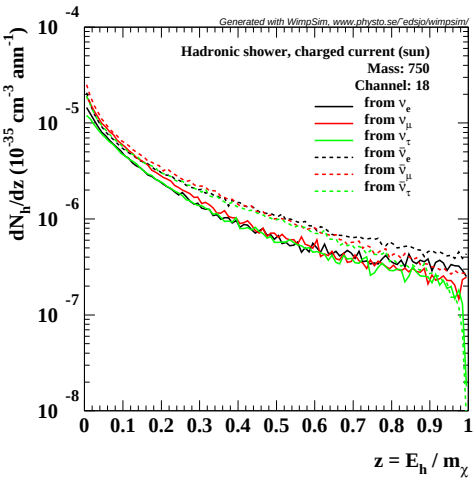


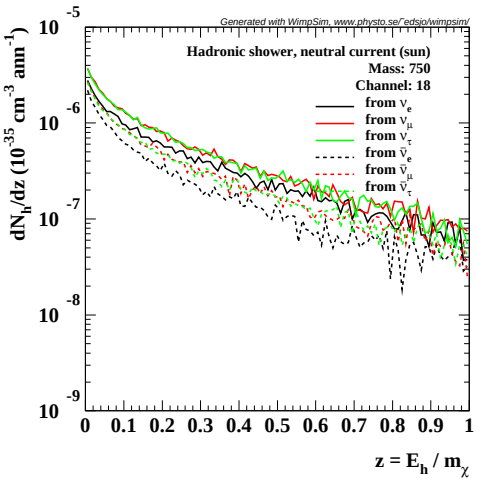
13.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



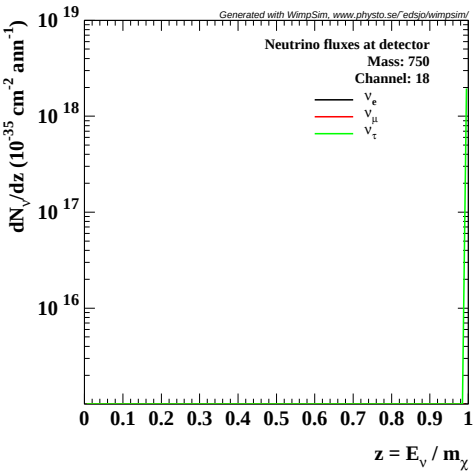


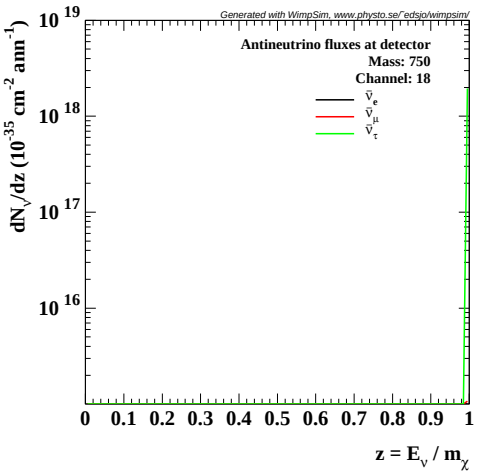
13.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



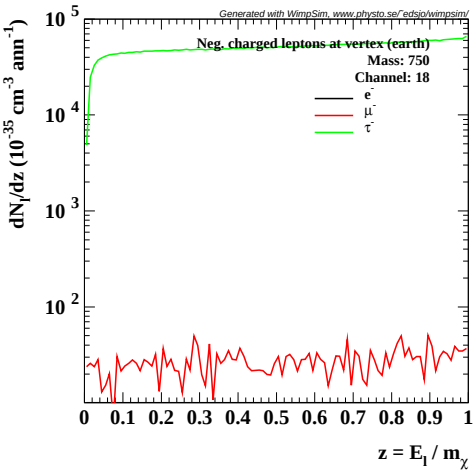


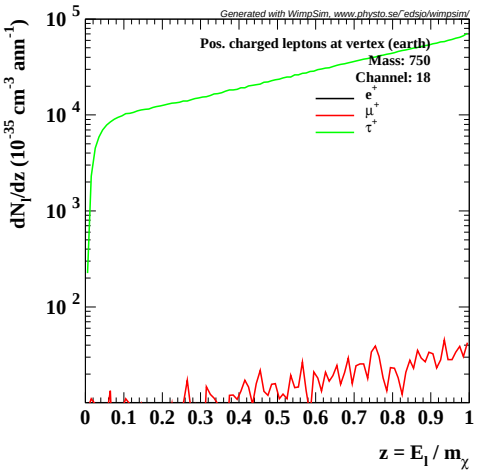
13.10.4 Neutrino fluxes at detector (Earth)



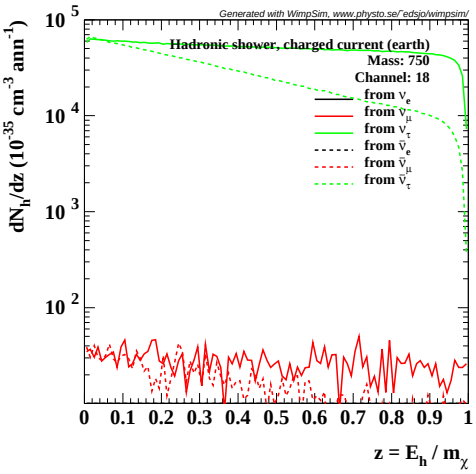


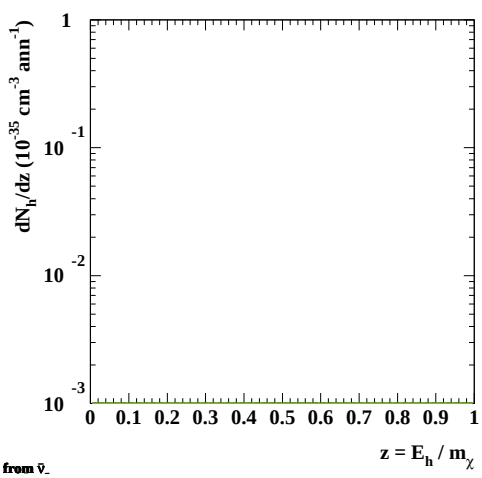
13.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





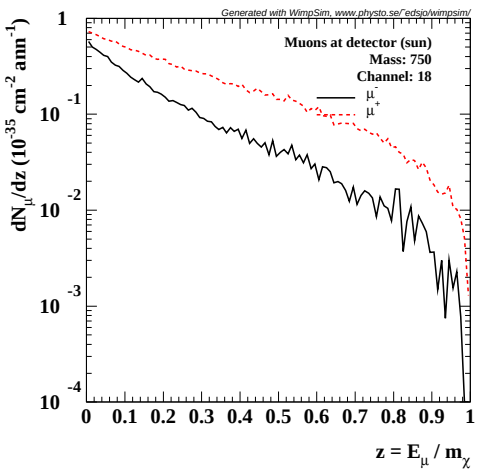
13.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

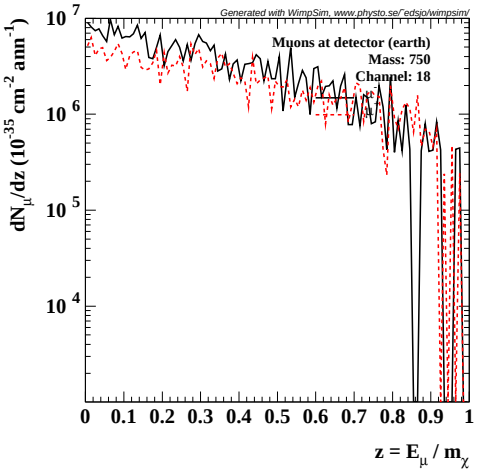




from $\bar{\nu}_\tau$

13.10.7 Muons at detector (Sun/Earth)

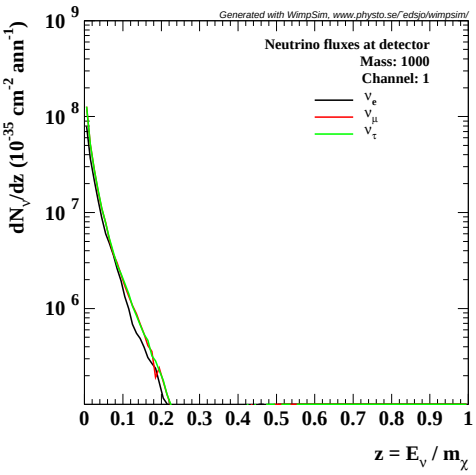


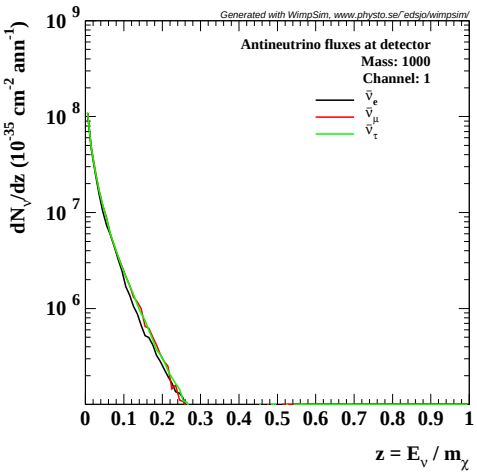


14 Mass 1000

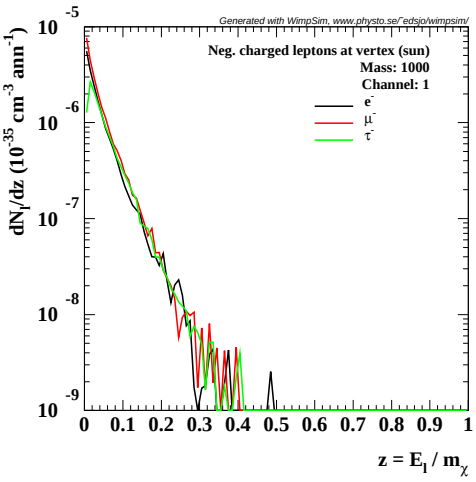
14.1 Channel 1 – $c\bar{c}$

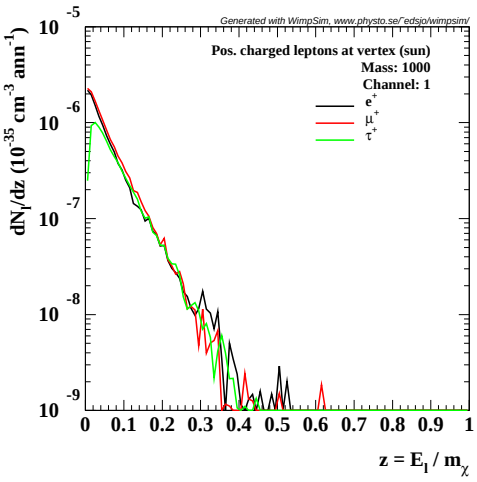
14.1.1 Neutrino fluxes at detector (Sun)



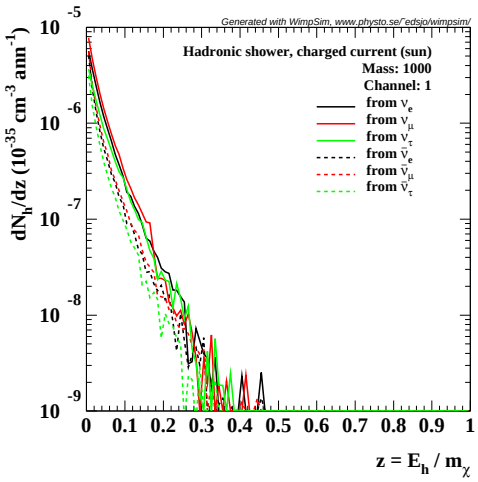


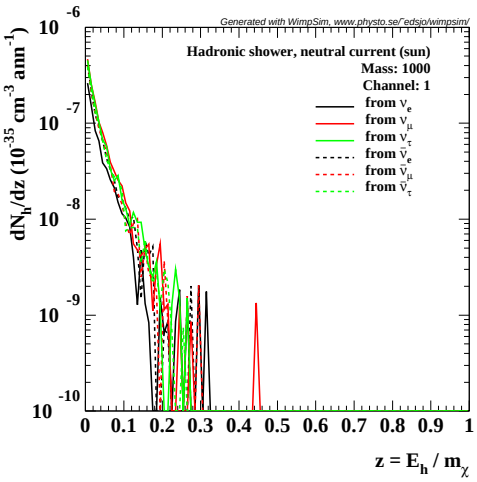
14.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



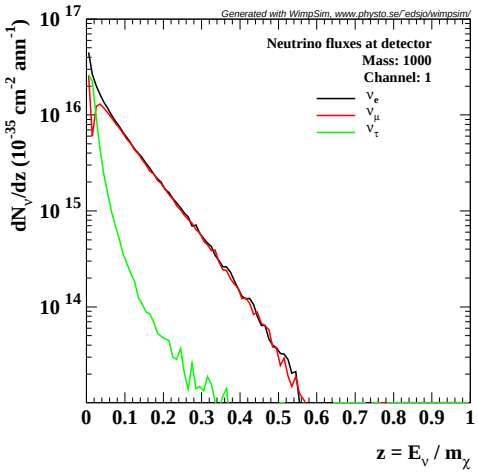


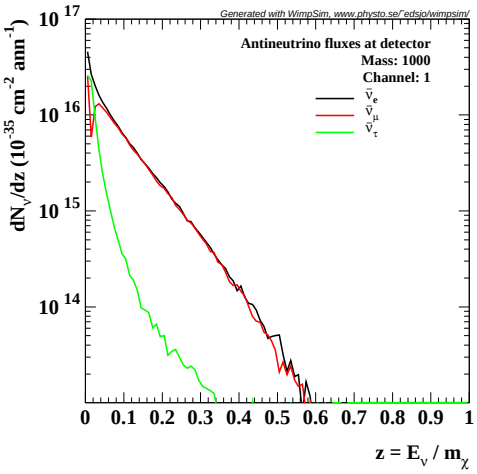
14.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



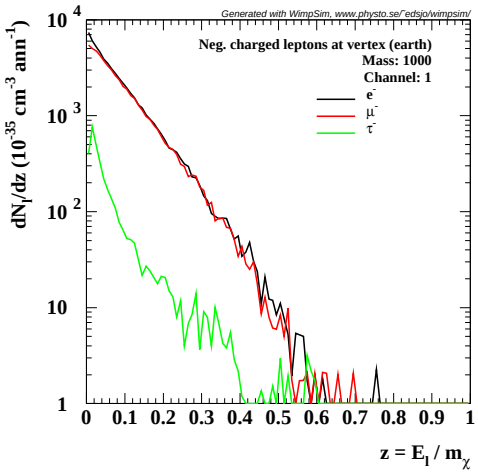


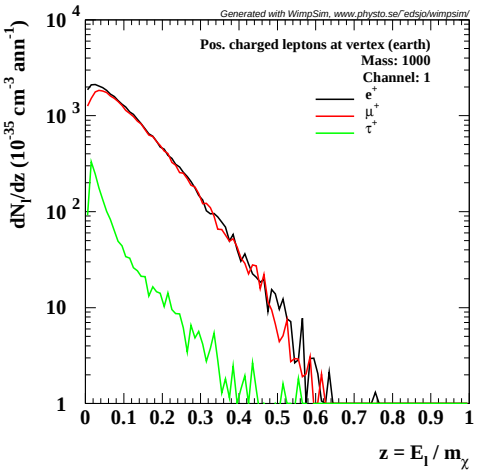
14.1.4 Neutrino fluxes at detector (Earth)



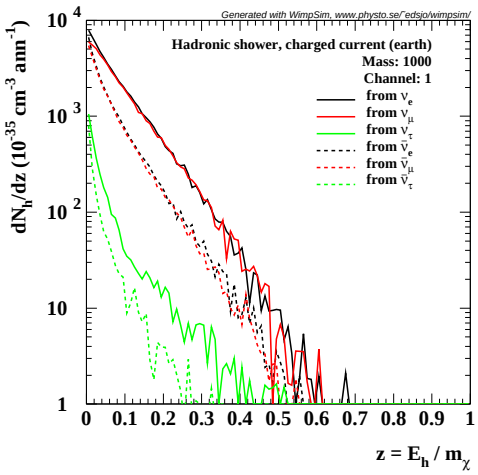


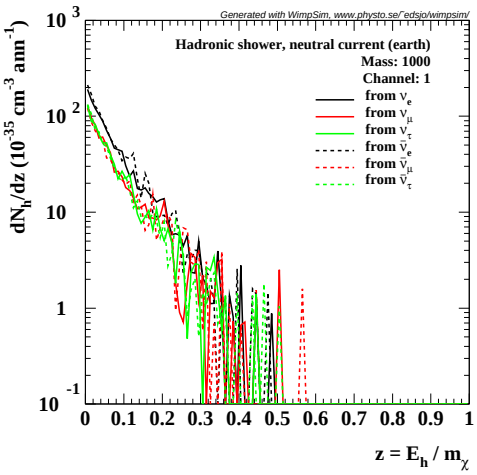
14.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



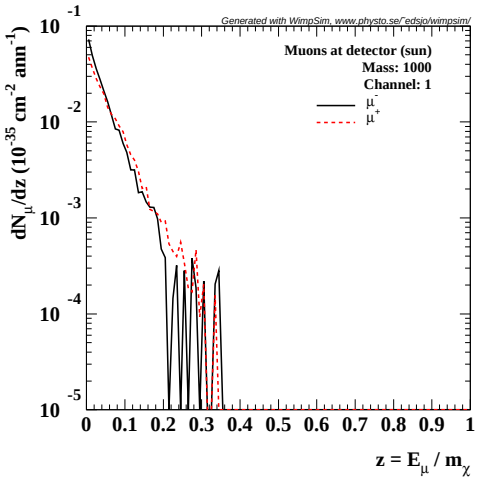


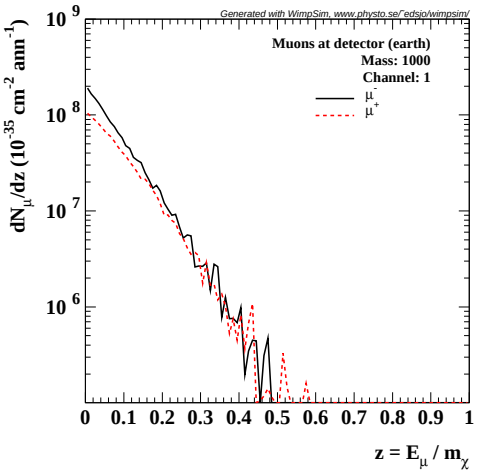
14.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





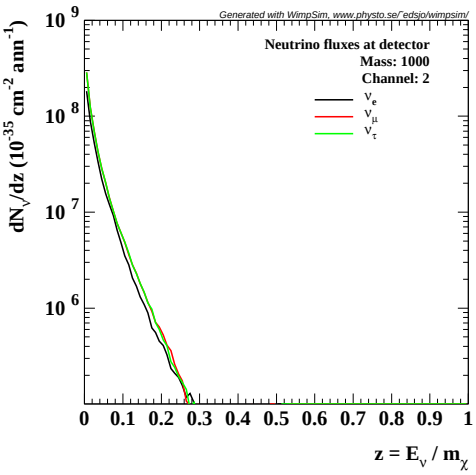
14.1.7 Muons at detector (Sun/Earth)

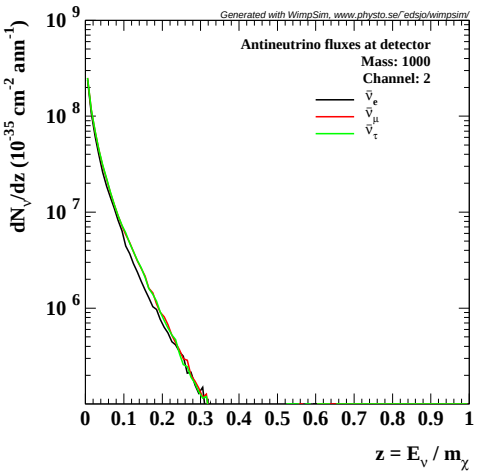




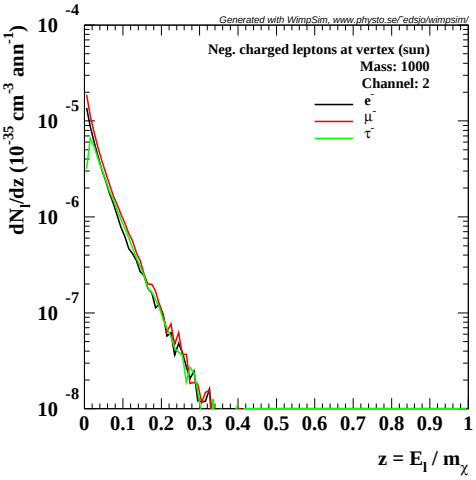
14.2 Channel 2 – $b\bar{b}$

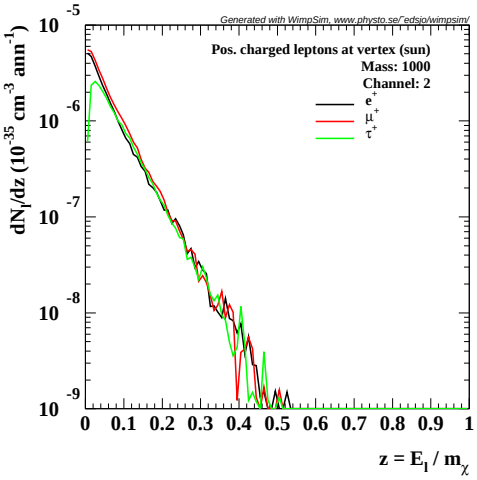
14.2.1 Neutrino fluxes at detector (Sun)



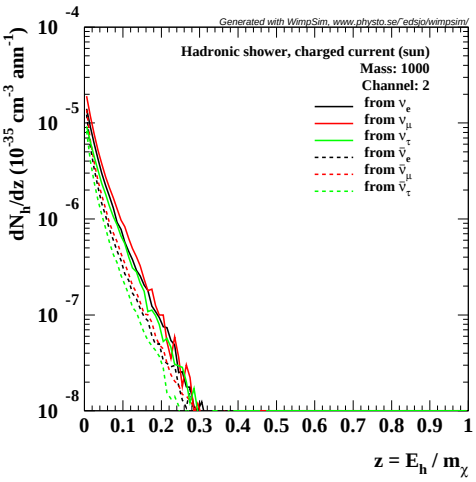


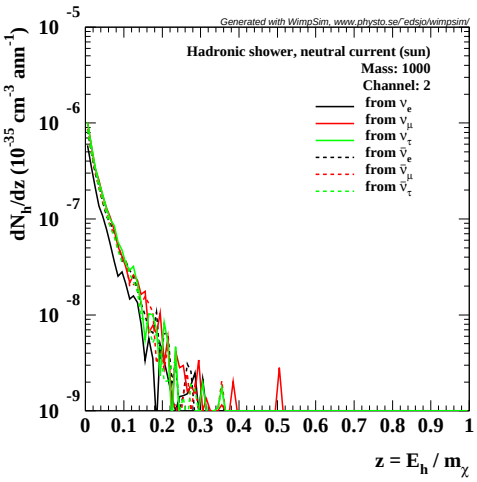
14.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



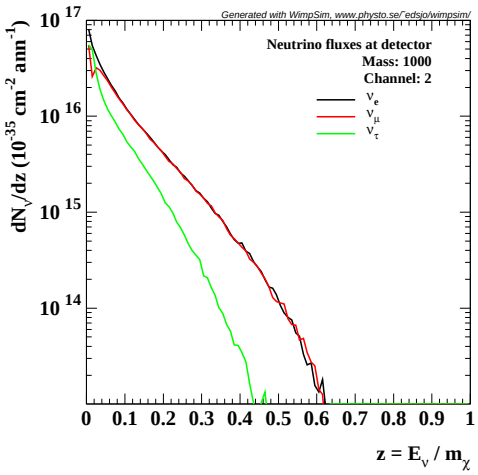


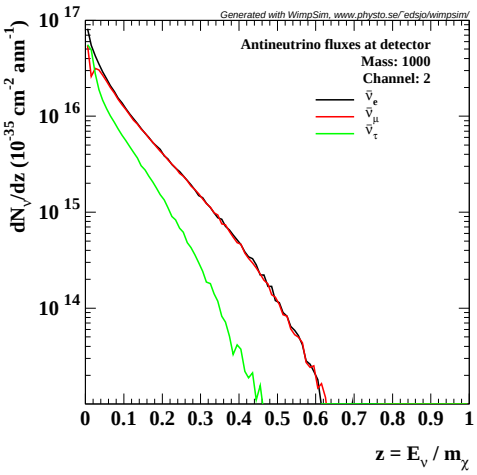
14.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



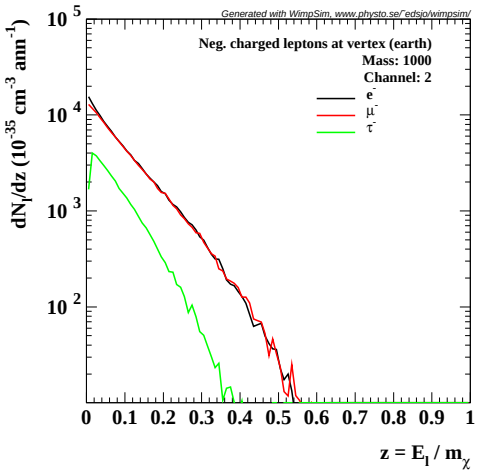


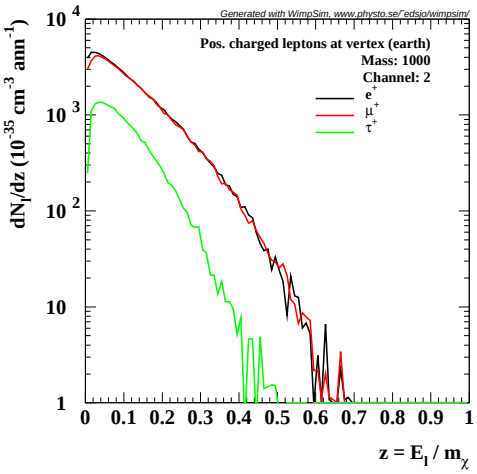
14.2.4 Neutrino fluxes at detector (Earth)



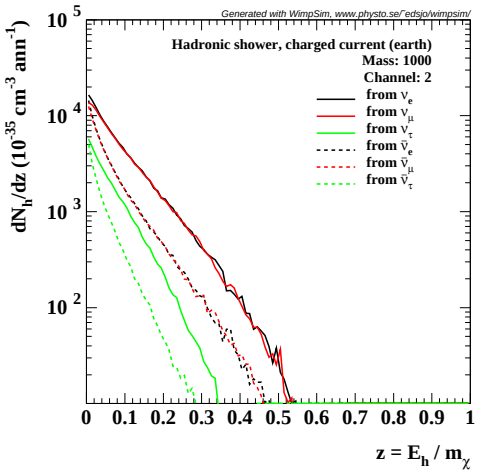


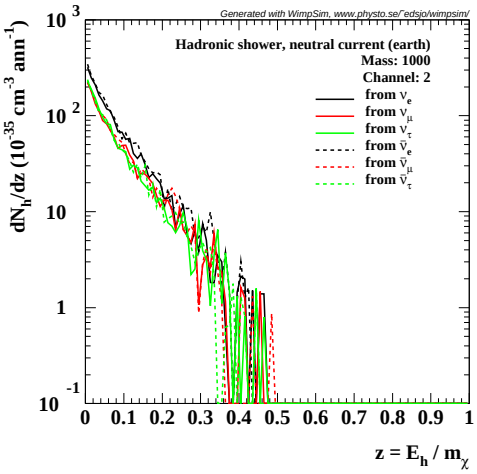
14.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



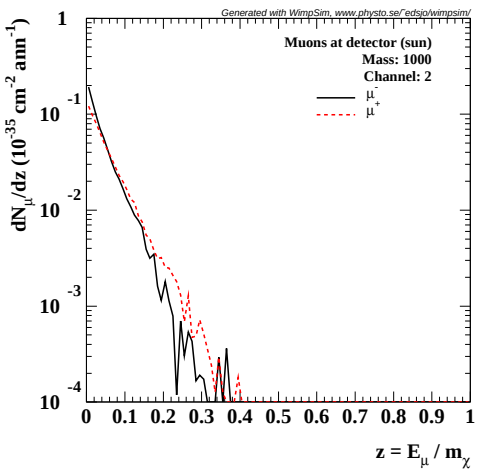


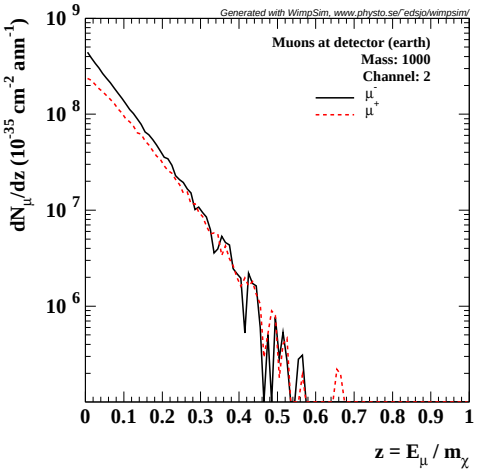
14.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





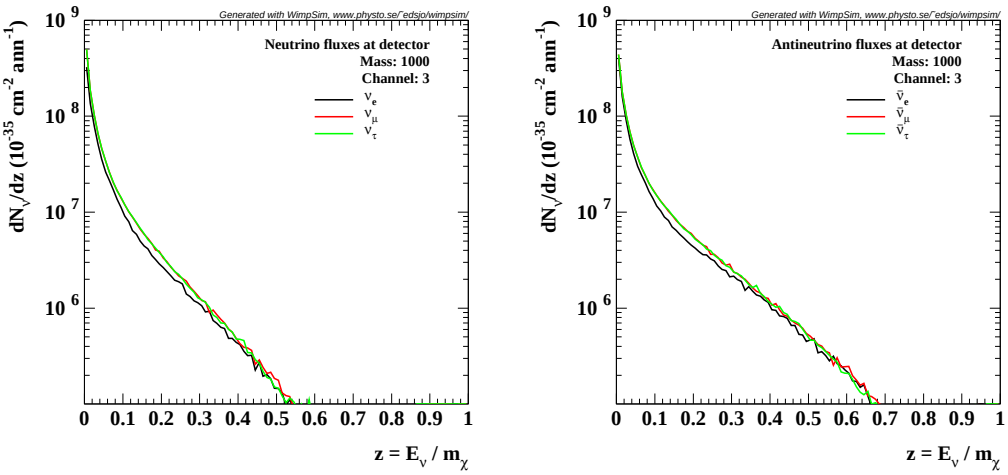
14.2.7 Muons at detector (Sun/Earth)



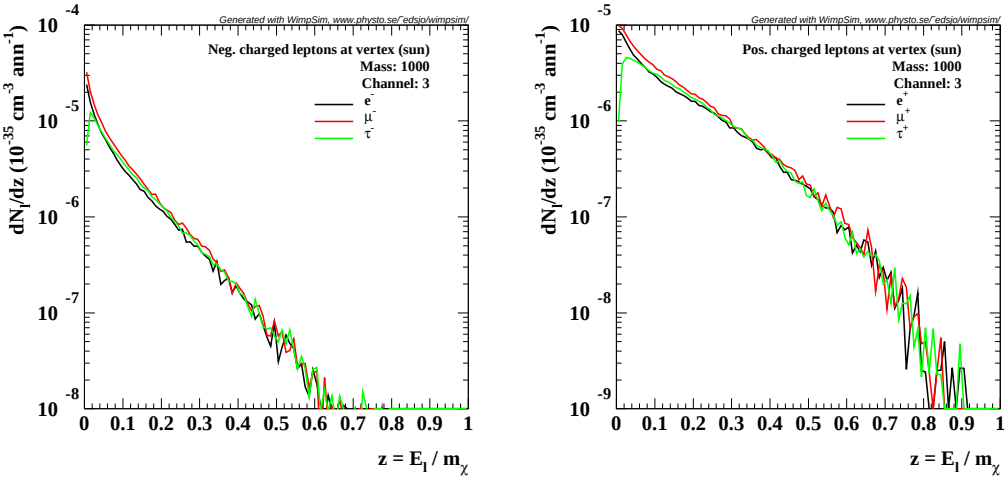


14.3 Channel 3 – $t\bar{t}$

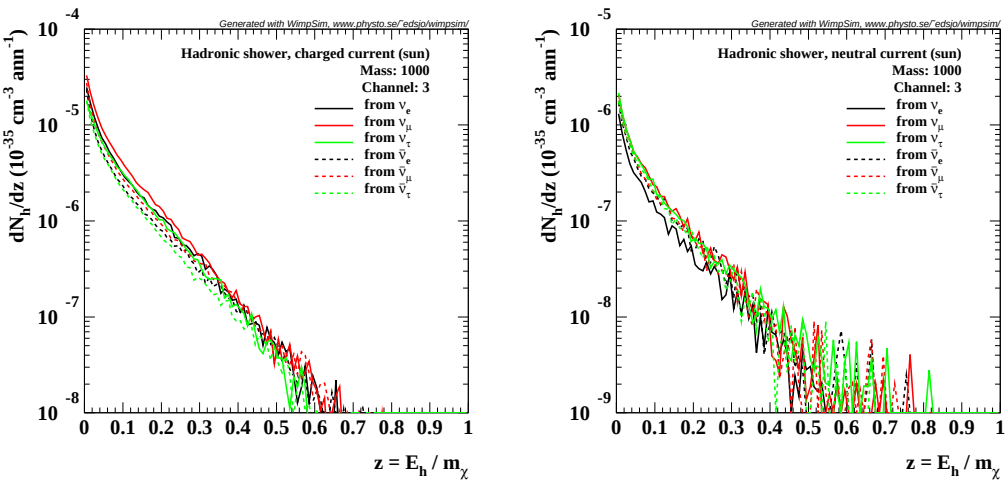
14.3.1 Neutrino fluxes at detector (Sun)



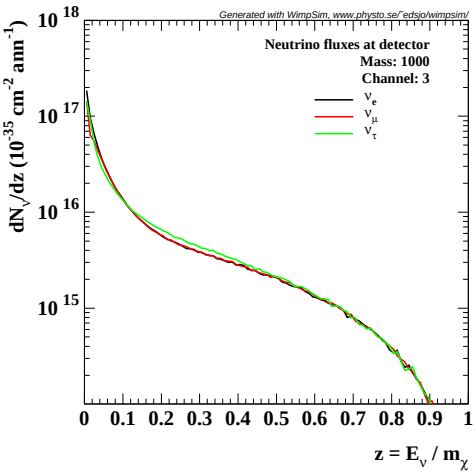
14.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

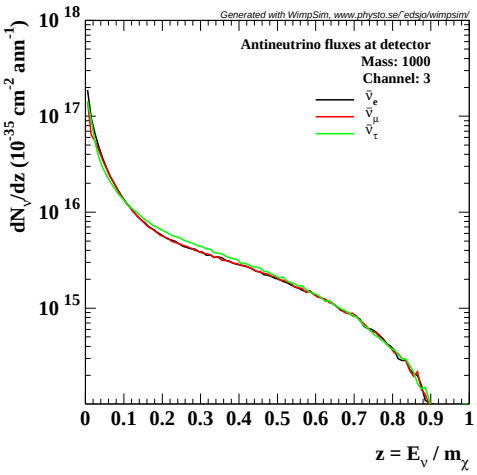


14.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

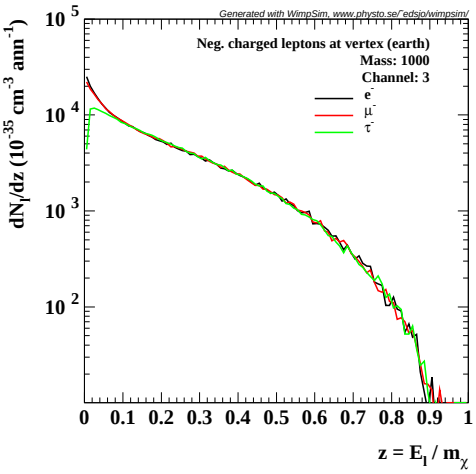


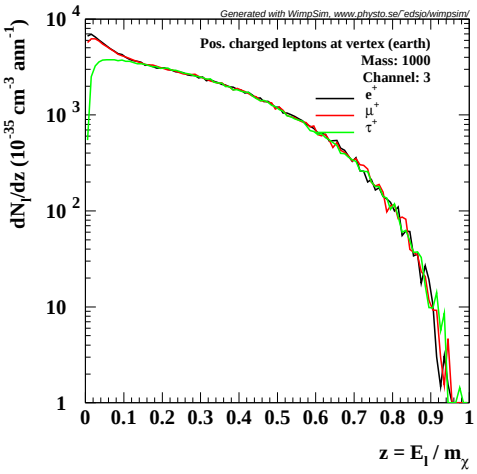
14.3.4 Neutrino fluxes at detector (Earth)



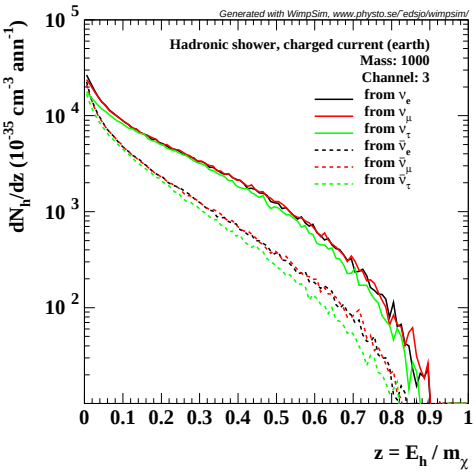


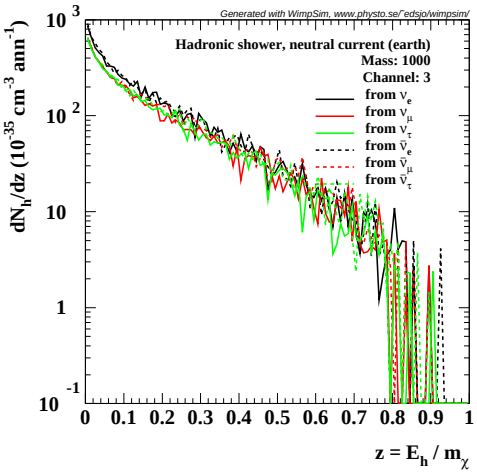
14.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



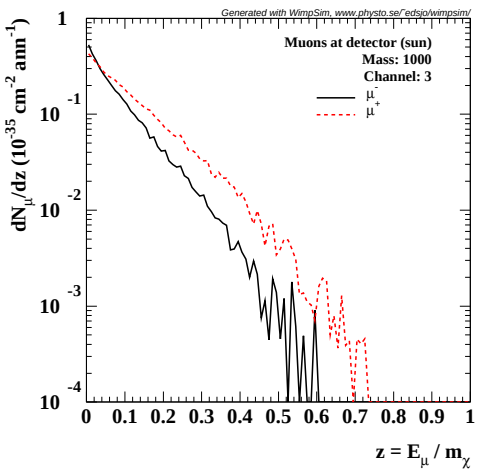


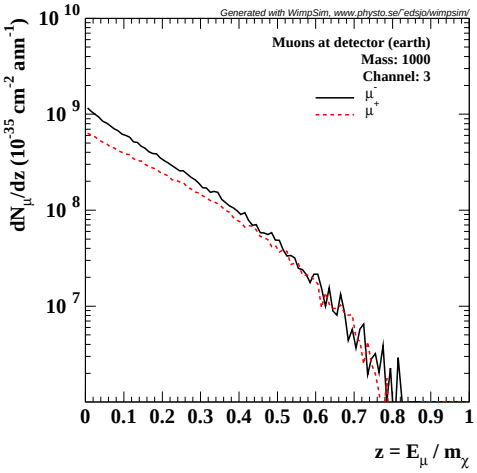
14.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





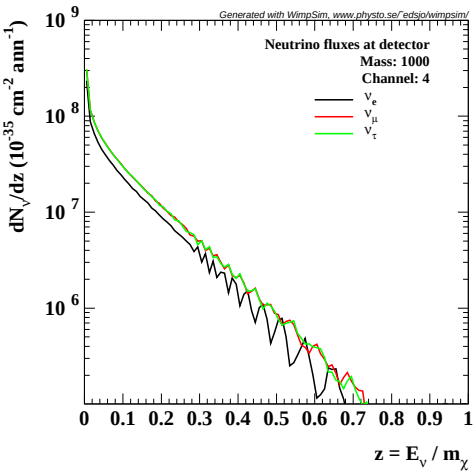
14.3.7 Muons at detector (Sun/Earth)

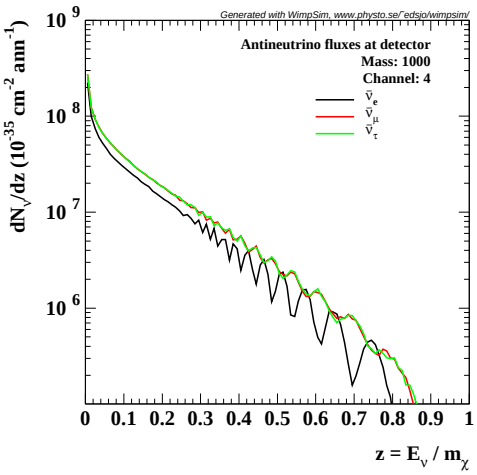




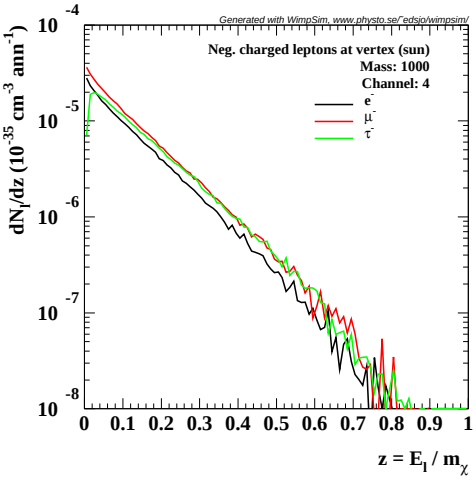
14.4 Channel 4 – $\tau^-\tau^+$

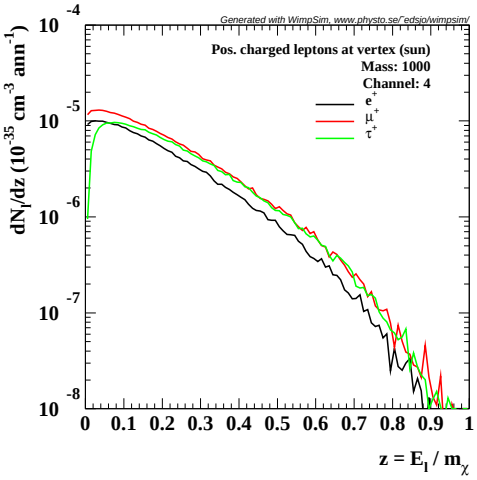
14.4.1 Neutrino fluxes at detector (Sun)



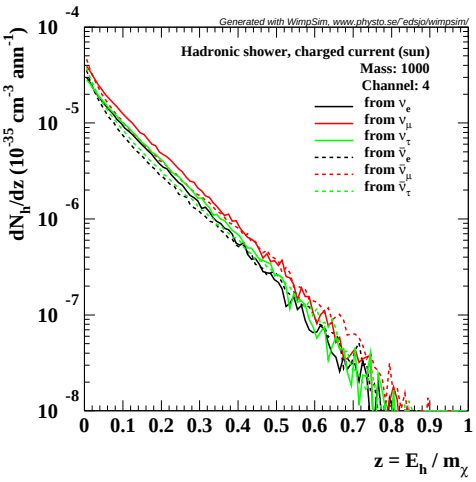


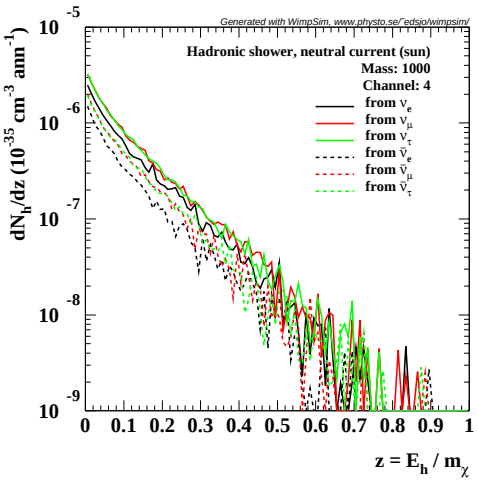
14.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



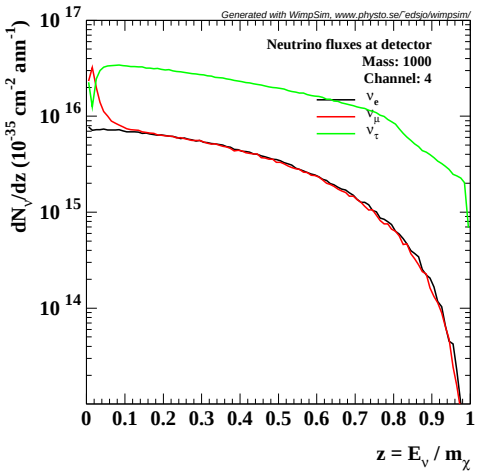


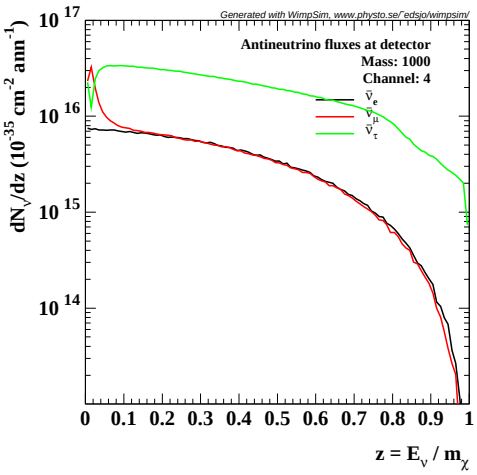
14.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



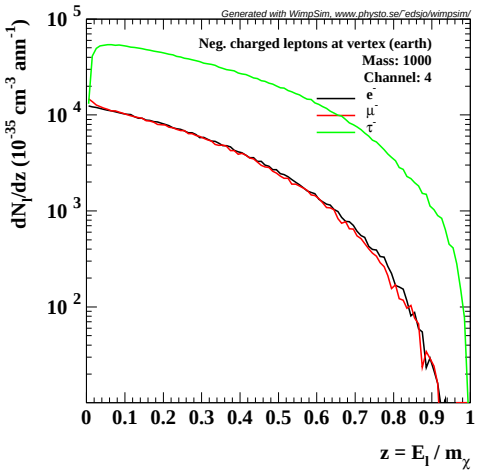


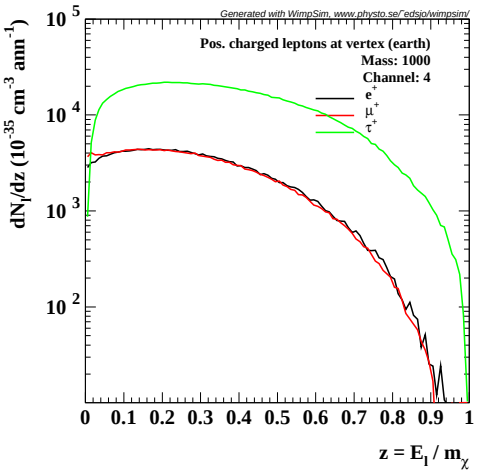
14.4.4 Neutrino fluxes at detector (Earth)



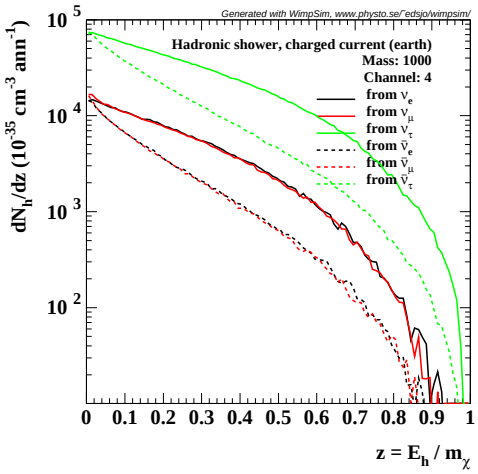


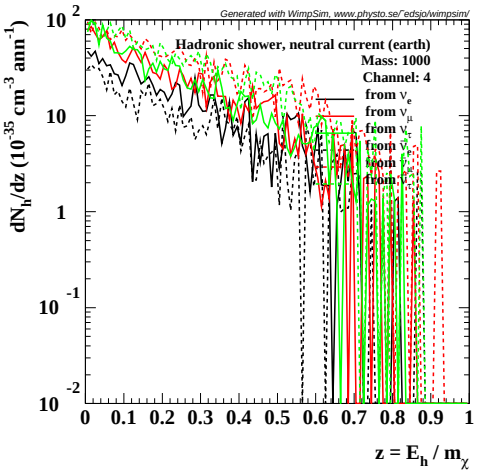
14.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



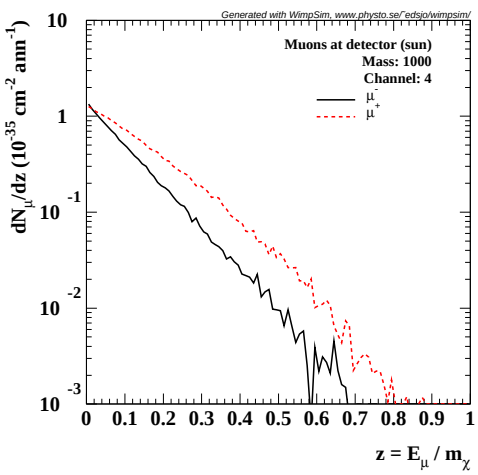


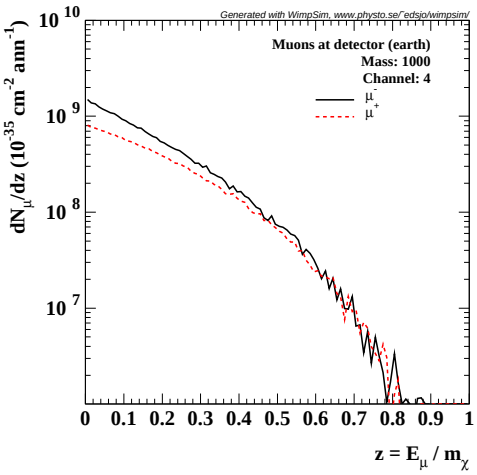
14.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





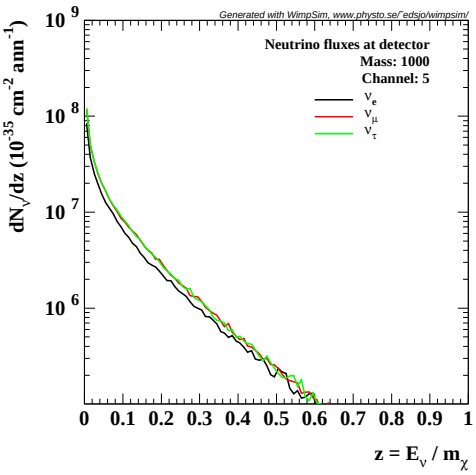
14.4.7 Muons at detector (Sun/Earth)

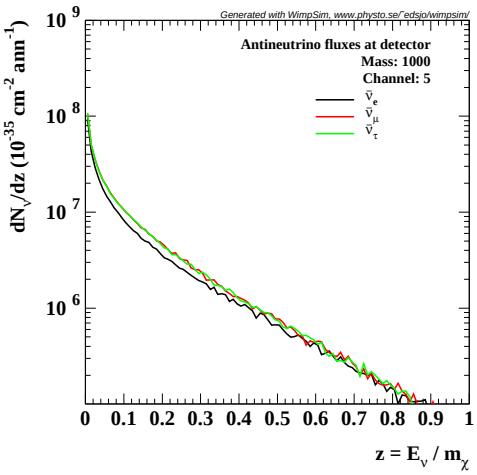




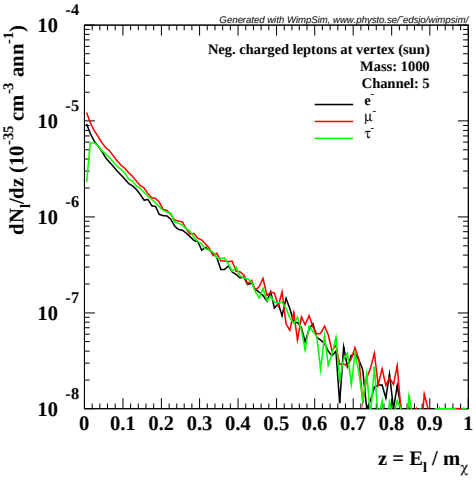
14.5 Channel 5 – W^-W^+

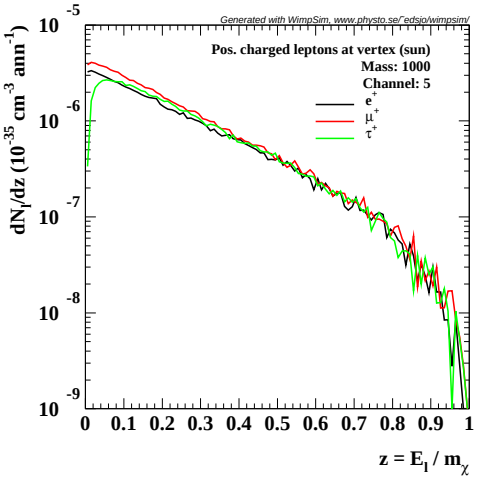
14.5.1 Neutrino fluxes at detector (Sun)



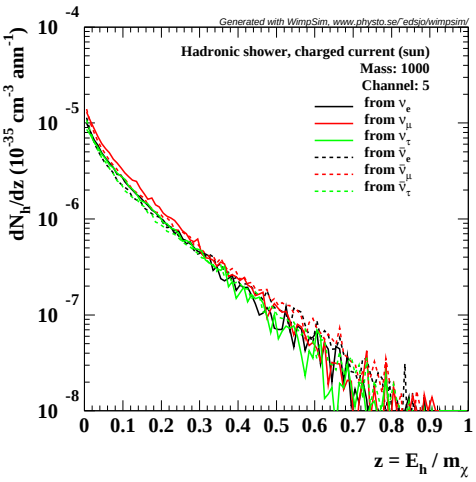


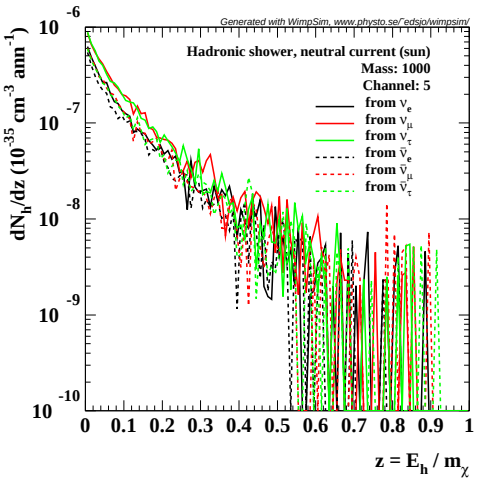
14.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



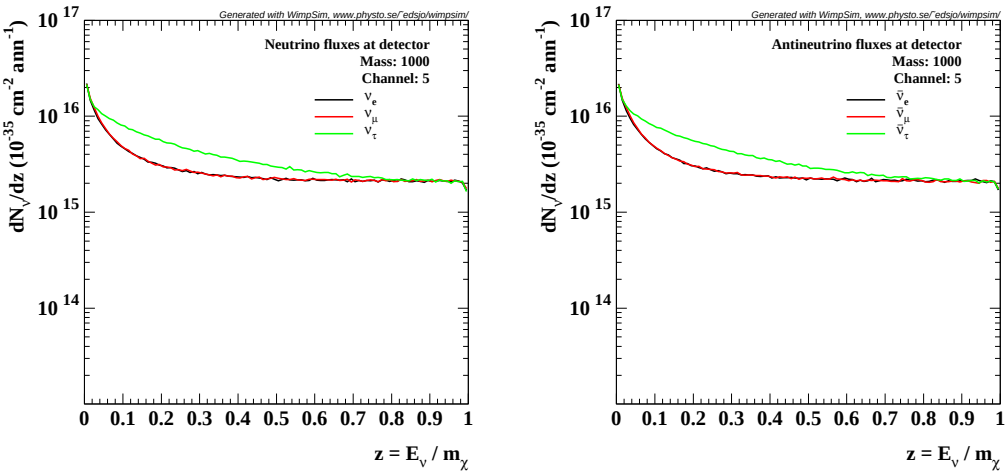


14.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

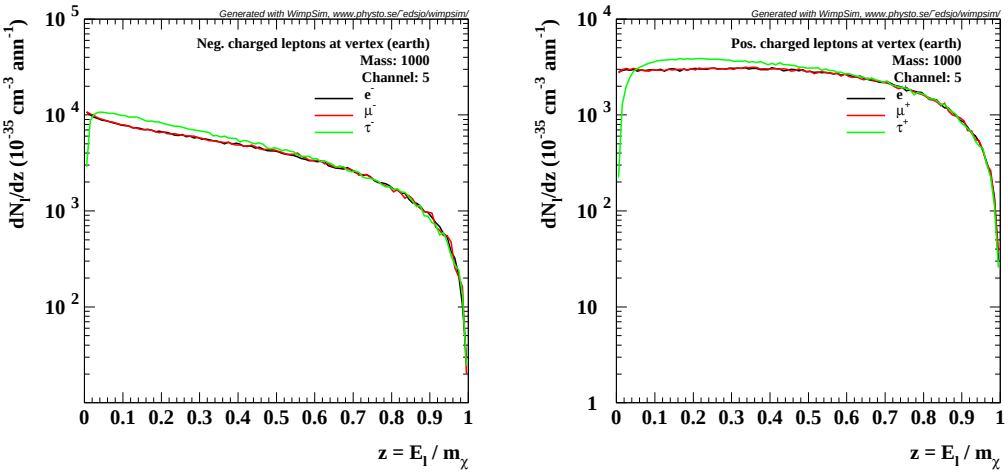




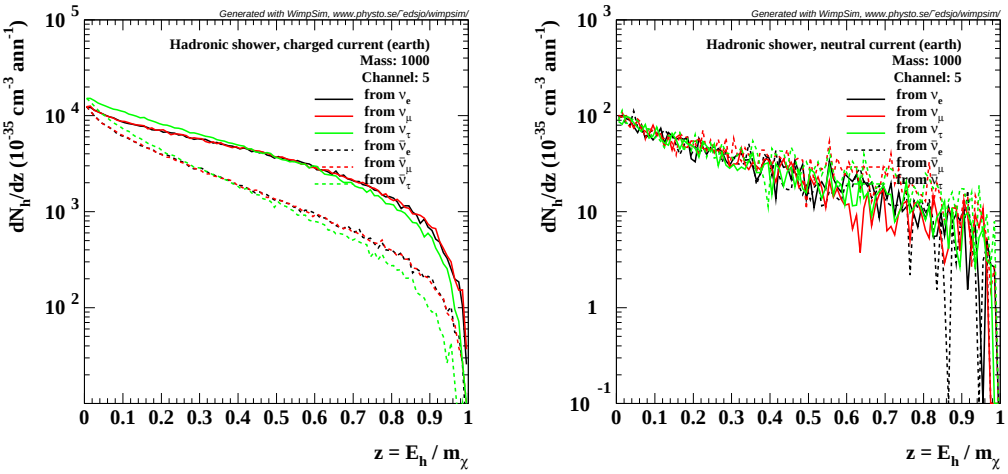
14.5.4 Neutrino fluxes at detector (Earth)



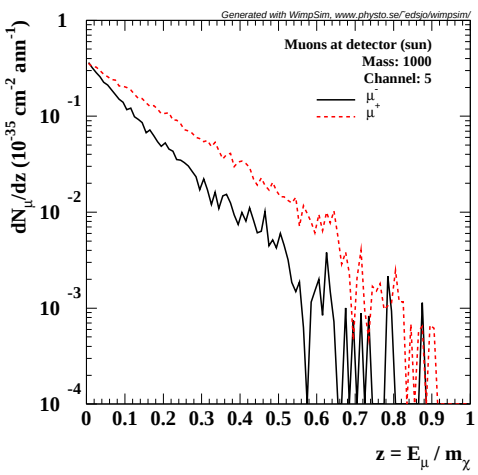
14.5.5 Charged leptons at neutrino-nucleon vertex (Earth)

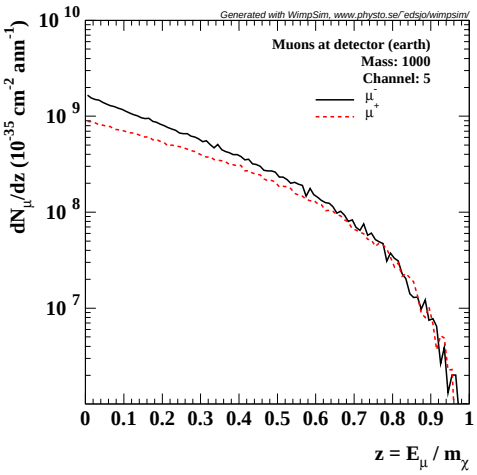


14.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)



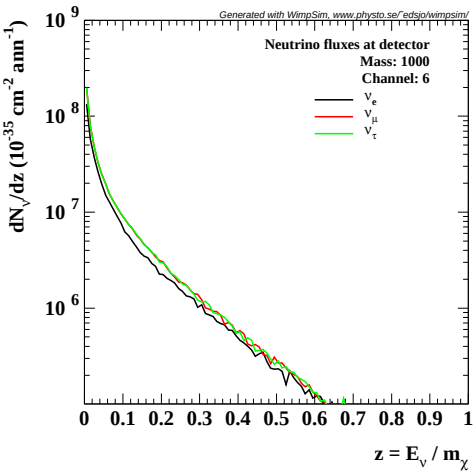
14.5.7 Muons at detector (Sun/Earth)

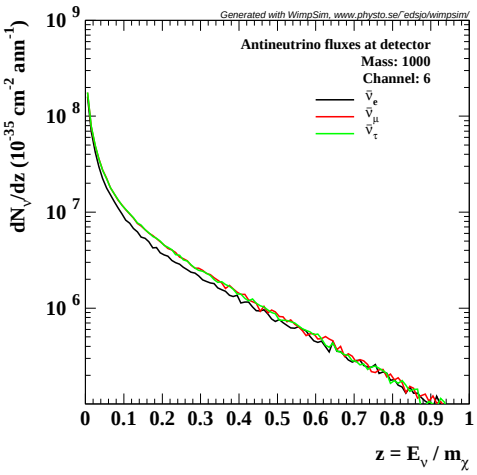




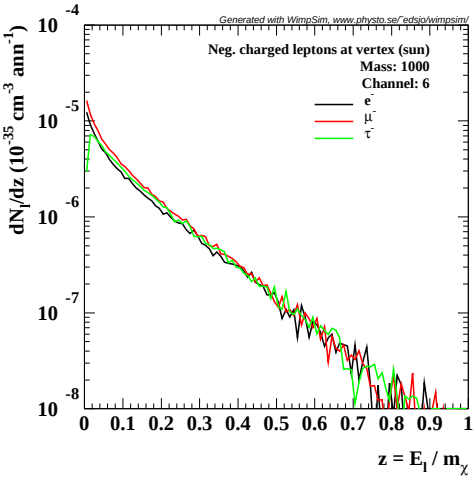
14.6 Channel 6 – $Z^0 Z^0$

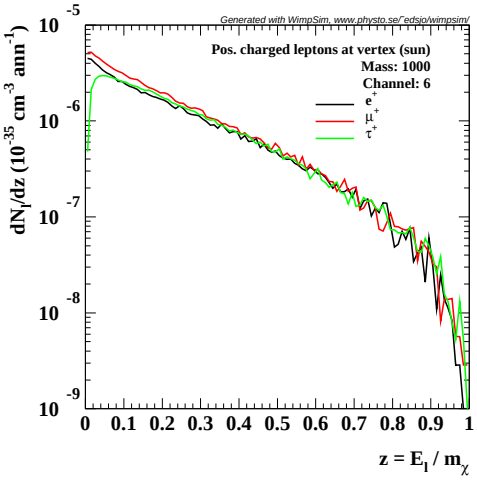
14.6.1 Neutrino fluxes at detector (Sun)



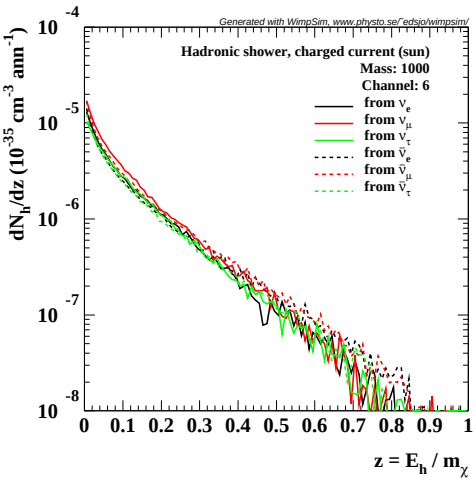


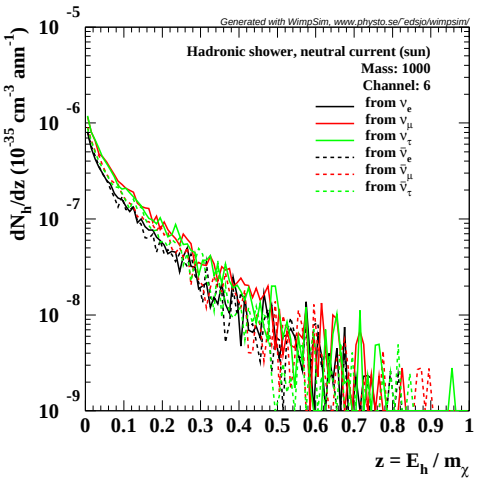
14.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



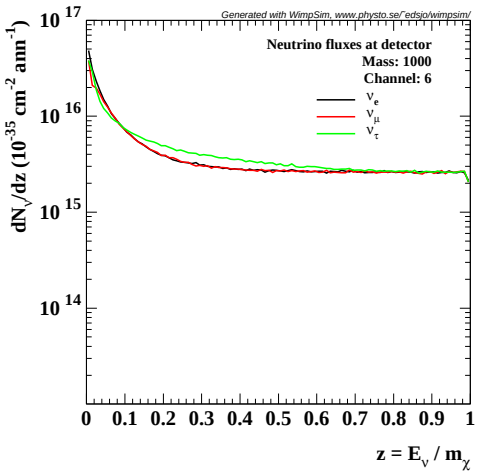


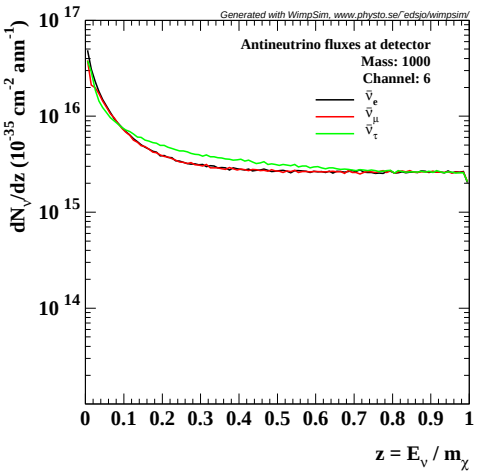
14.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



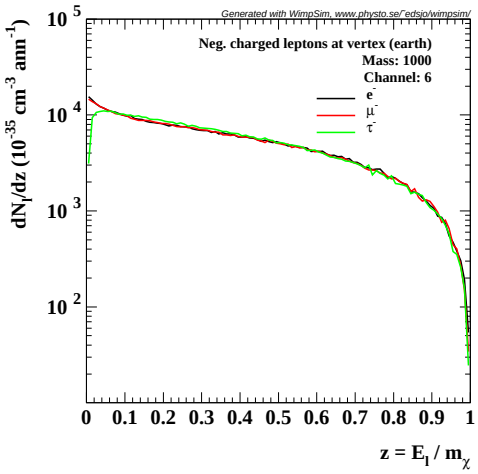


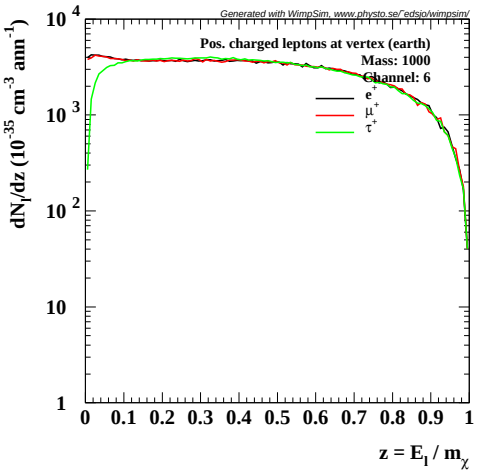
14.6.4 Neutrino fluxes at detector (Earth)



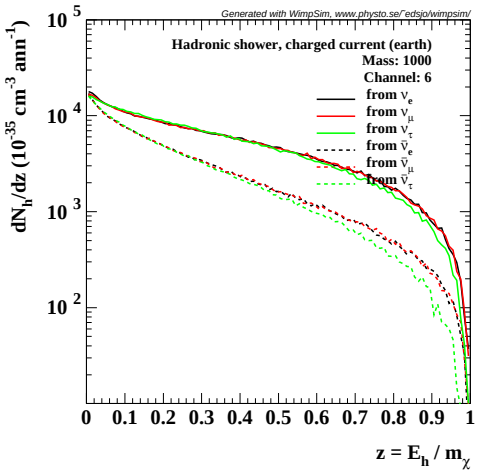


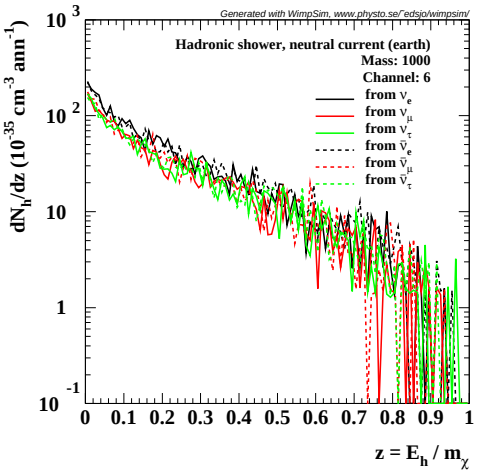
14.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



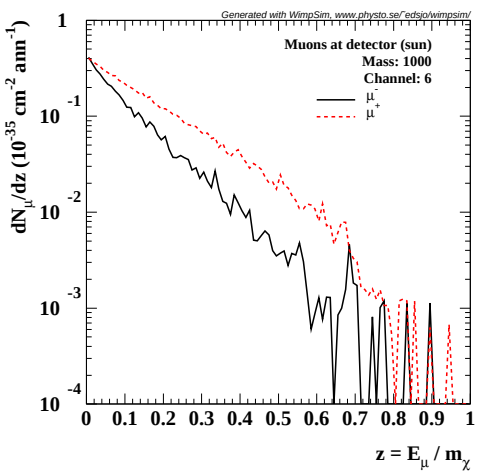


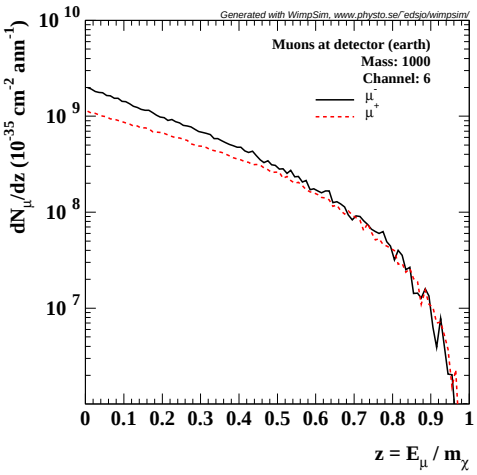
14.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





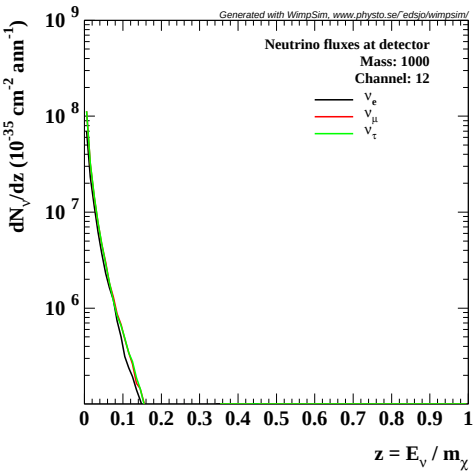
14.6.7 Muons at detector (Sun/Earth)

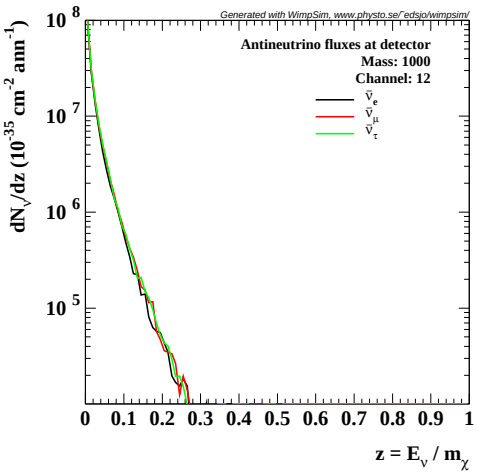




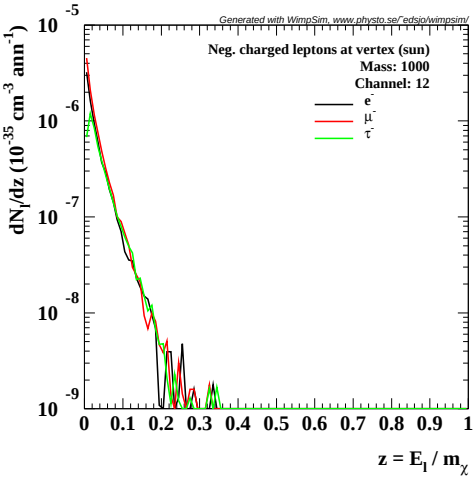
14.7 Channel 12 – gg

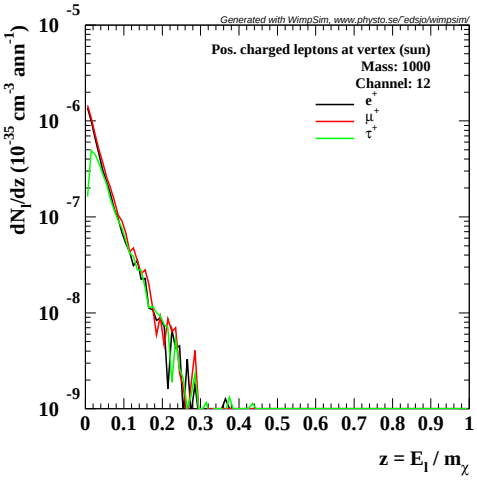
14.7.1 Neutrino fluxes at detector (Sun)



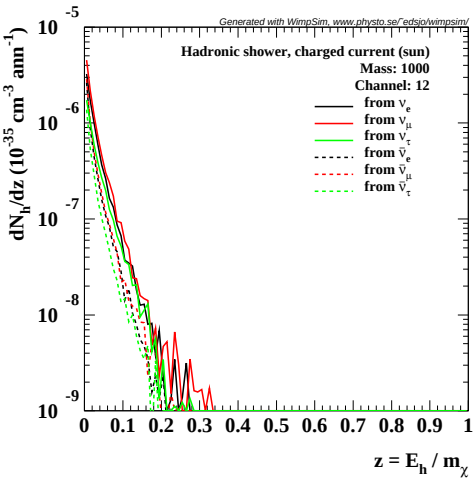


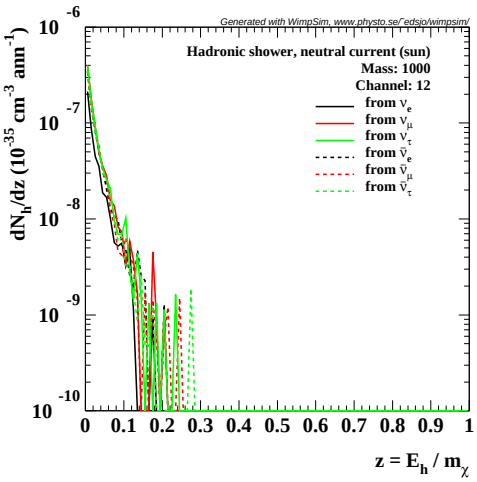
14.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



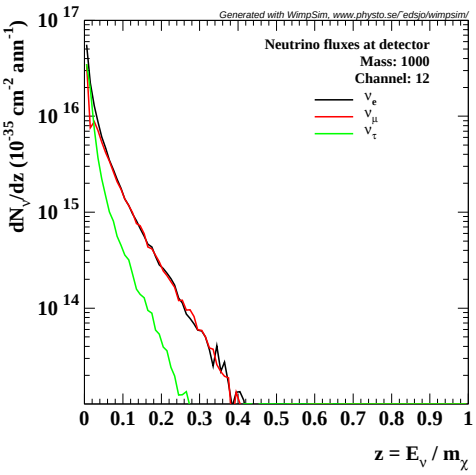


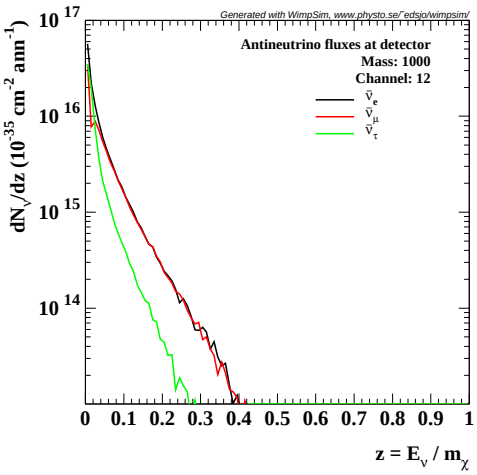
14.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



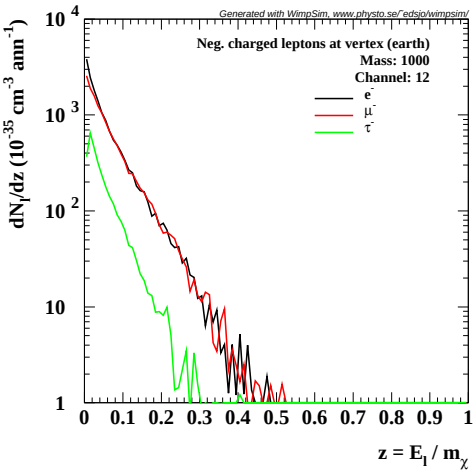


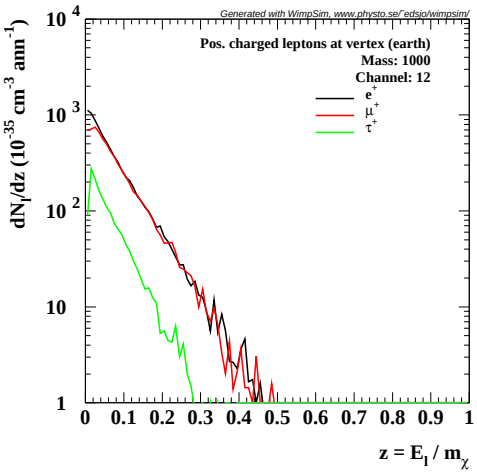
14.7.4 Neutrino fluxes at detector (Earth)



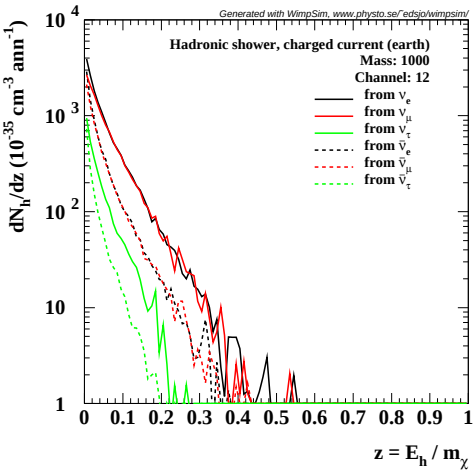


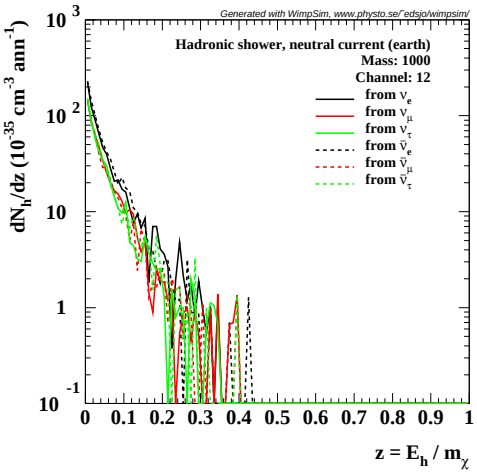
14.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



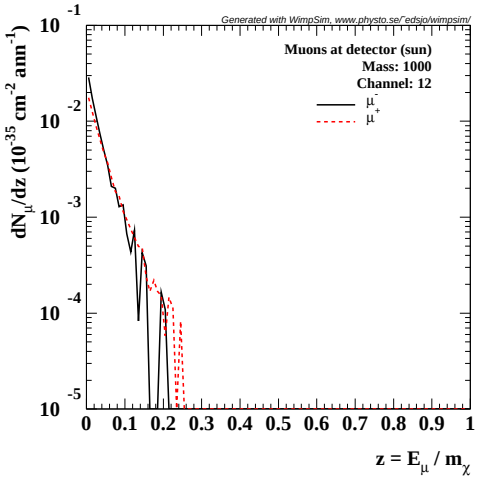


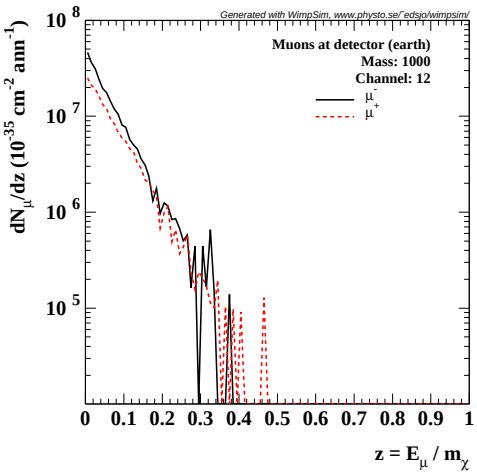
14.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





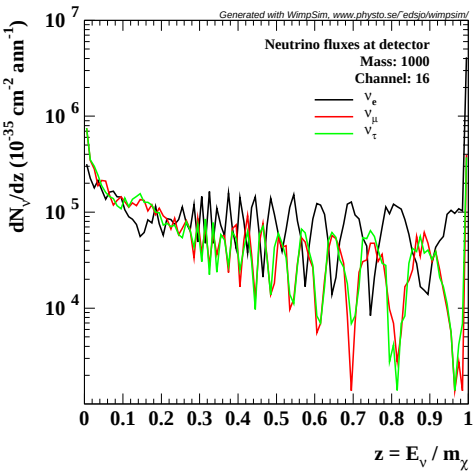
14.7.7 Muons at detector (Sun/Earth)

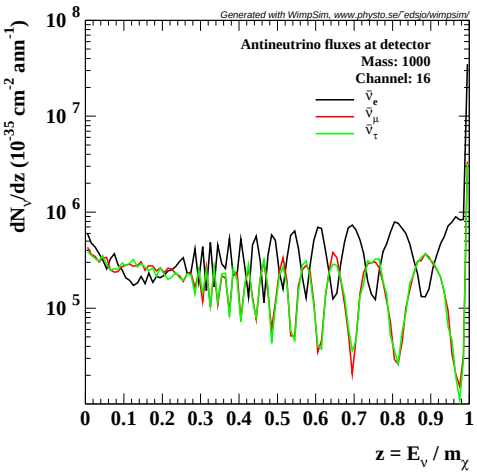




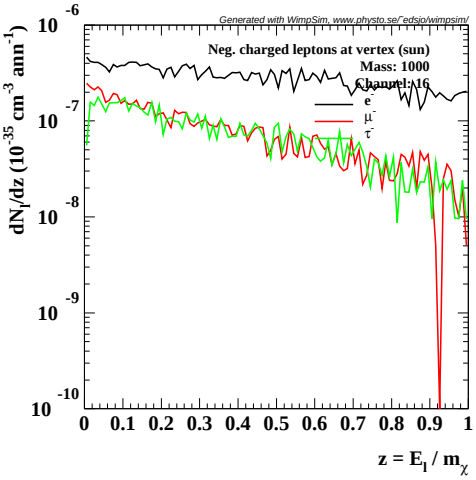
14.8 Channel 16 – $\nu_e\bar{\nu}_e$

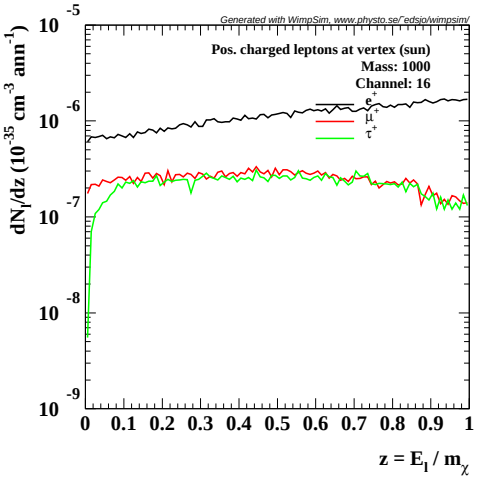
14.8.1 Neutrino fluxes at detector (Sun)



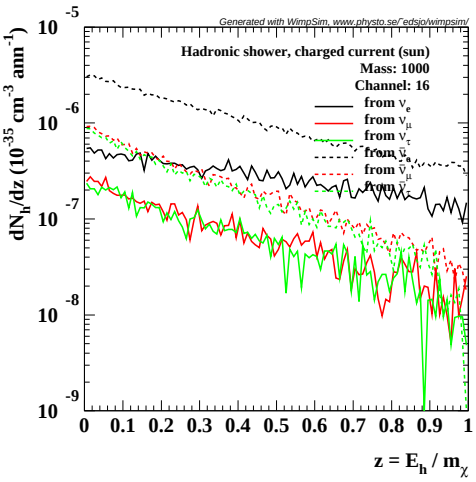


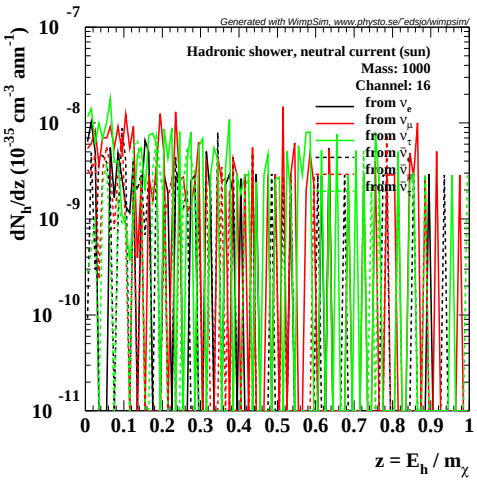
14.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



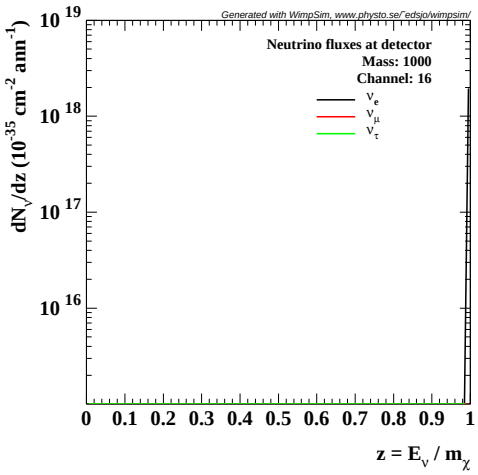


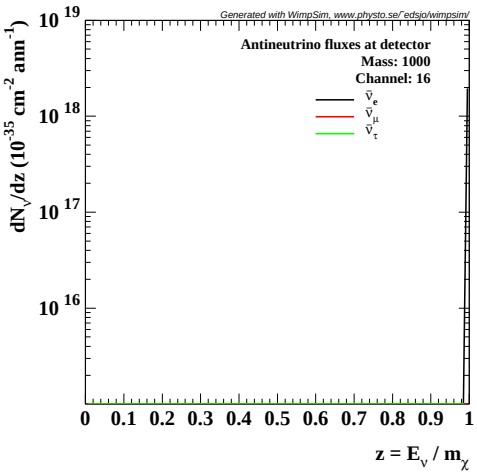
14.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



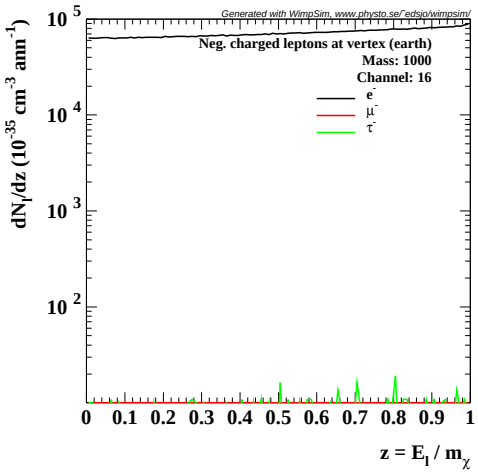


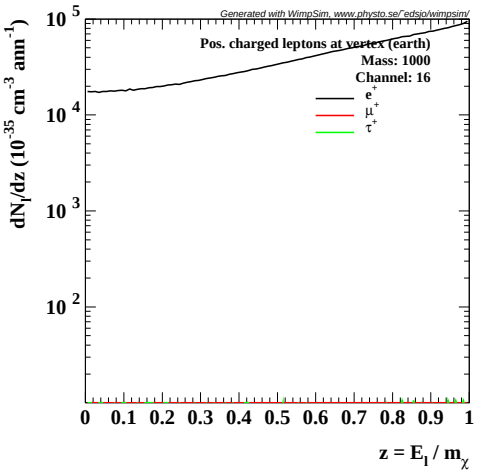
14.8.4 Neutrino fluxes at detector (Earth)



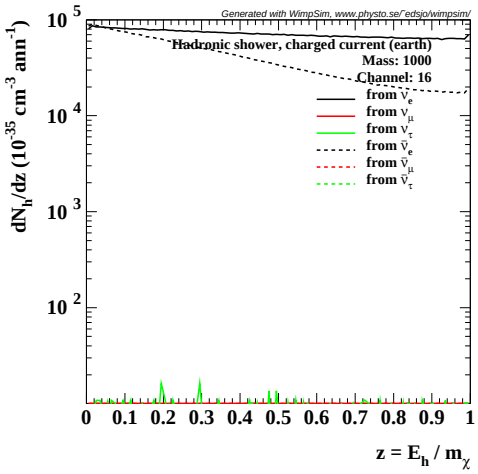


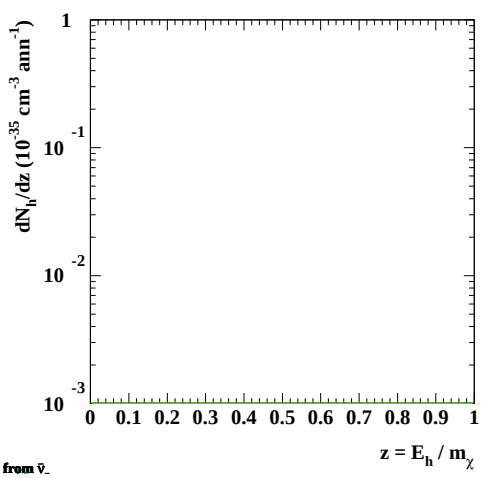
14.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





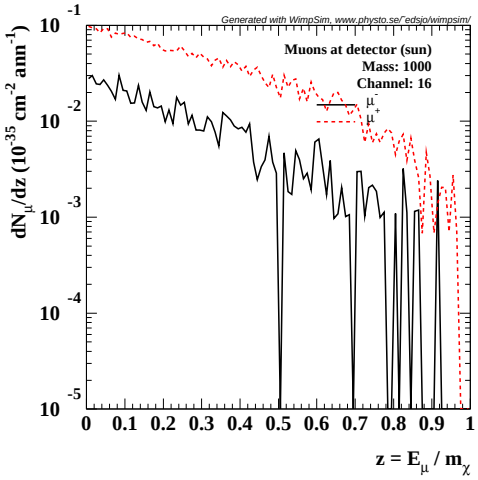
14.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

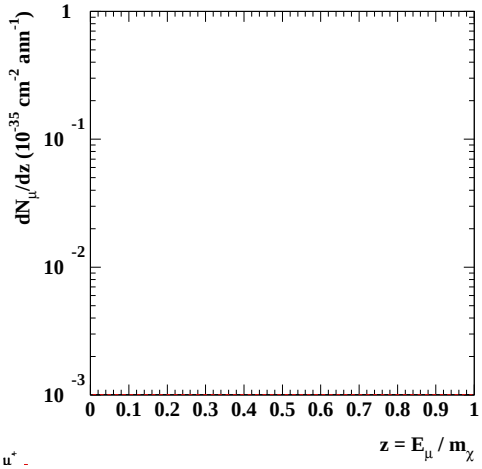




from $\bar{\nu}_\tau$

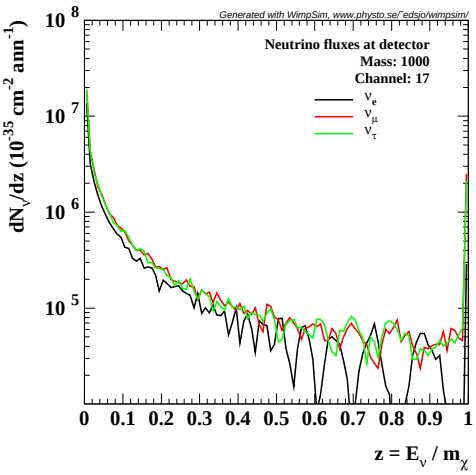
14.8.7 Muons at detector (Sun/Earth)

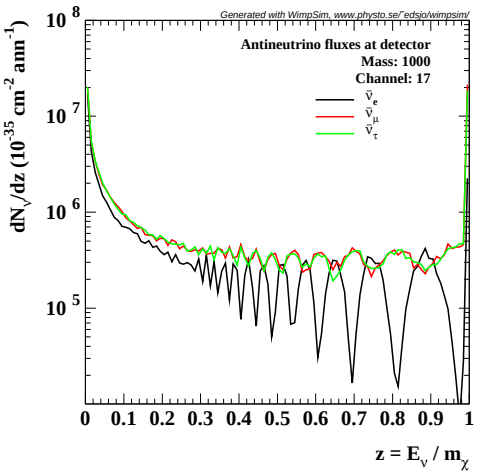




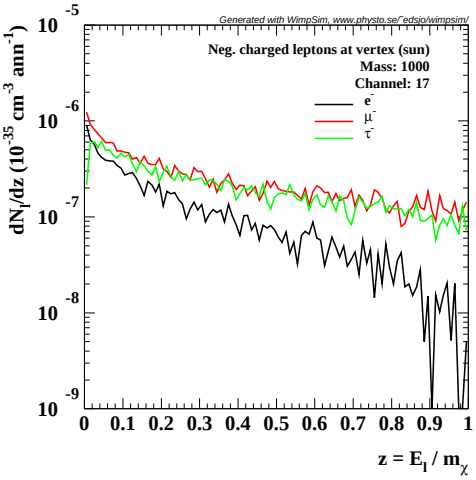
14.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

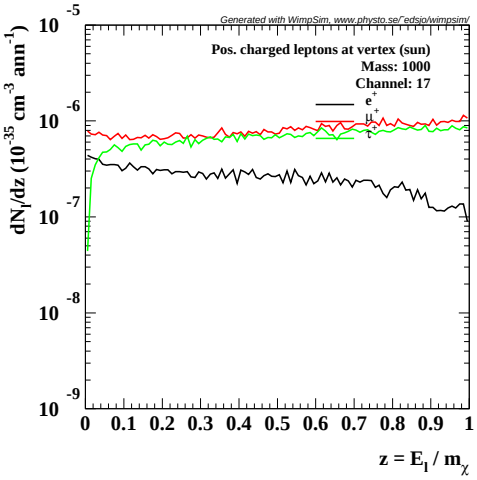
14.9.1 Neutrino fluxes at detector (Sun)



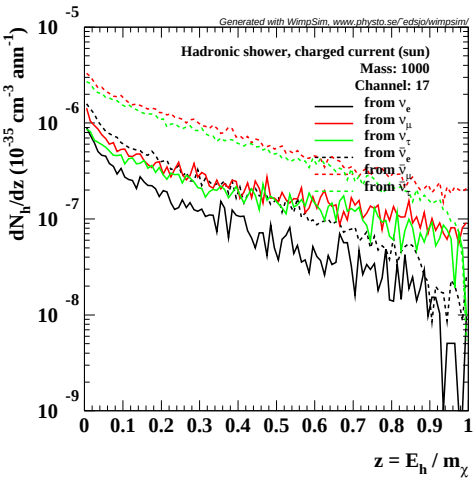


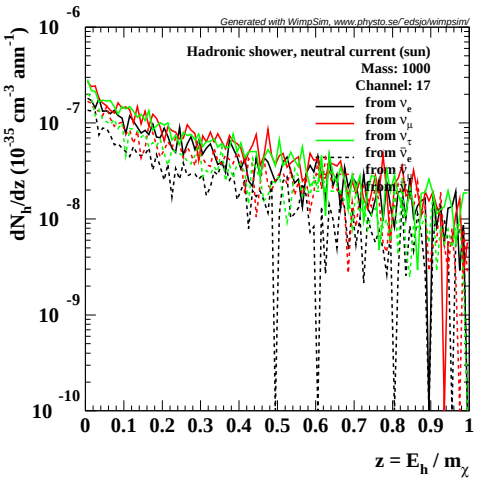
14.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



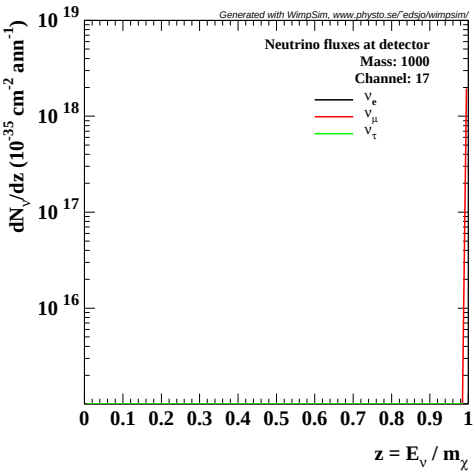


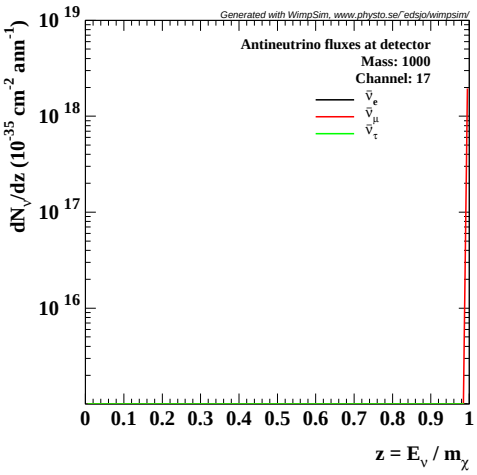
14.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



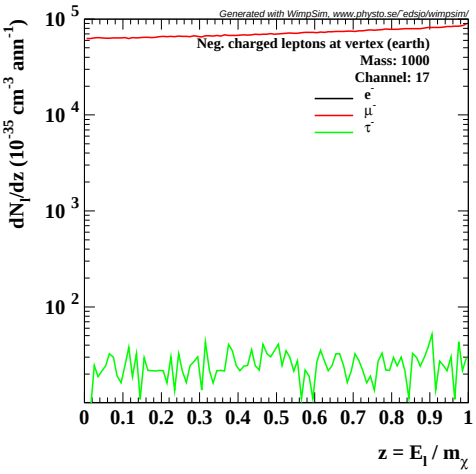


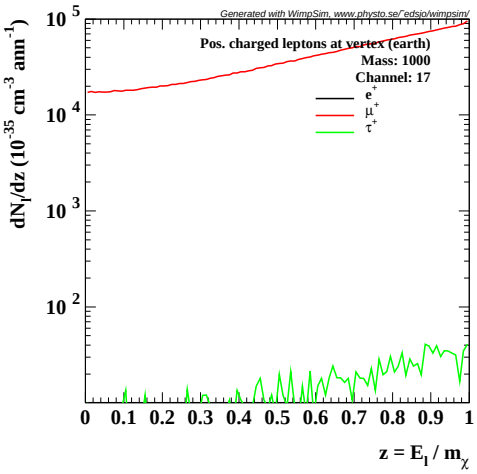
14.9.4 Neutrino fluxes at detector (Earth)



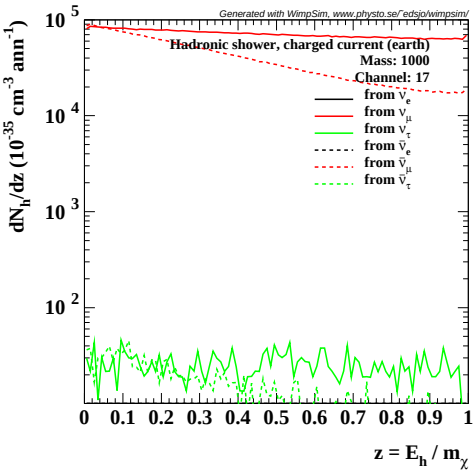


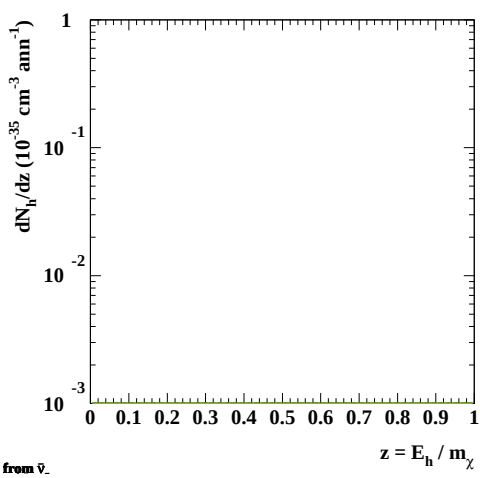
14.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



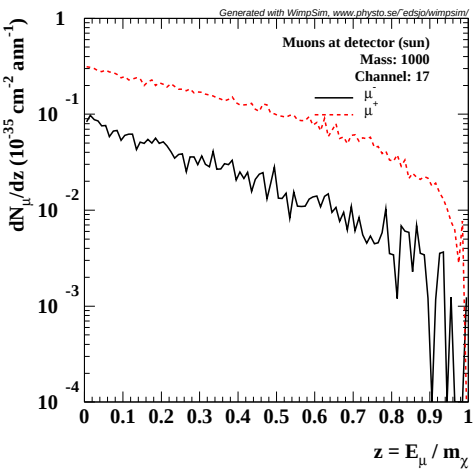


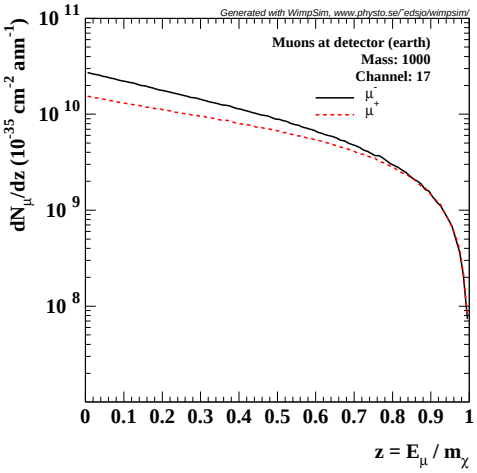
14.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





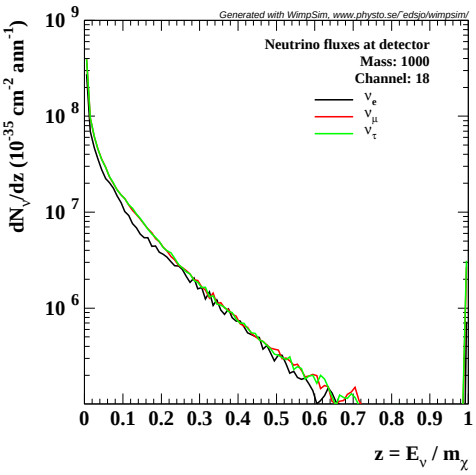
14.9.7 Muons at detector (Sun/Earth)

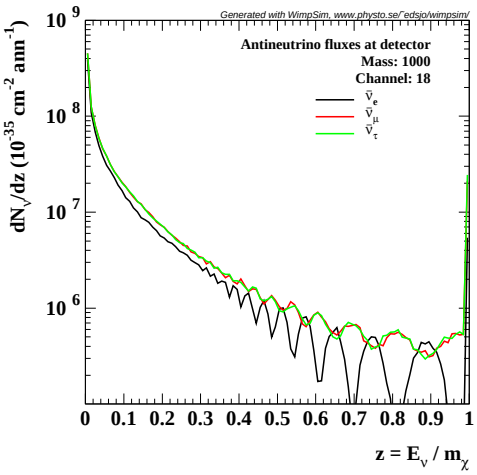




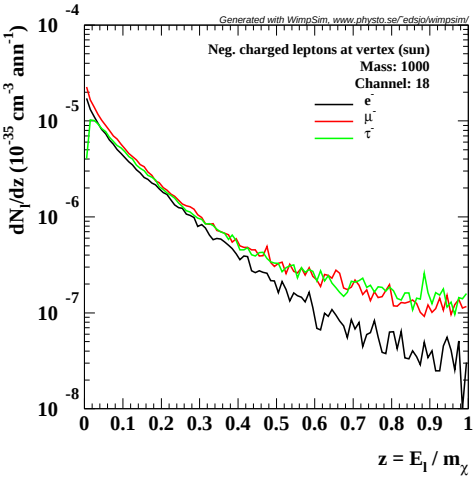
14.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

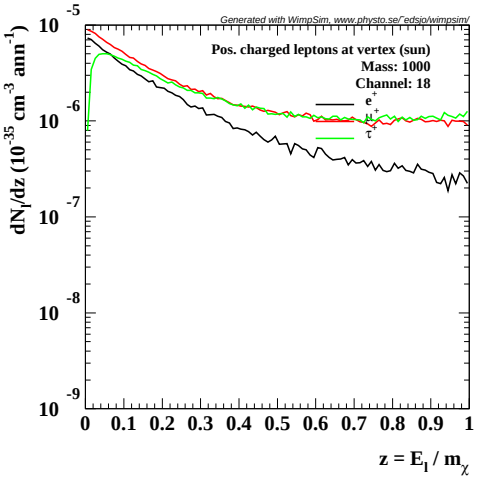
14.10.1 Neutrino fluxes at detector (Sun)



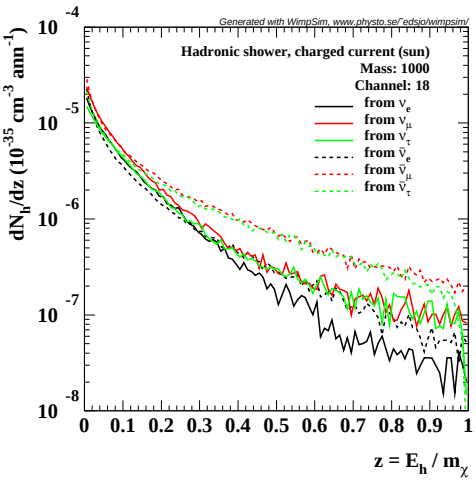


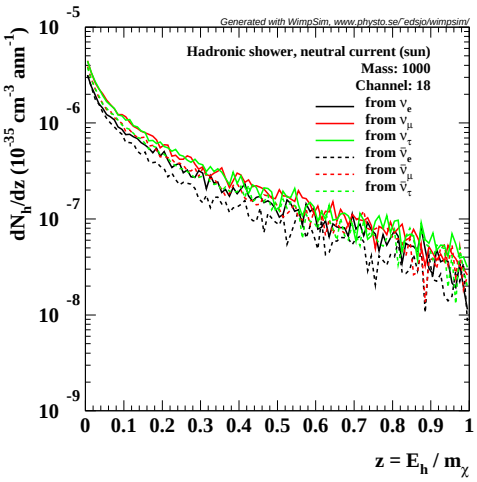
14.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



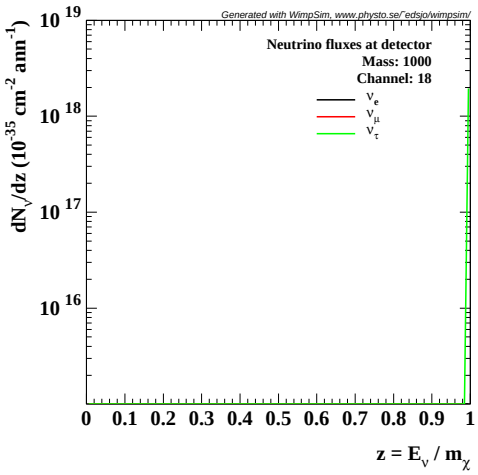


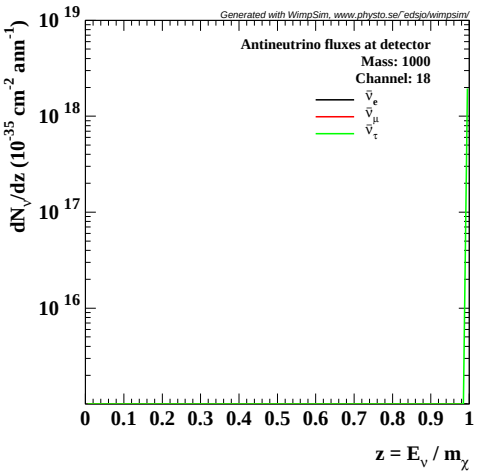
14.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



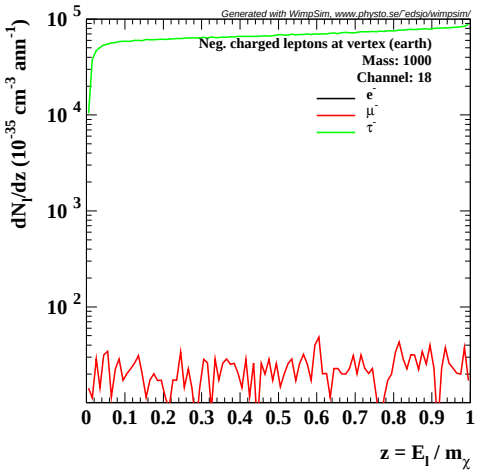


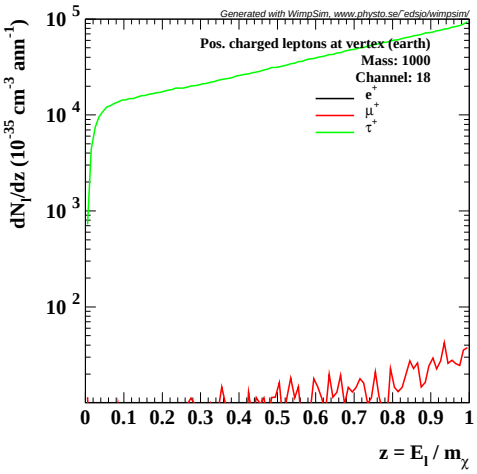
14.10.4 Neutrino fluxes at detector (Earth)



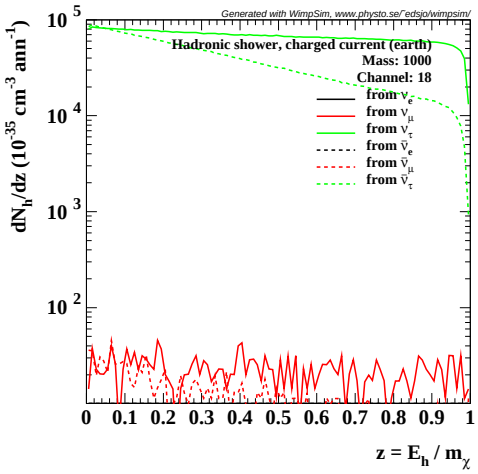


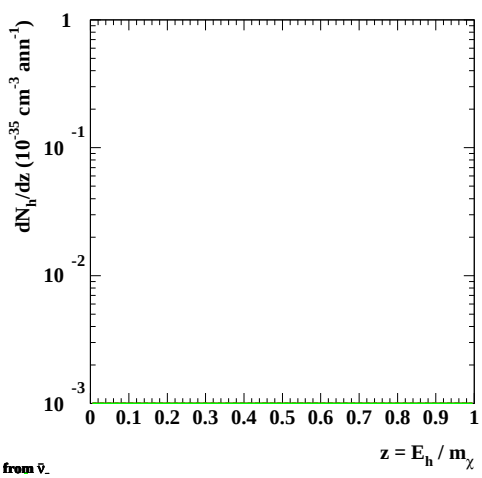
14.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





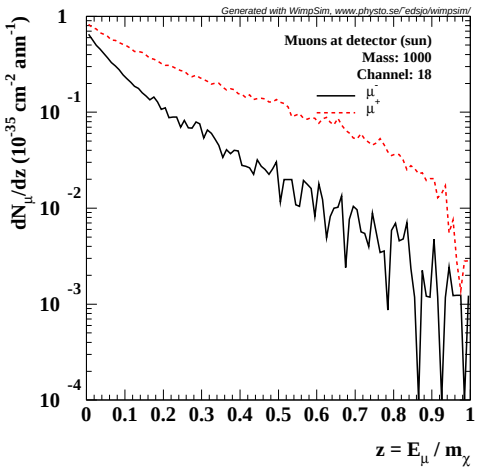
14.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

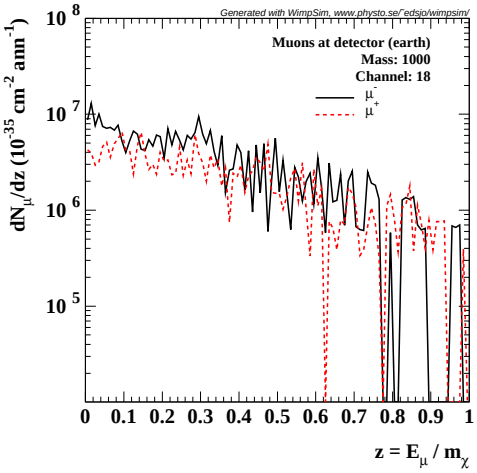




from $\bar{\nu}_\tau$

14.10.7 Muons at detector (Sun/Earth)

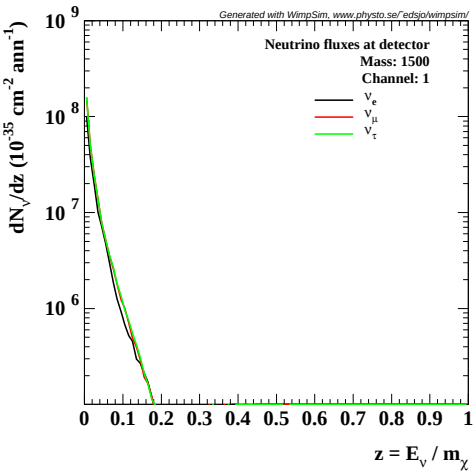


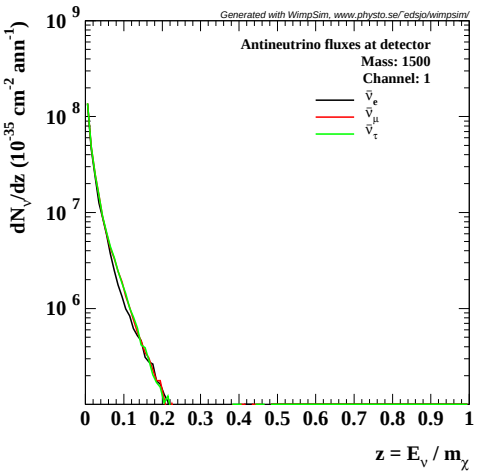


15 Mass 1500

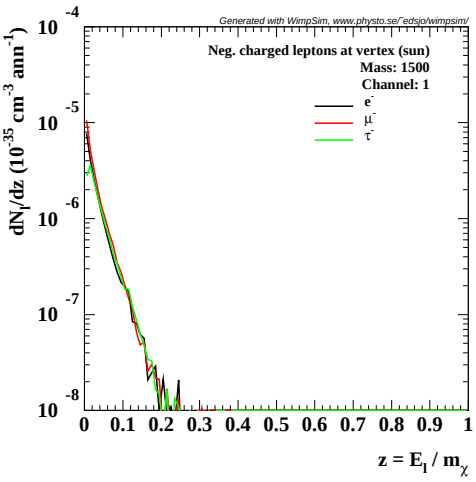
15.1 Channel 1 – $c\bar{c}$

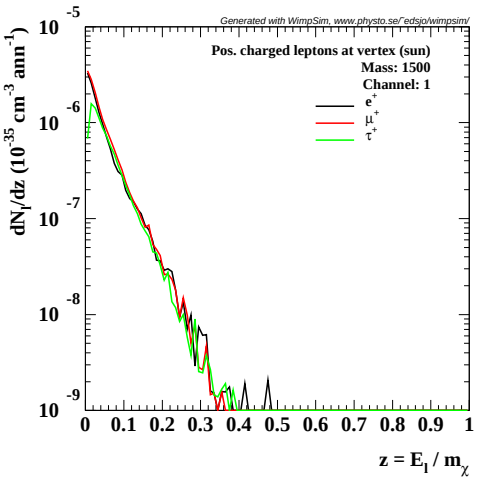
15.1.1 Neutrino fluxes at detector (Sun)



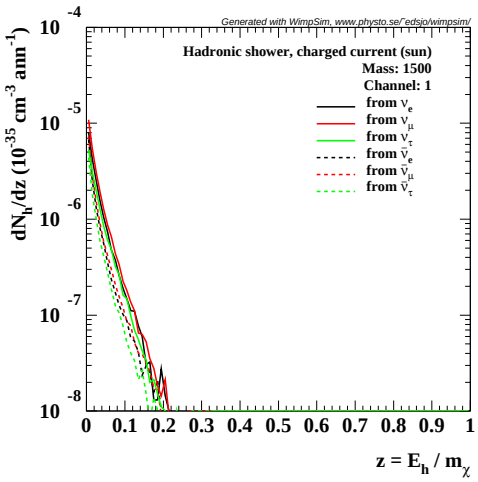


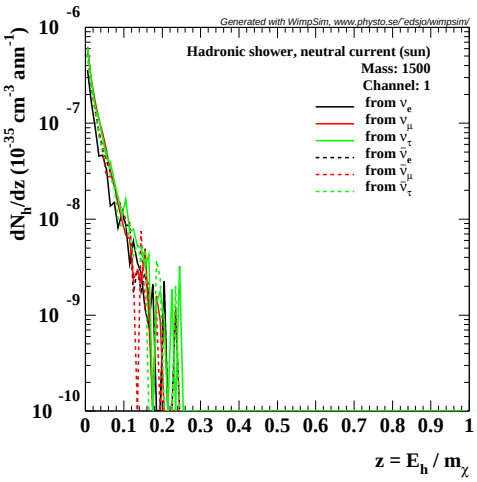
15.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



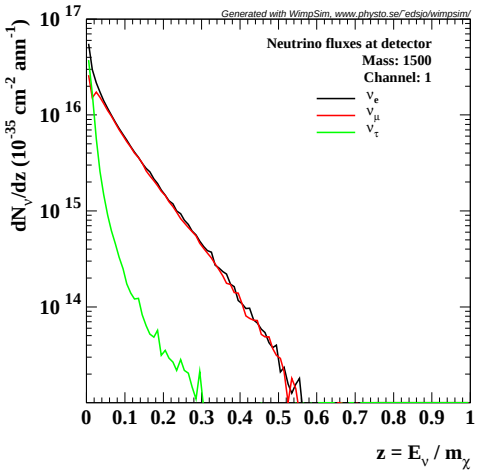


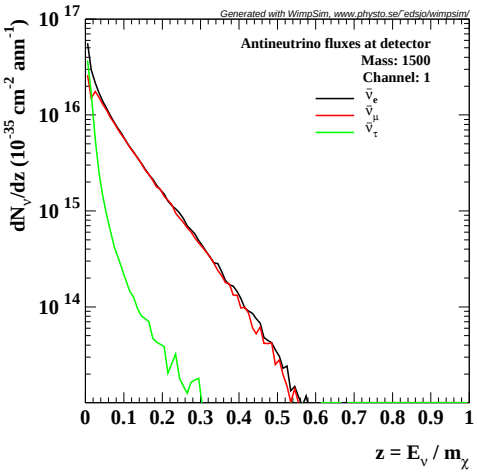
15.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



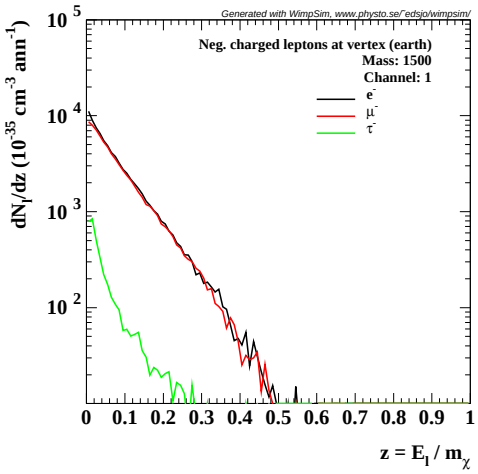


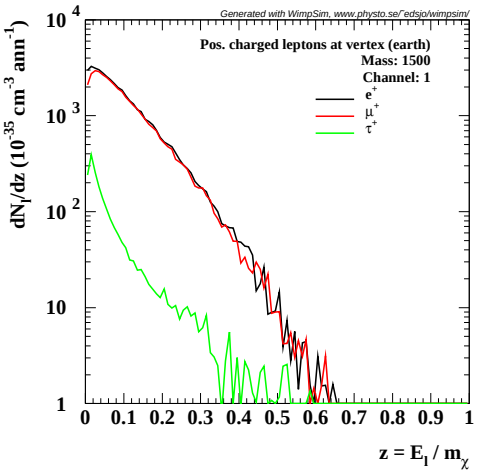
15.1.4 Neutrino fluxes at detector (Earth)



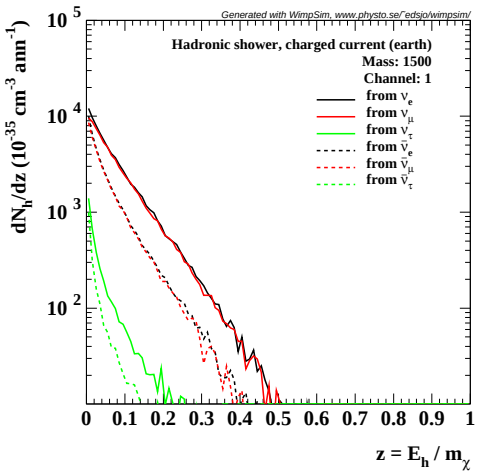


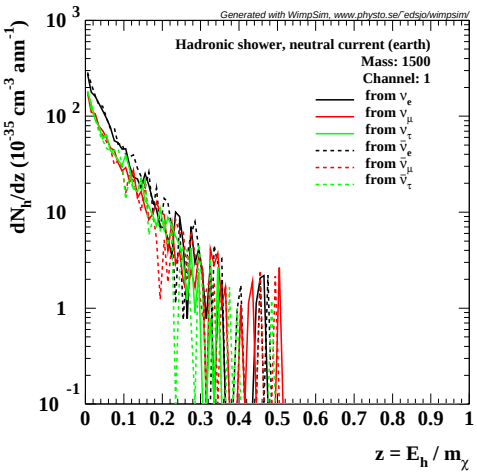
15.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



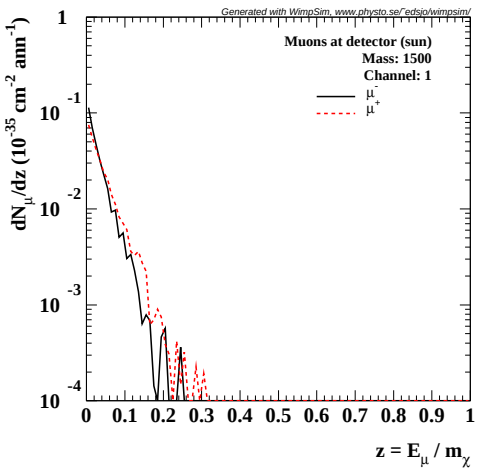


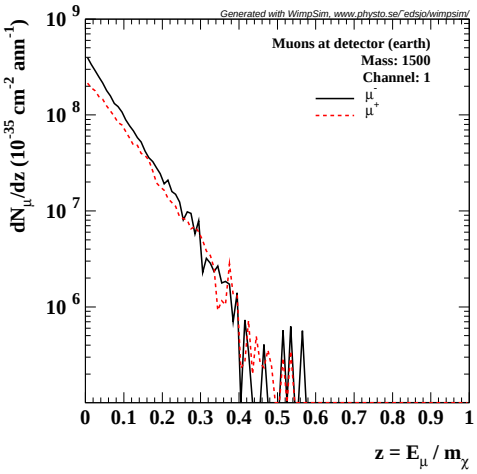
15.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





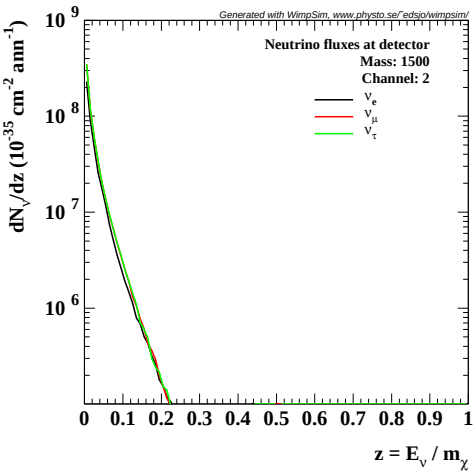
15.1.7 Muons at detector (Sun/Earth)

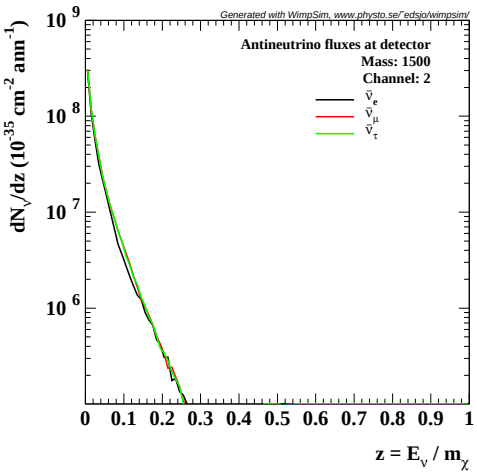




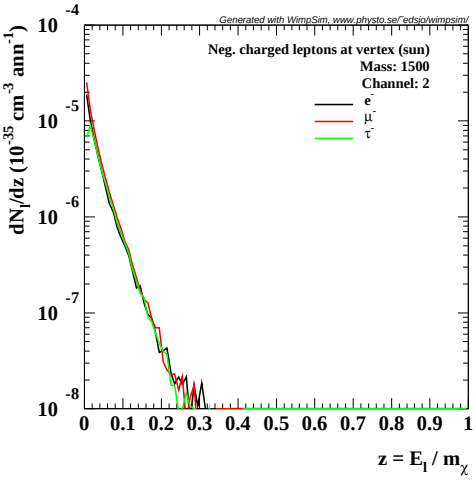
15.2 Channel 2 – $b\bar{b}$

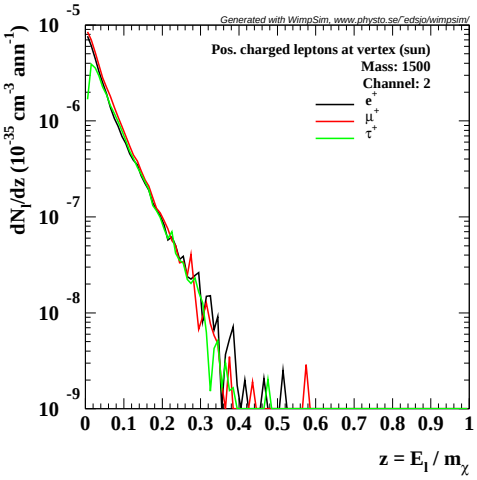
15.2.1 Neutrino fluxes at detector (Sun)



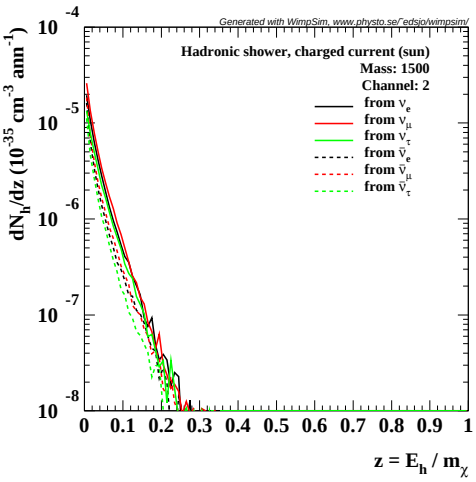


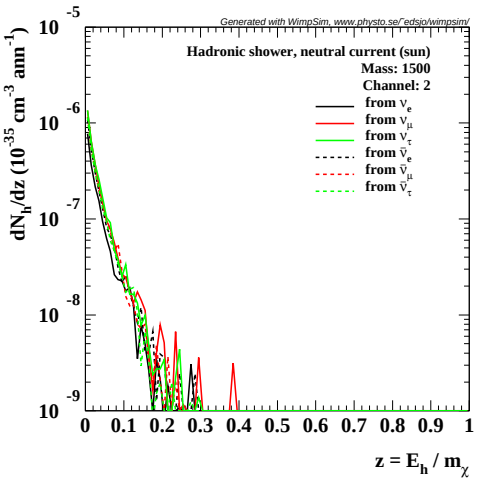
15.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



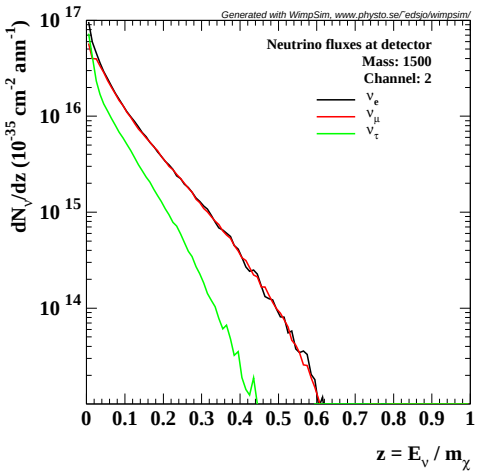


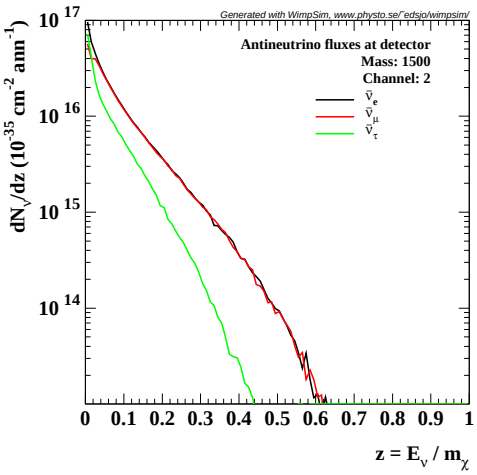
15.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



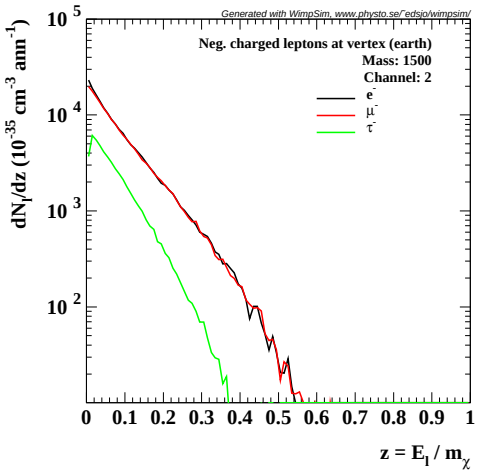


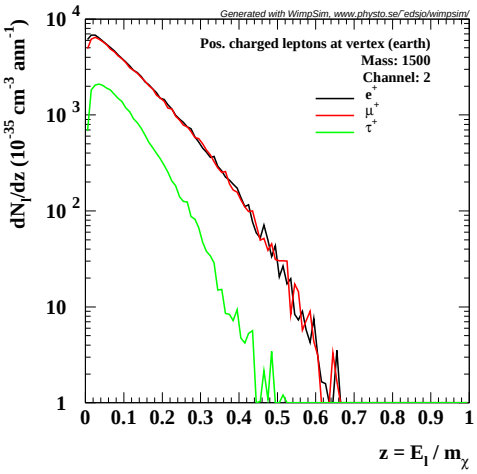
15.2.4 Neutrino fluxes at detector (Earth)



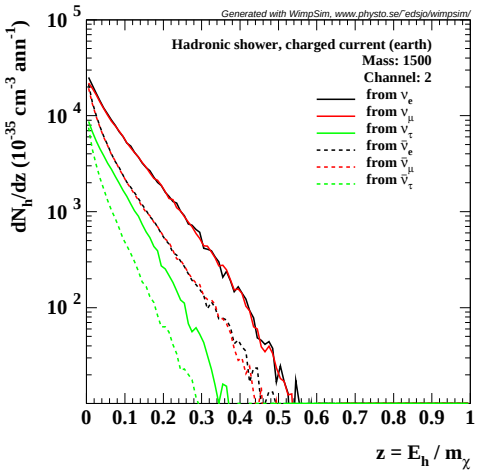


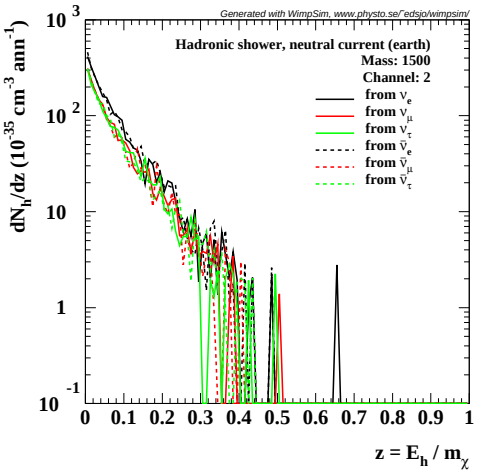
15.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



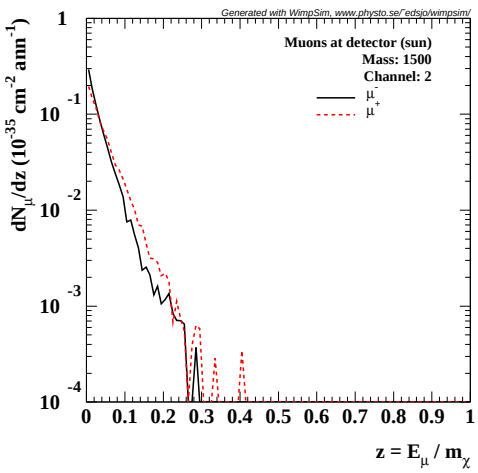


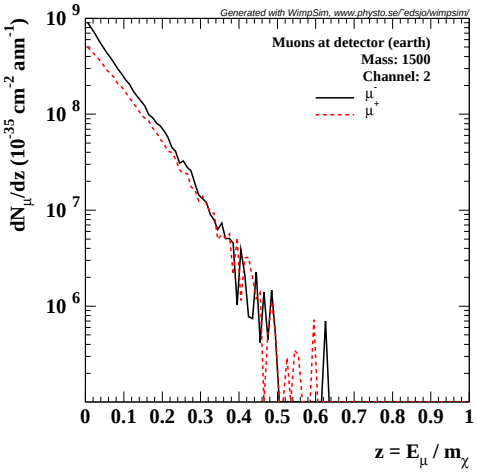
15.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





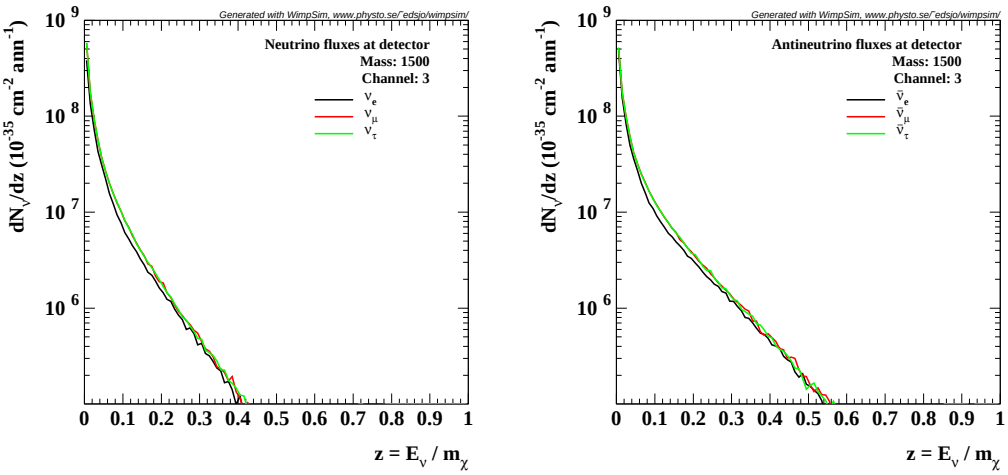
15.2.7 Muons at detector (Sun/Earth)



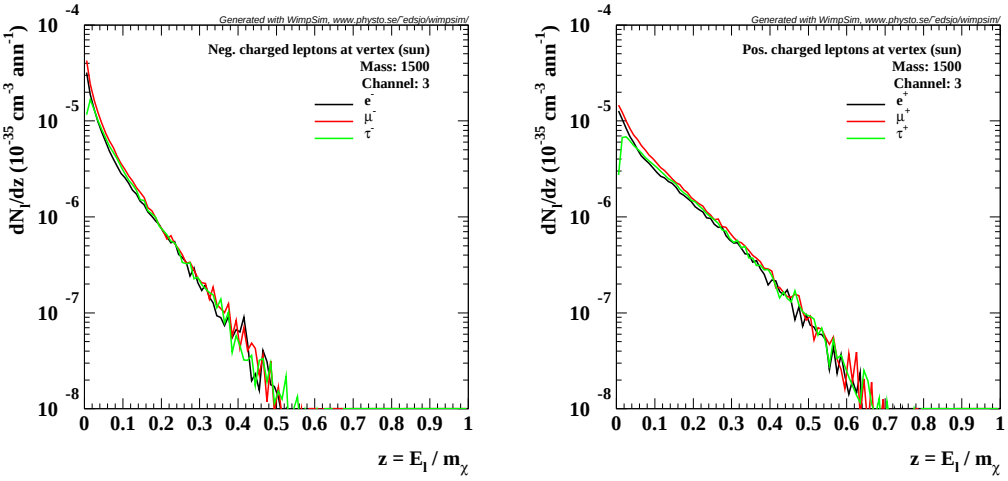


15.3 Channel 3 – $t\bar{t}$

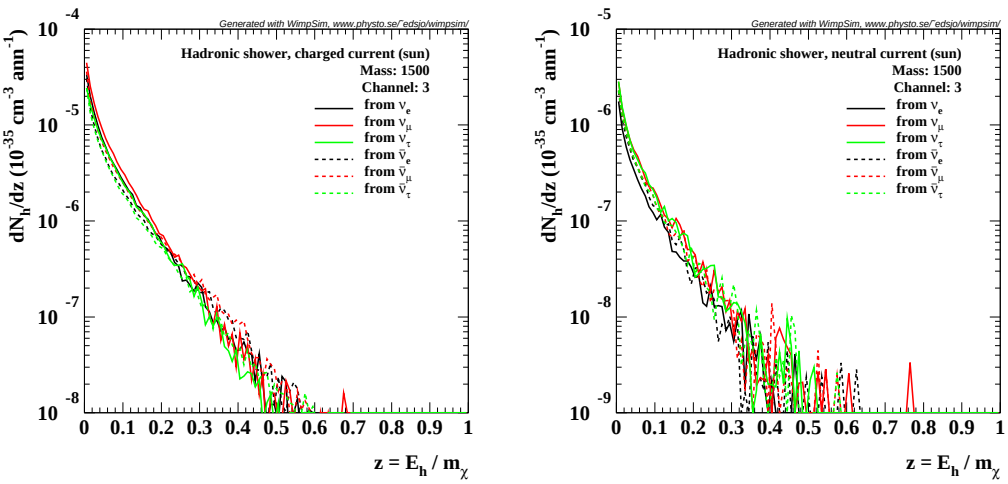
15.3.1 Neutrino fluxes at detector (Sun)



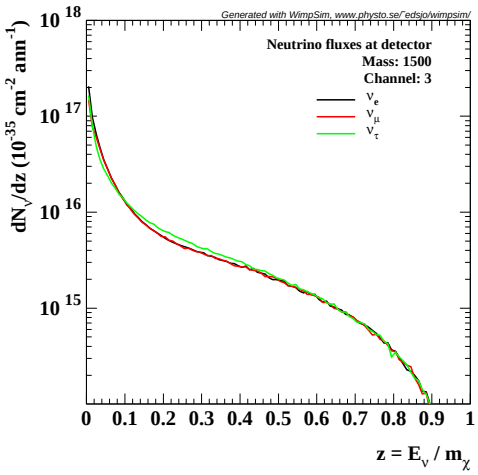
15.3.2 Charged leptons at neutrino-nucleon vertex (Sun)

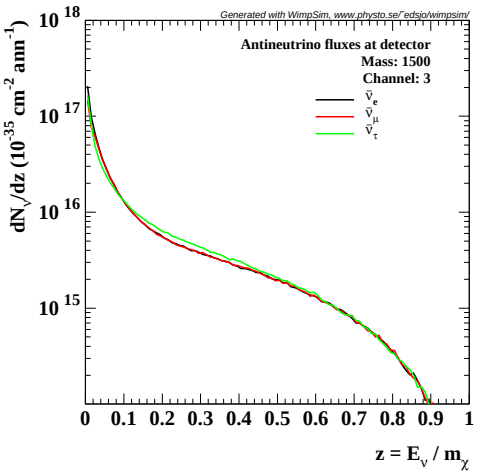


15.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)

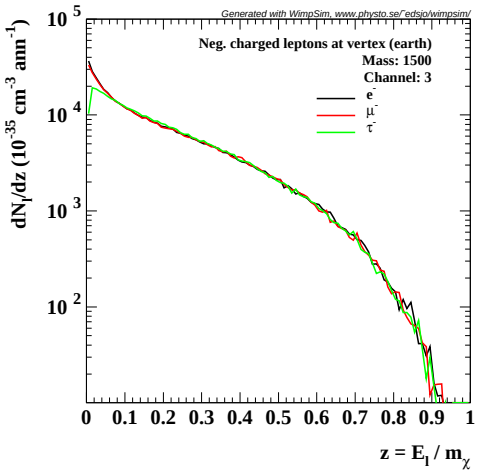


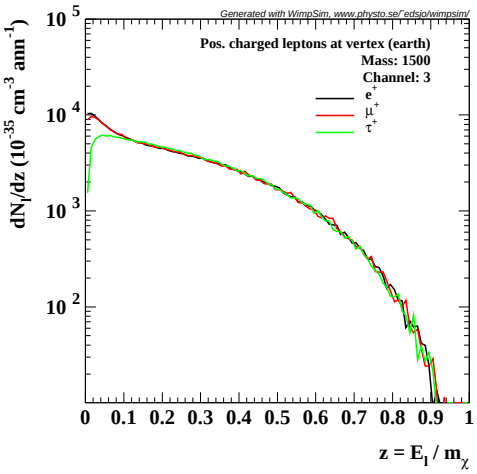
15.3.4 Neutrino fluxes at detector (Earth)



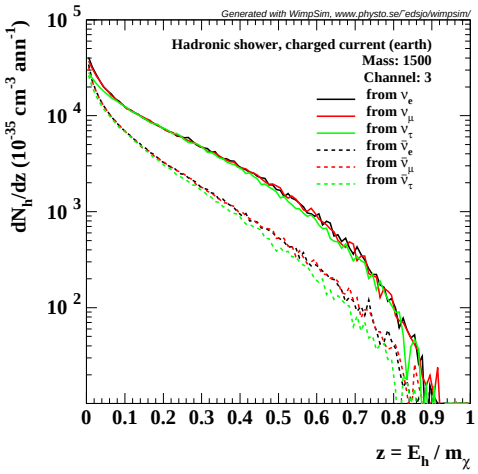


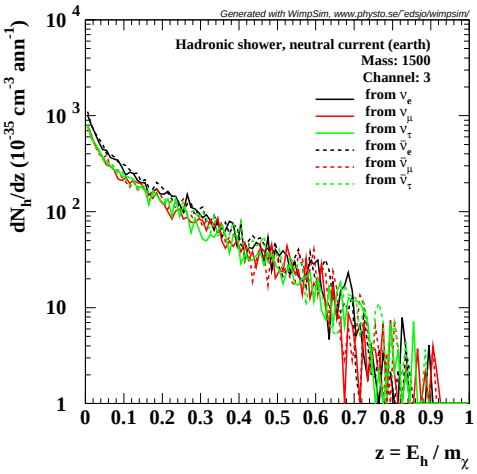
15.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



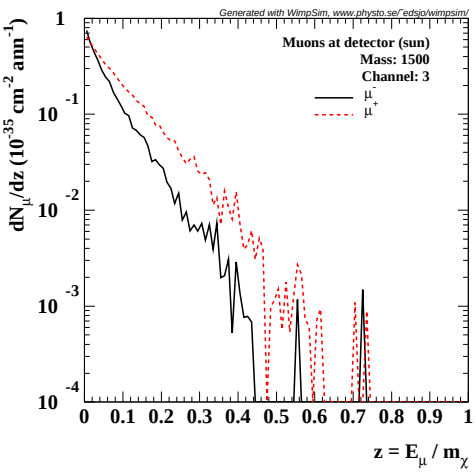


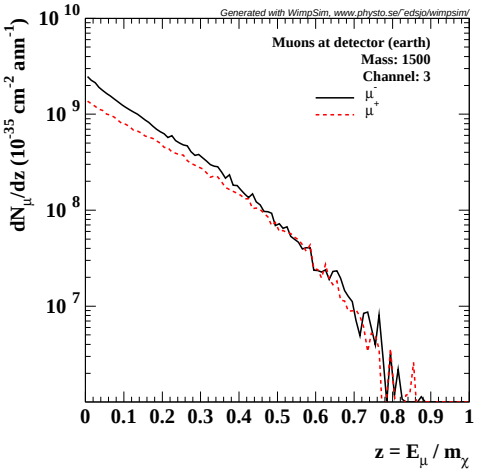
15.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





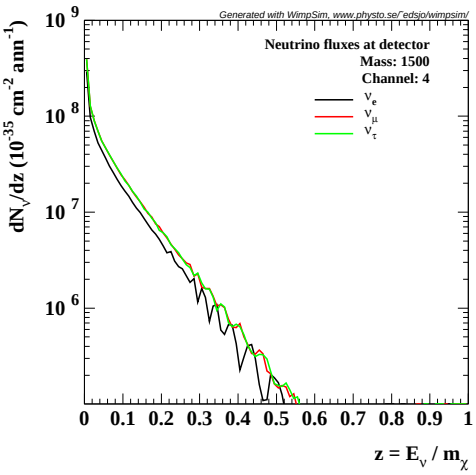
15.3.7 Muons at detector (Sun/Earth)

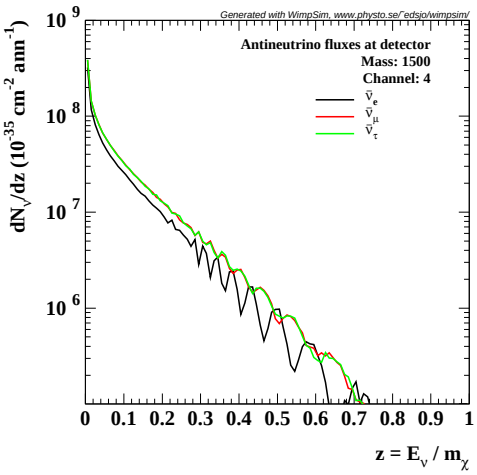




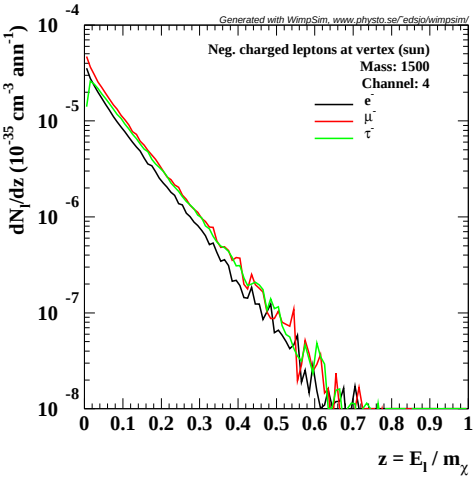
15.4 Channel 4 – $\tau^-\tau^+$

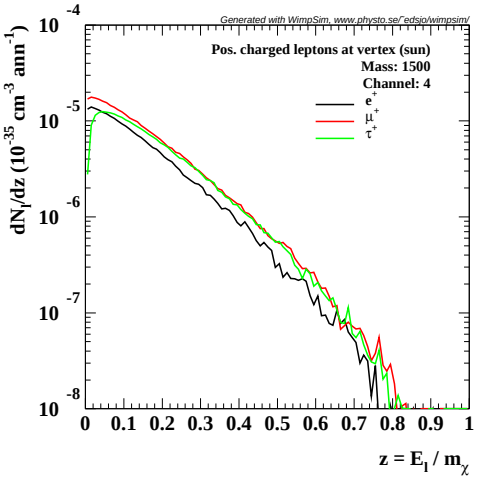
15.4.1 Neutrino fluxes at detector (Sun)



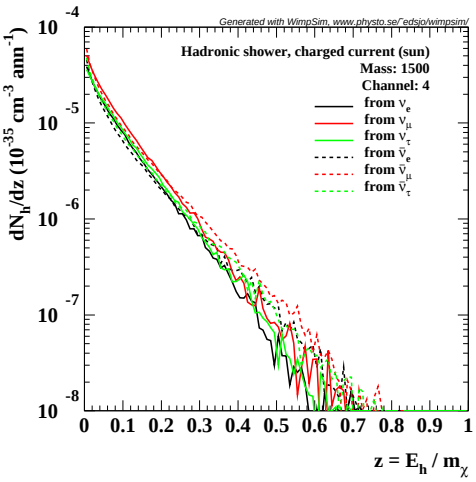


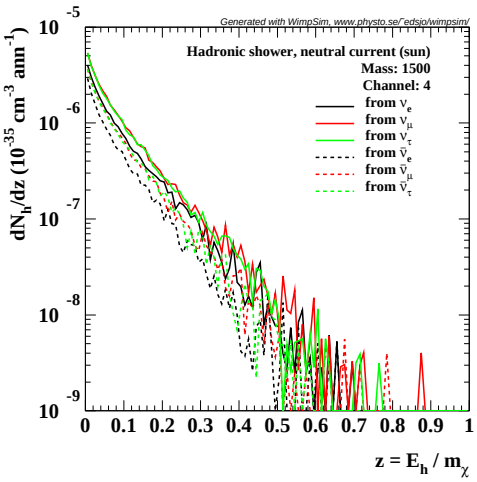
15.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



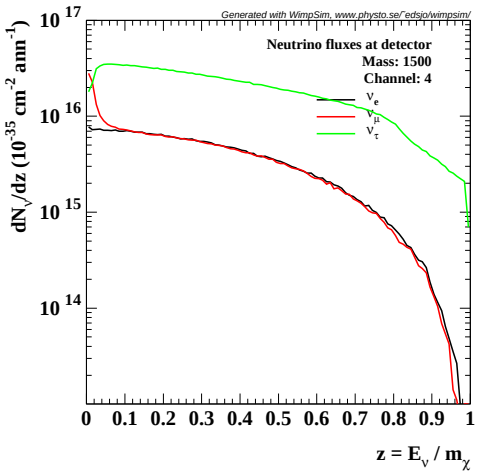


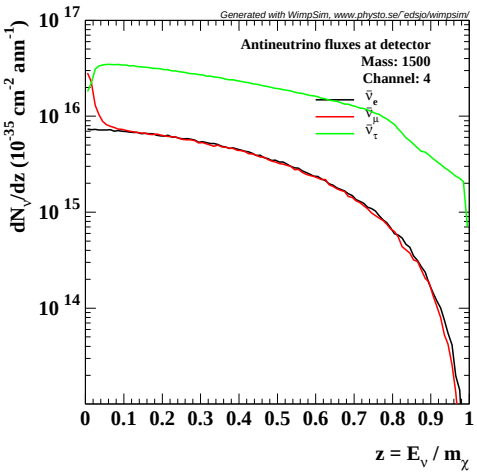
15.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



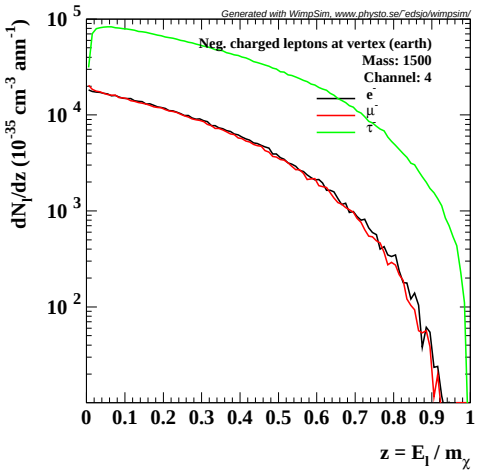


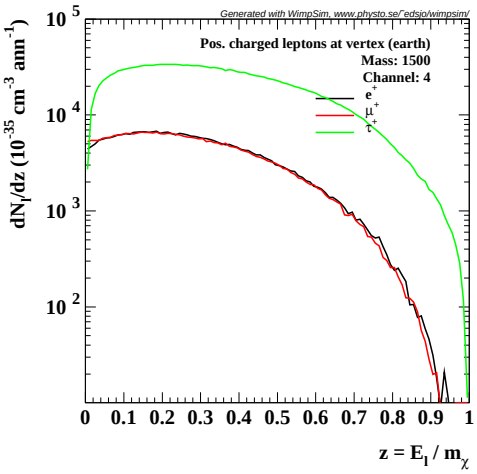
15.4.4 Neutrino fluxes at detector (Earth)



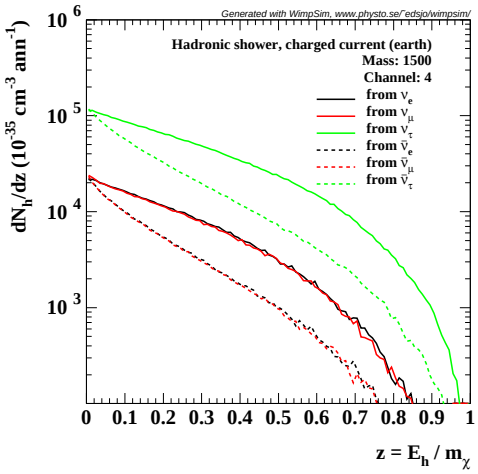


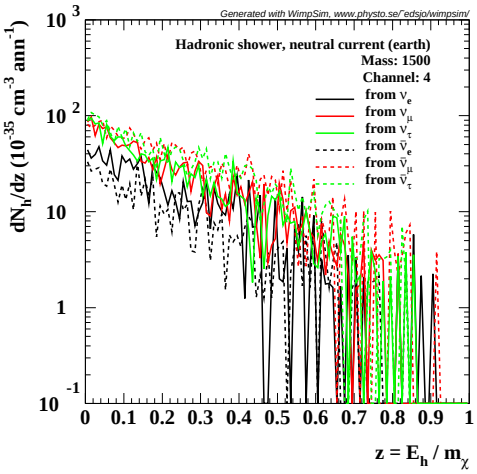
15.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



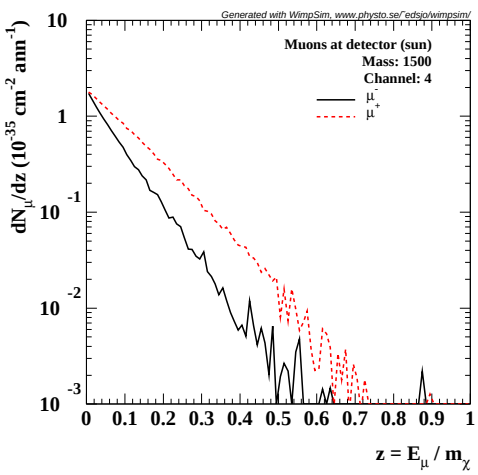


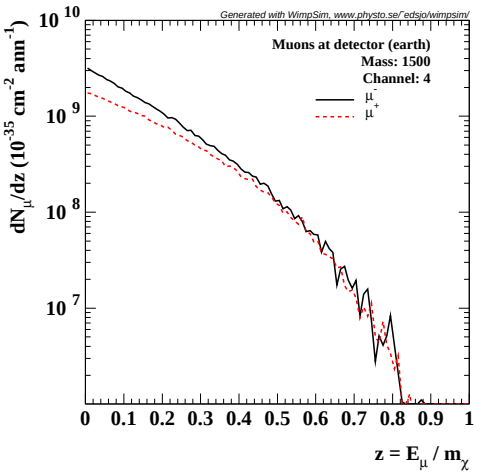
15.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





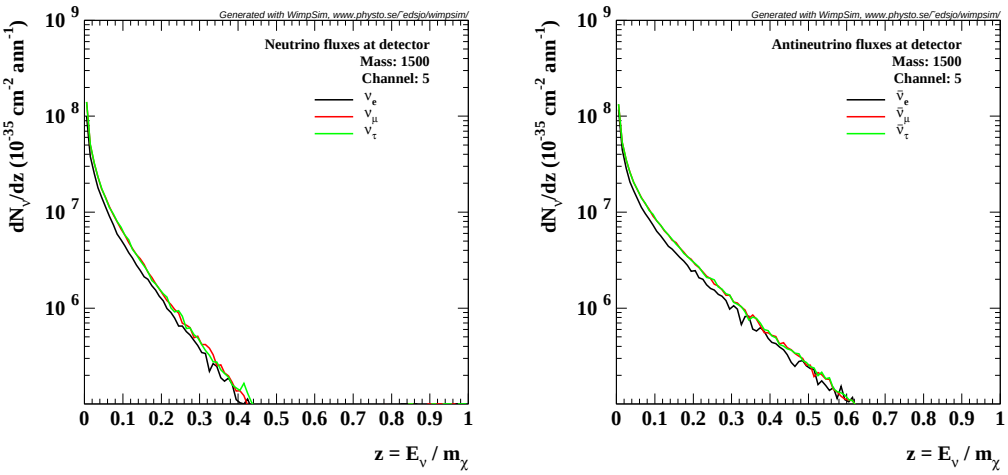
15.4.7 Muons at detector (Sun/Earth)



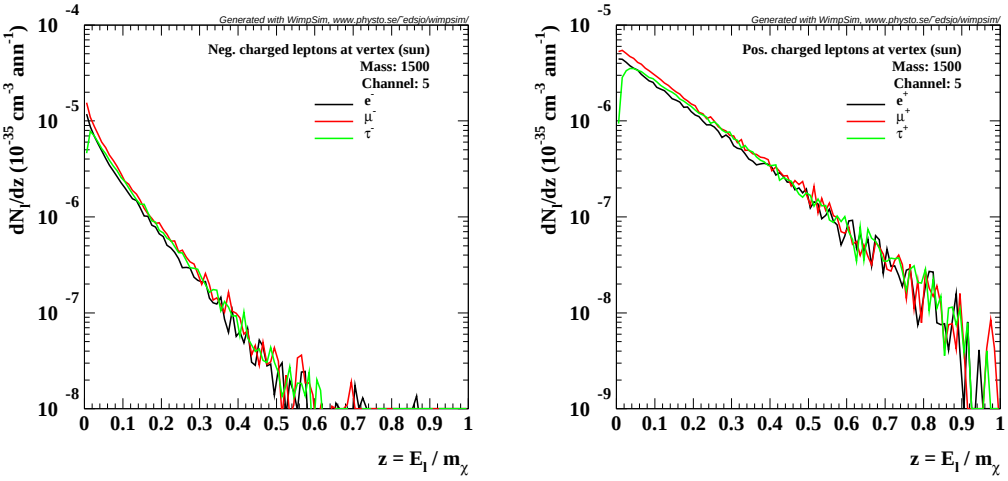


15.5 Channel 5 – W^-W^+

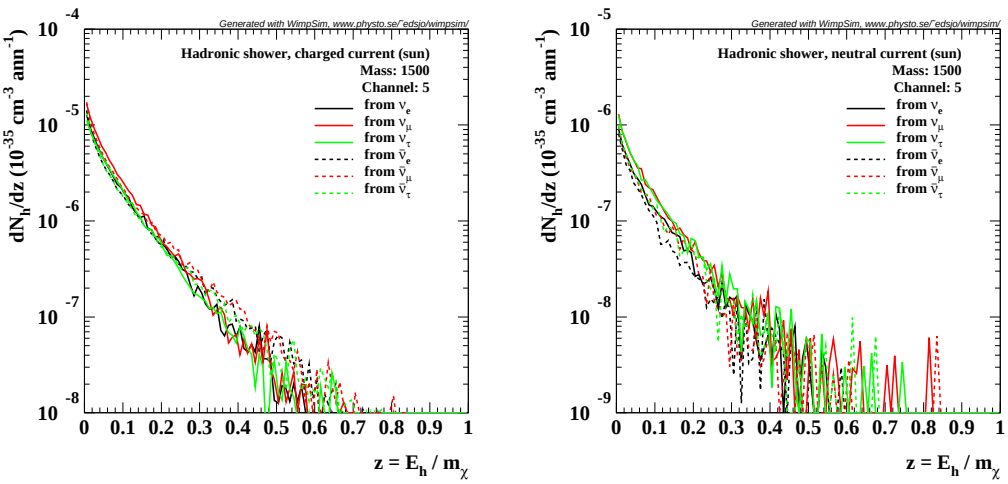
15.5.1 Neutrino fluxes at detector (Sun)



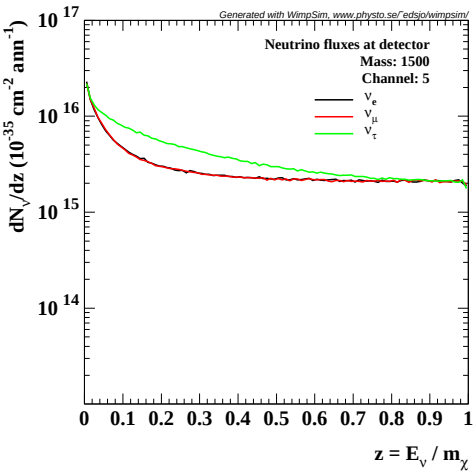
15.5.2 Charged leptons at neutrino-nucleon vertex (Sun)

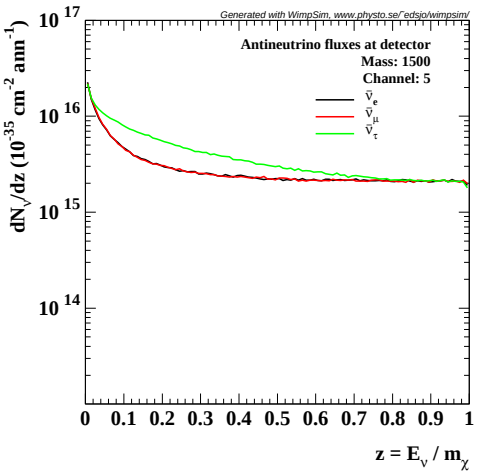


15.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)

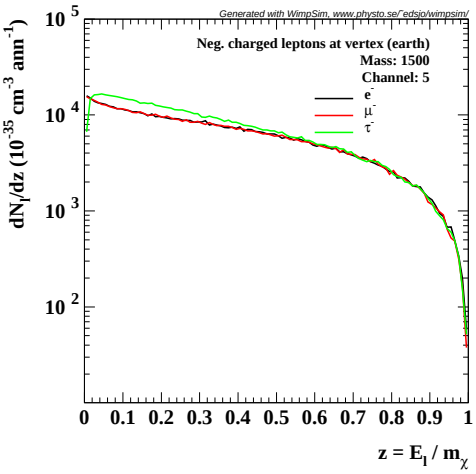


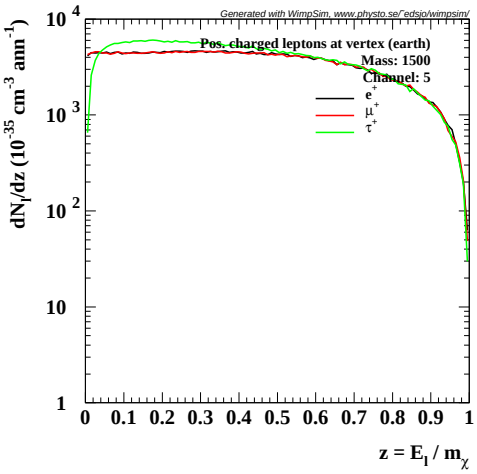
15.5.4 Neutrino fluxes at detector (Earth)



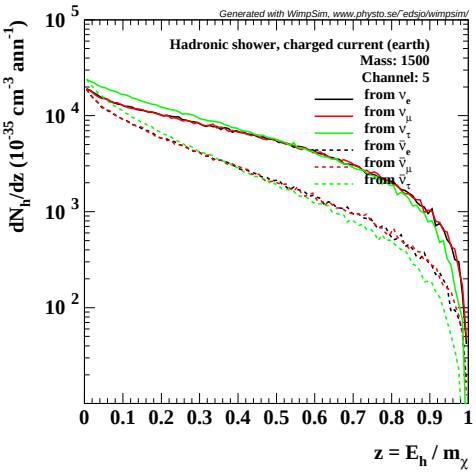


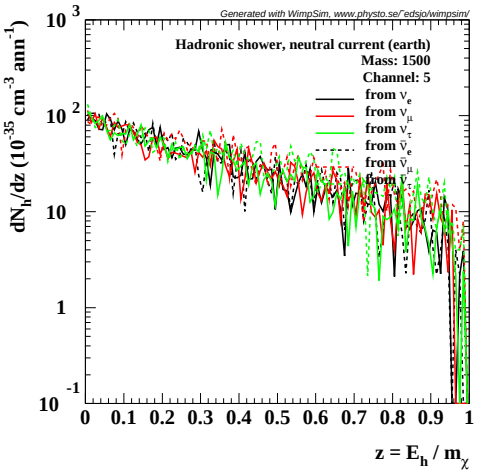
15.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



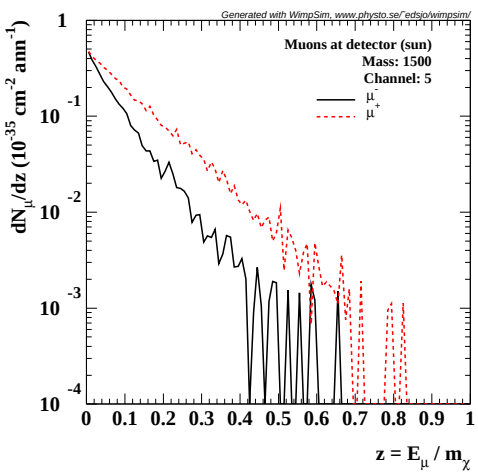


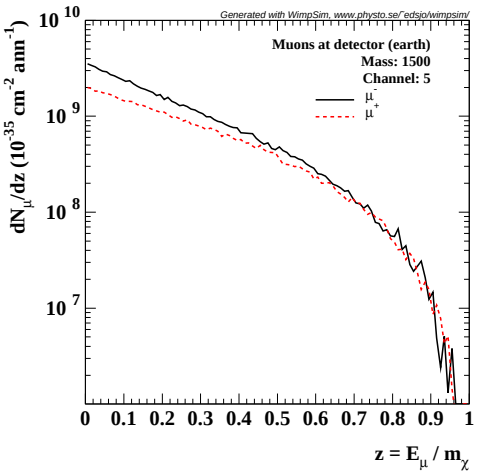
15.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





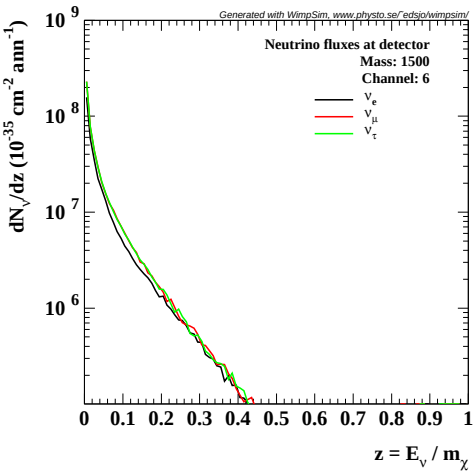
15.5.7 Muons at detector (Sun/Earth)

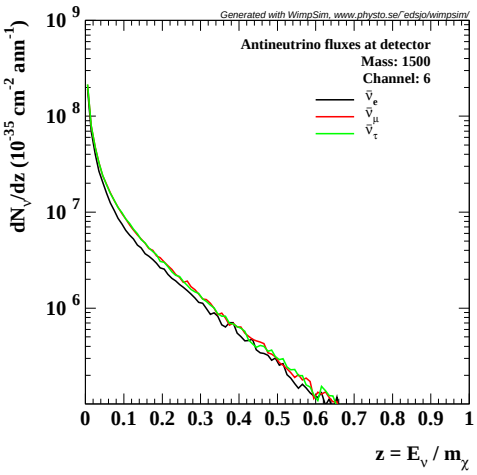




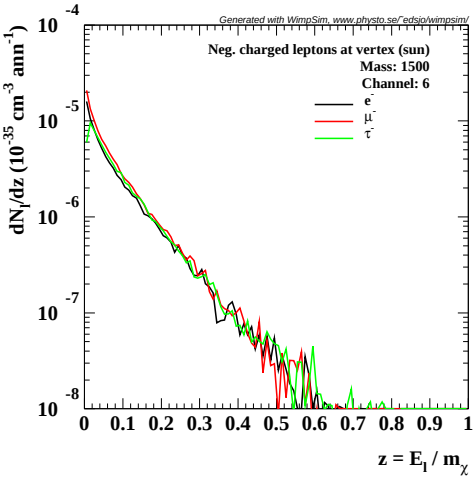
15.6 Channel 6 – $Z^0 Z^0$

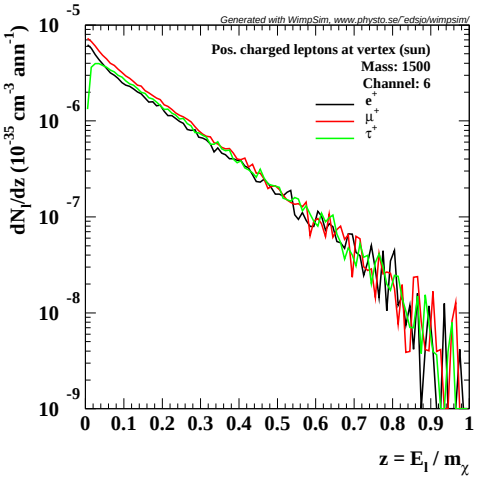
15.6.1 Neutrino fluxes at detector (Sun)



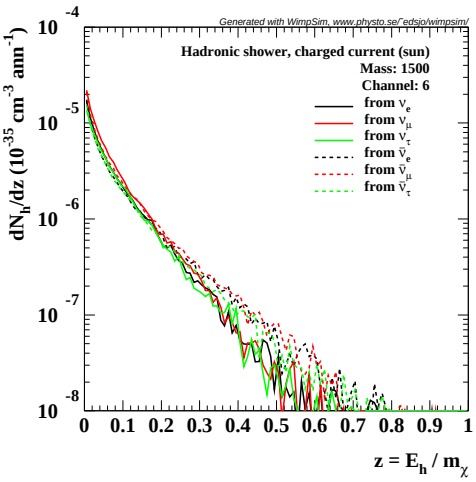


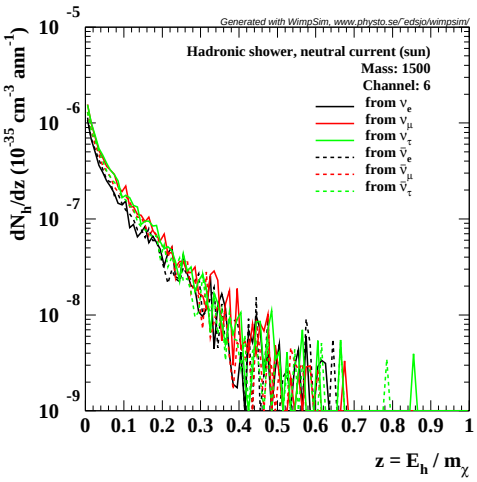
15.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



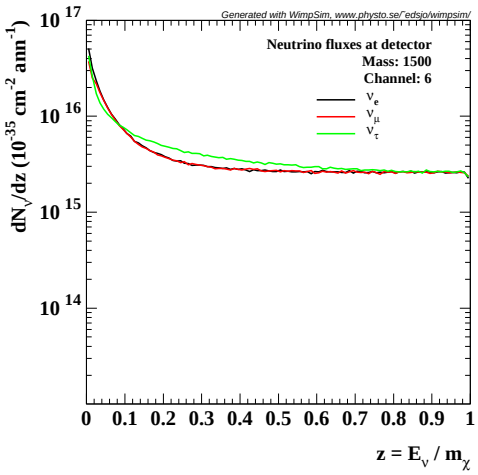


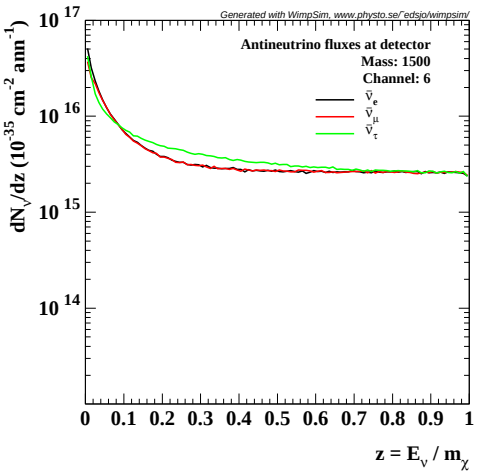
15.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



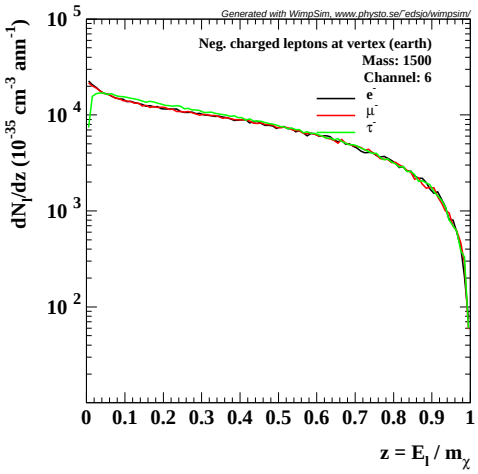


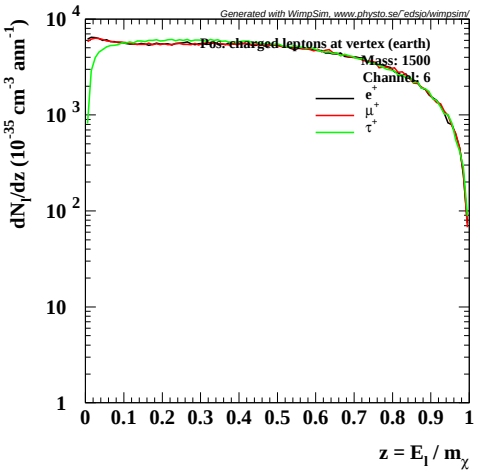
15.6.4 Neutrino fluxes at detector (Earth)



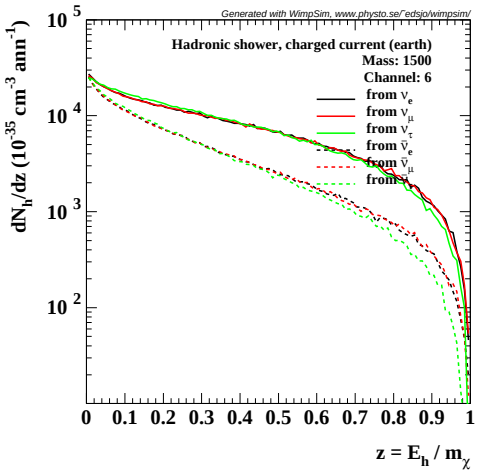


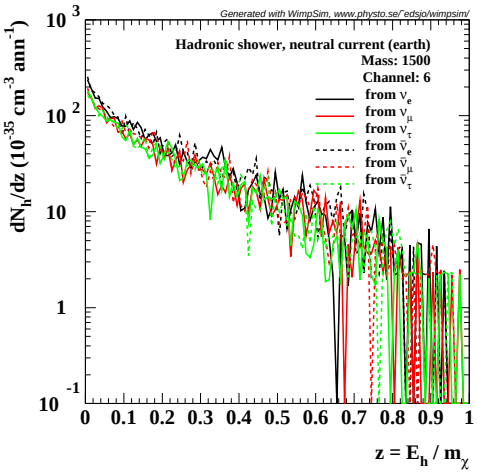
15.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



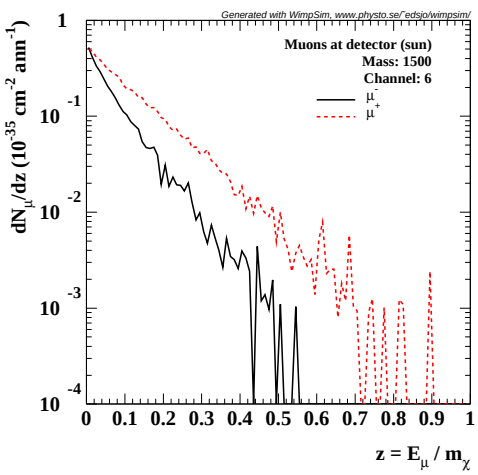


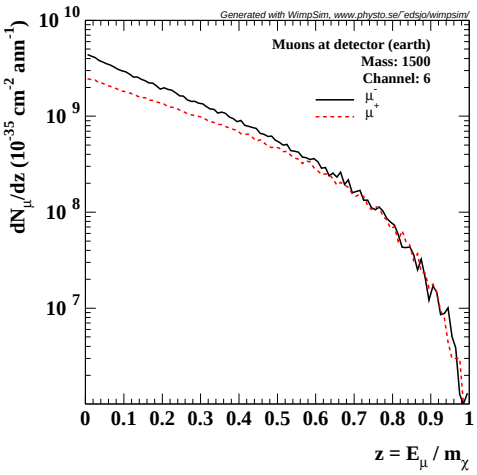
15.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





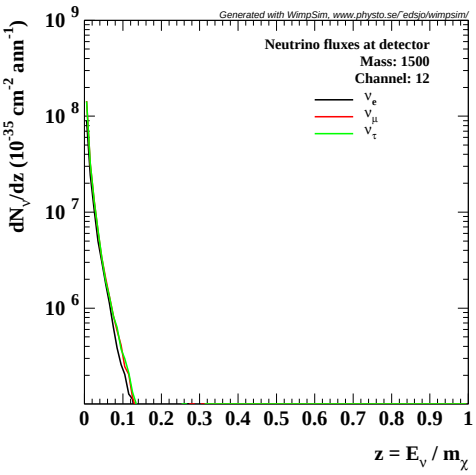
15.6.7 Muons at detector (Sun/Earth)

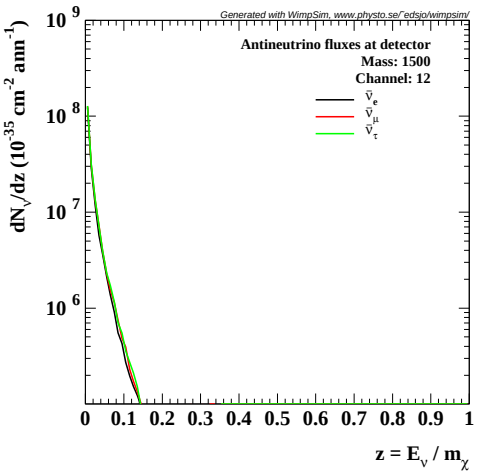




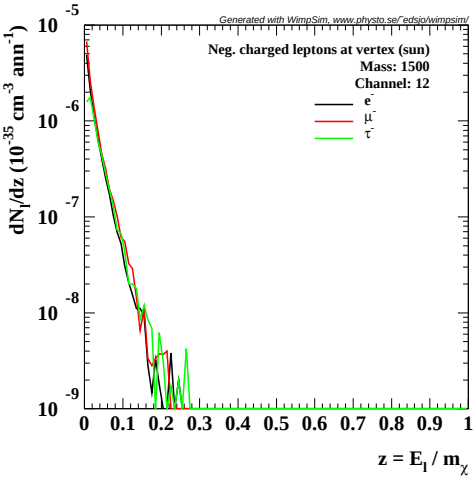
15.7 Channel 12 – gg

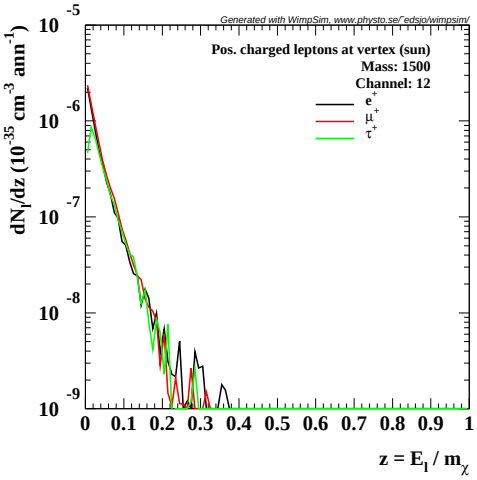
15.7.1 Neutrino fluxes at detector (Sun)



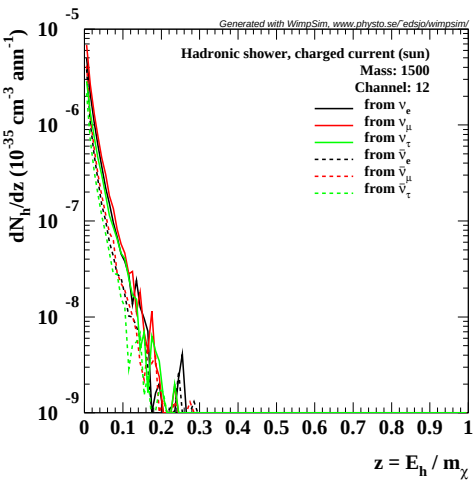


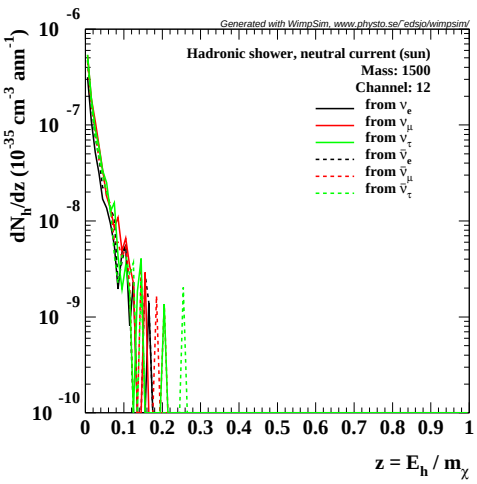
15.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



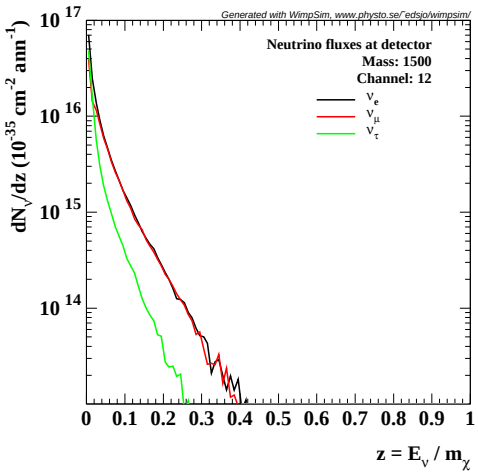


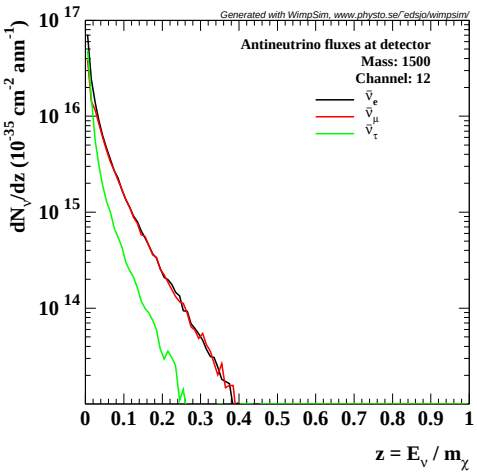
15.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



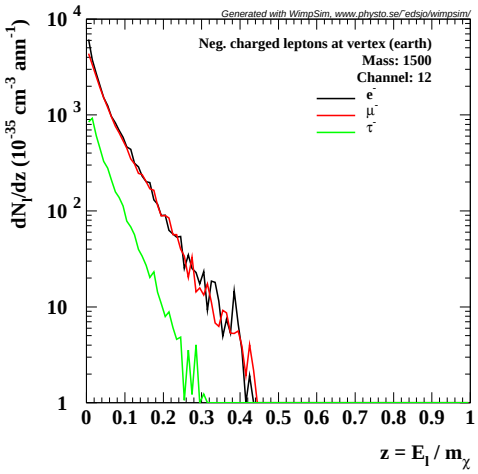


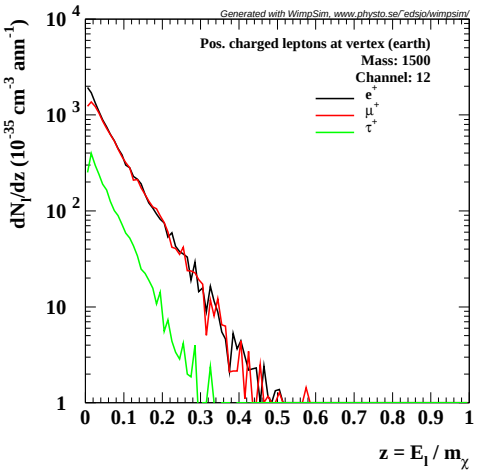
15.7.4 Neutrino fluxes at detector (Earth)



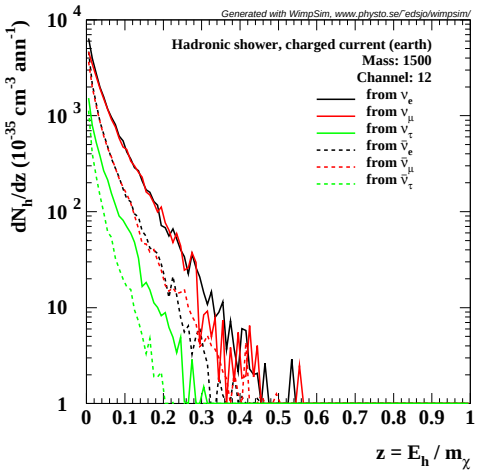


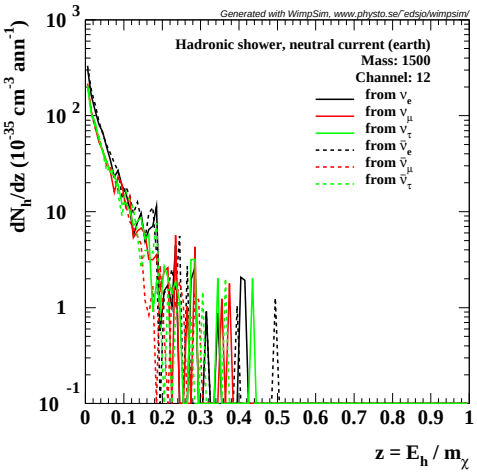
15.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



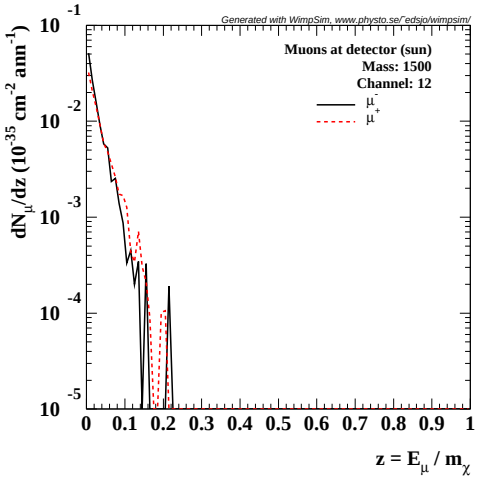


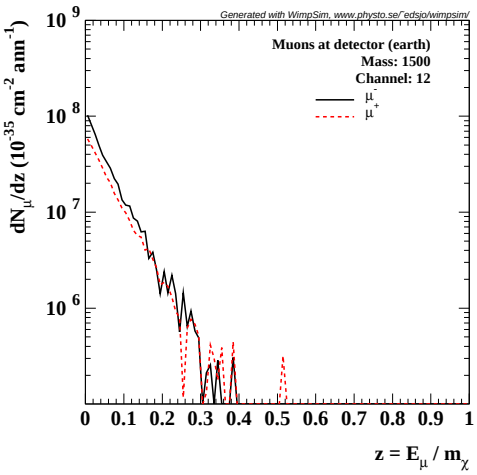
15.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





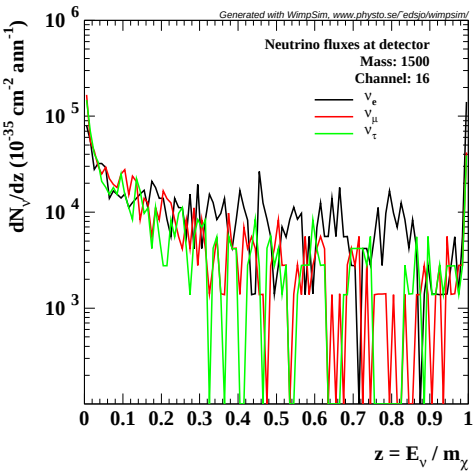
15.7.7 Muons at detector (Sun/Earth)

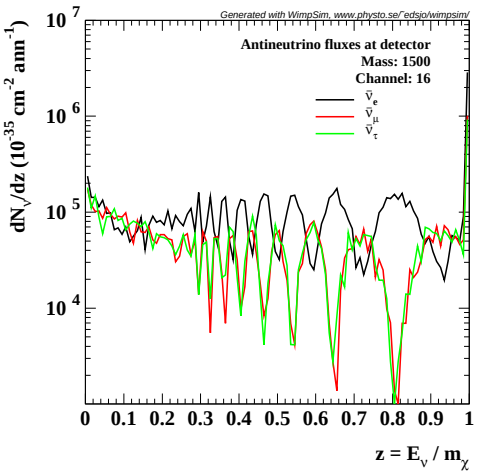




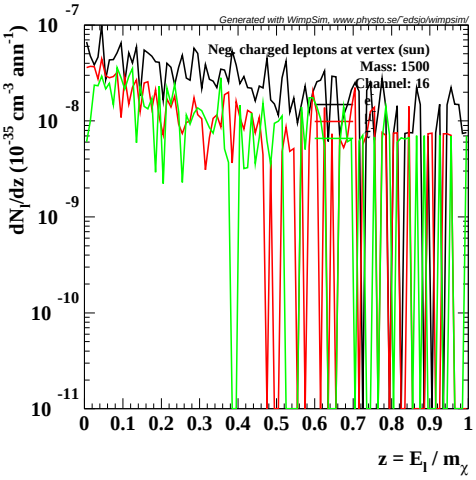
15.8 Channel 16 – $\nu_e\bar{\nu}_e$

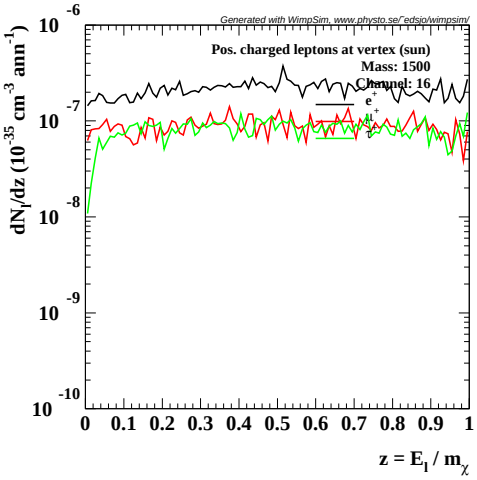
15.8.1 Neutrino fluxes at detector (Sun)



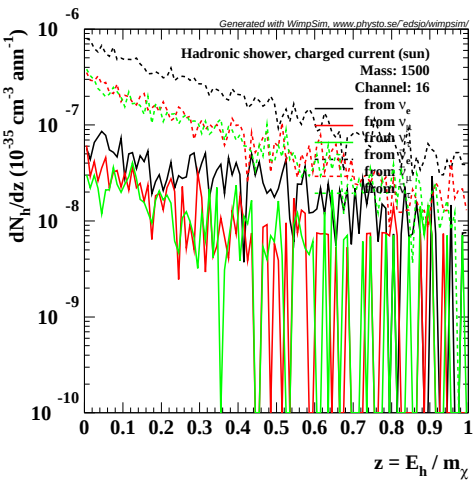


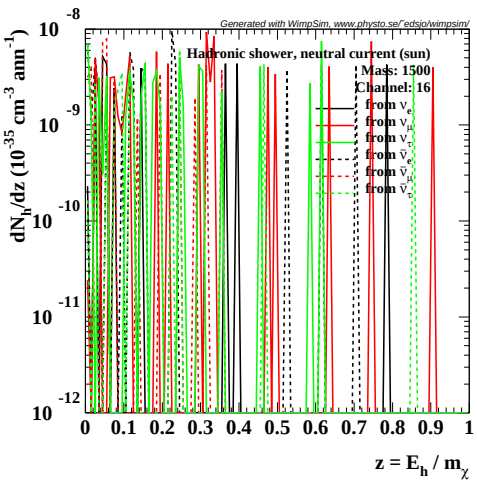
15.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



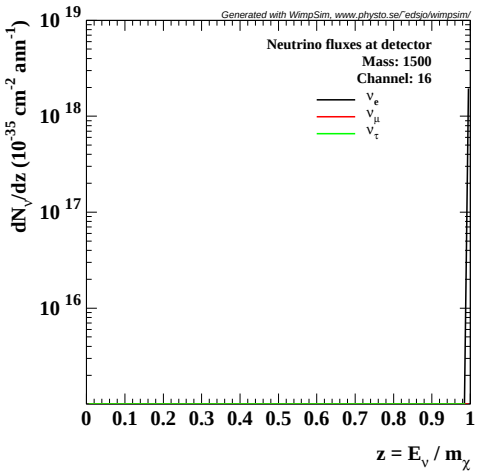


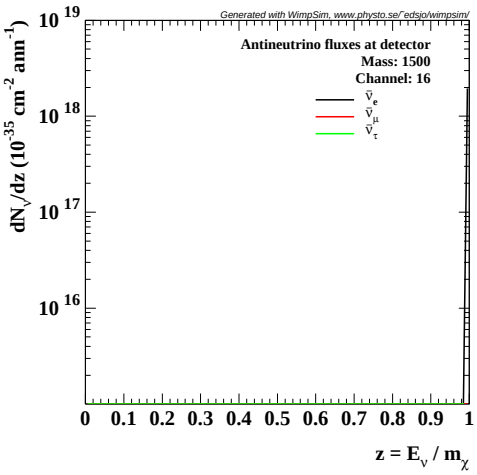
15.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



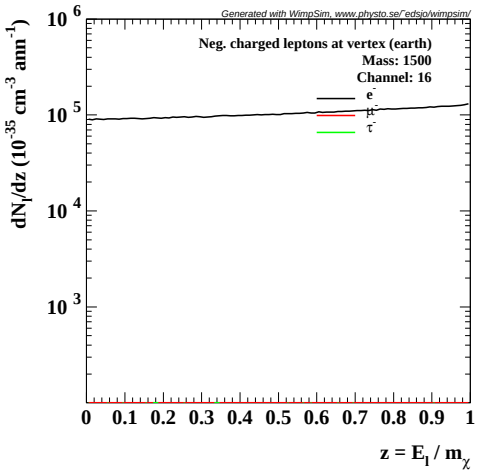


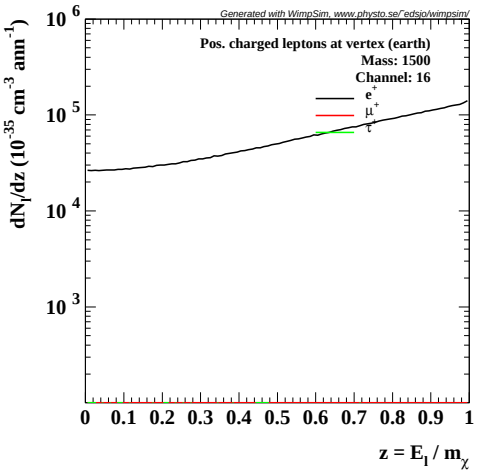
15.8.4 Neutrino fluxes at detector (Earth)



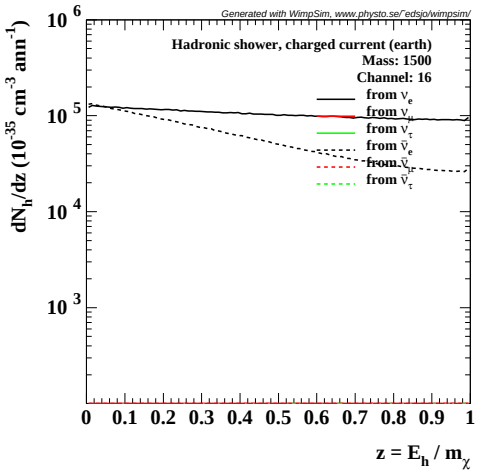


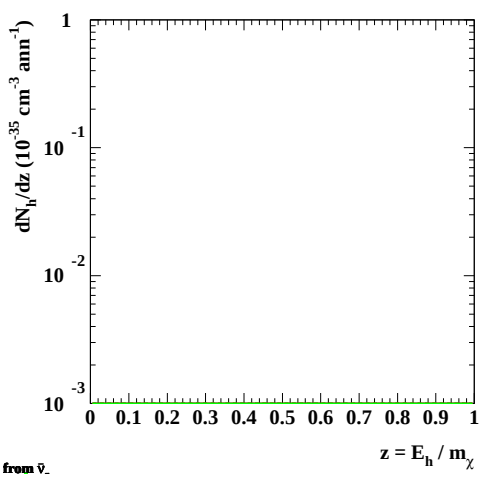
15.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





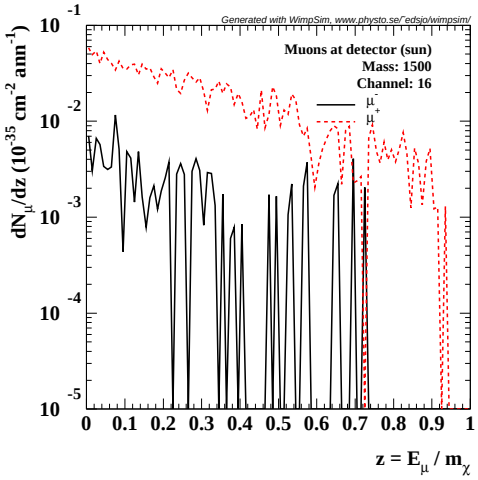
15.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

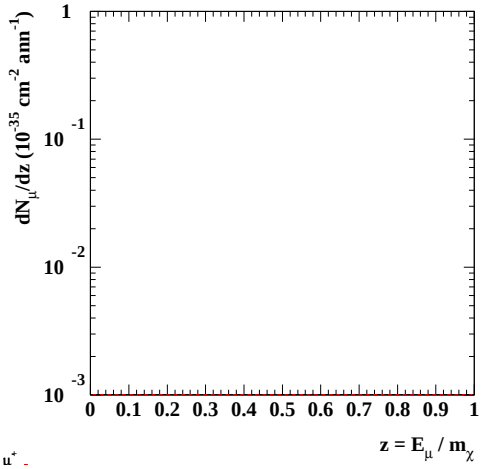




from $\bar{\nu}_\tau$

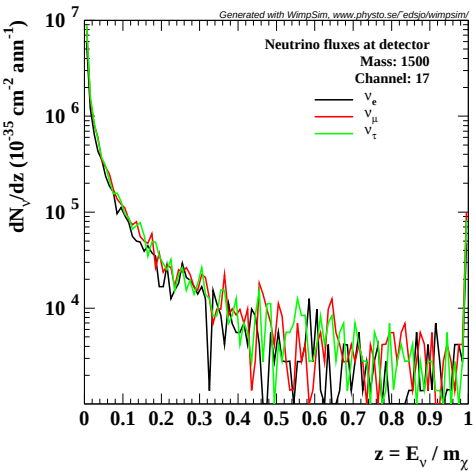
15.8.7 Muons at detector (Sun/Earth)

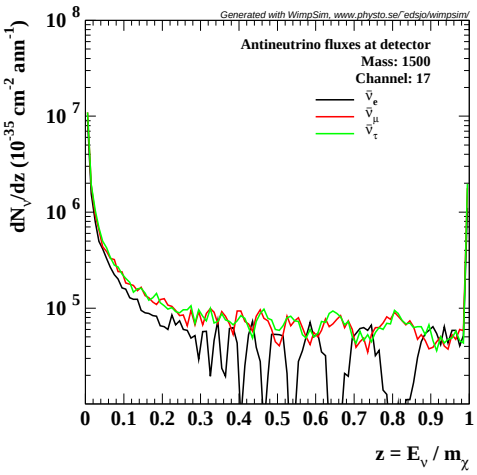




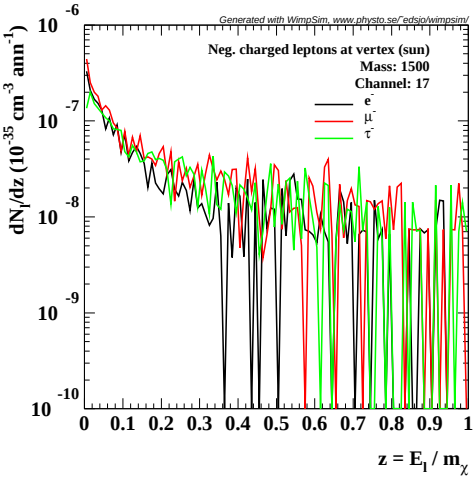
15.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

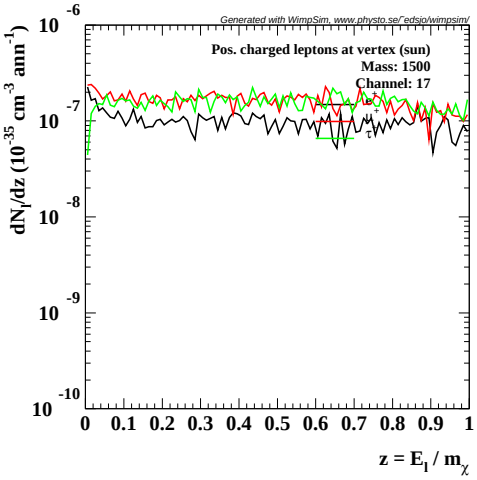
15.9.1 Neutrino fluxes at detector (Sun)



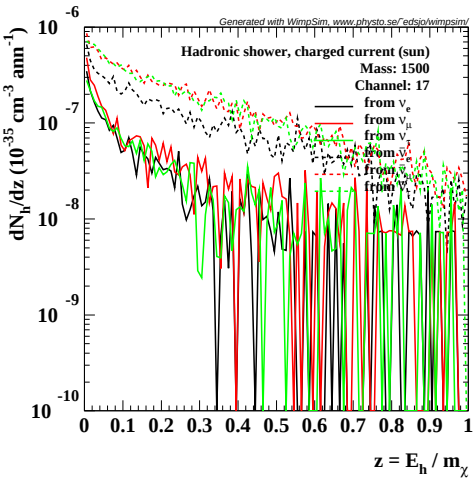


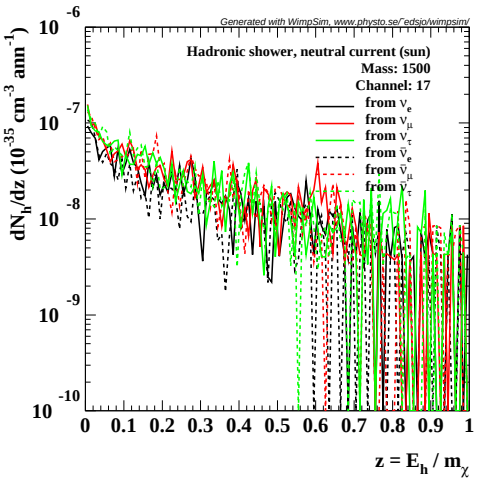
15.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



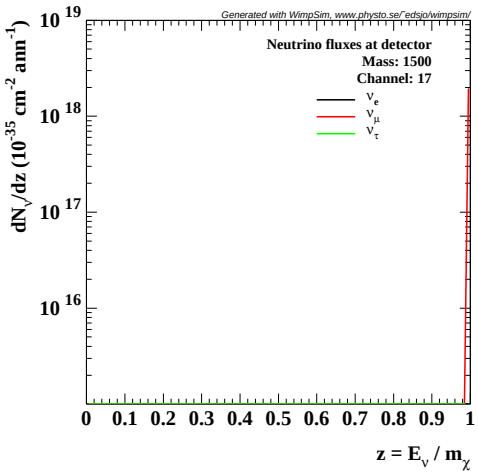


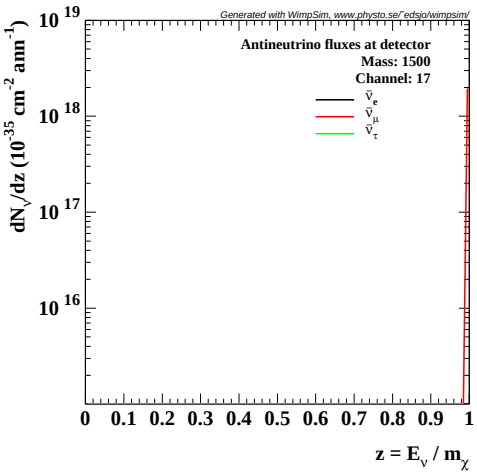
15.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



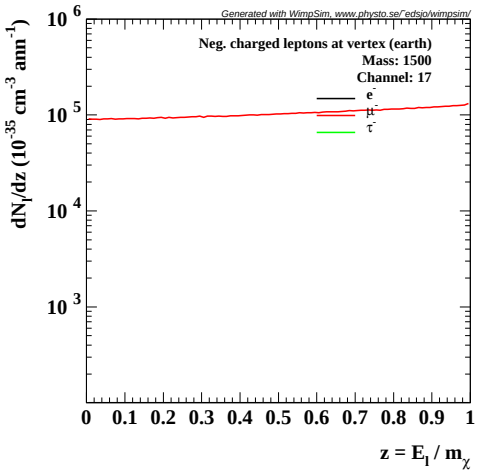


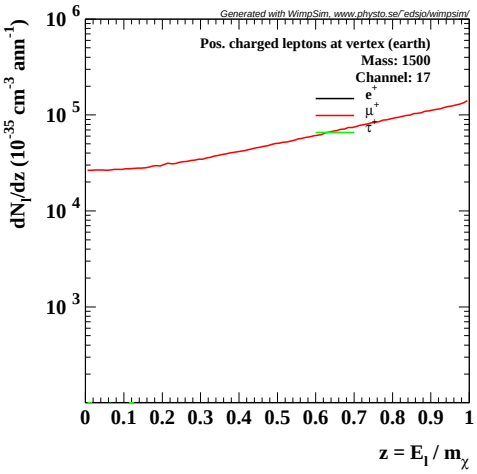
15.9.4 Neutrino fluxes at detector (Earth)



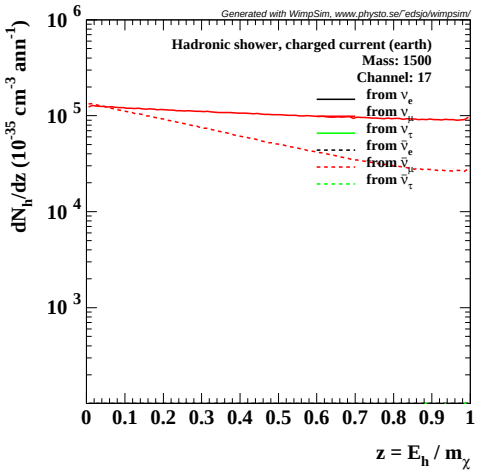


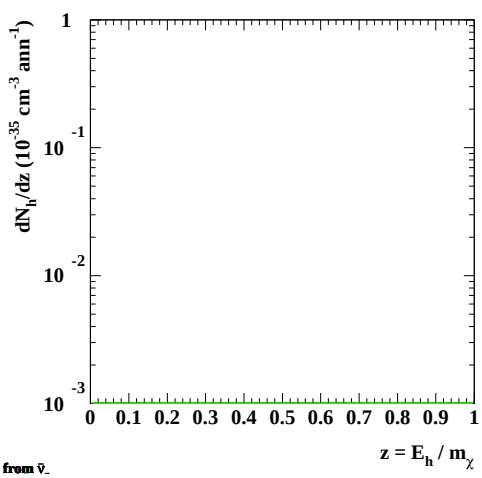
15.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



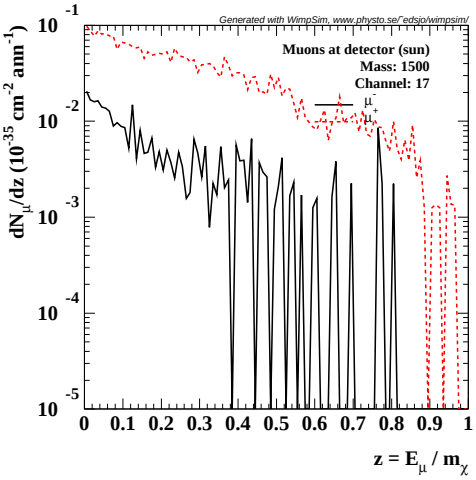


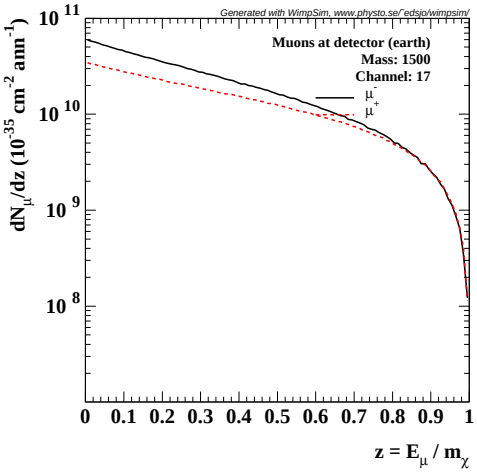
15.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





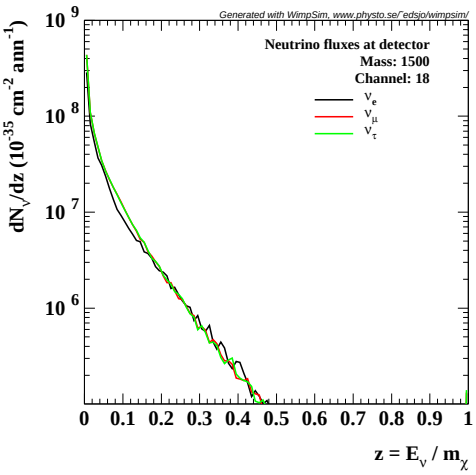
15.9.7 Muons at detector (Sun/Earth)

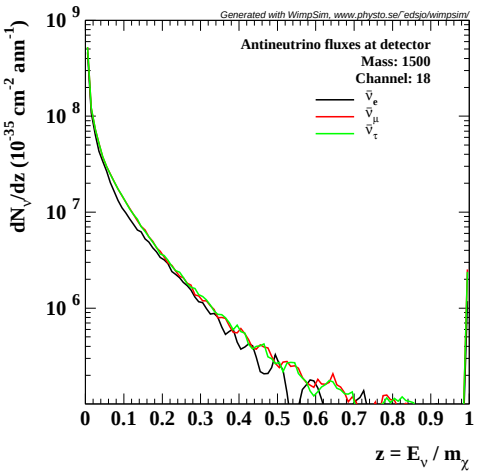




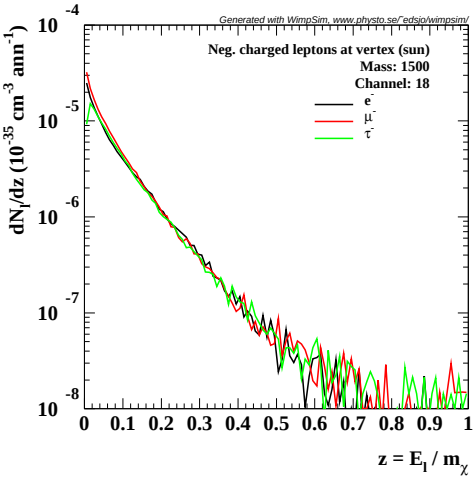
15.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

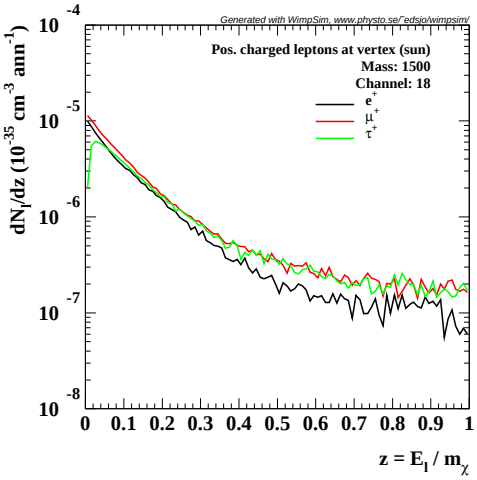
15.10.1 Neutrino fluxes at detector (Sun)



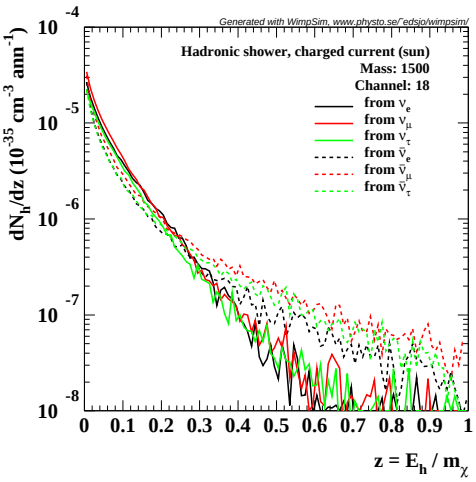


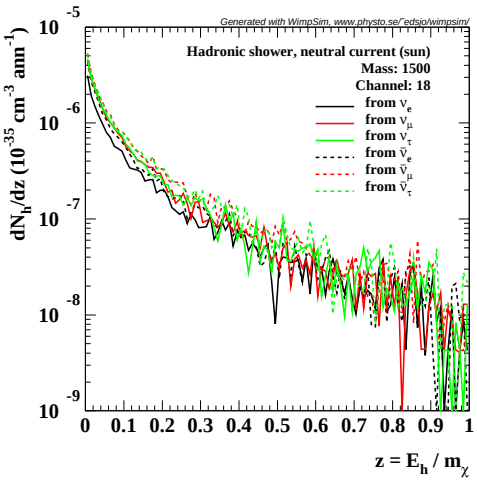
15.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



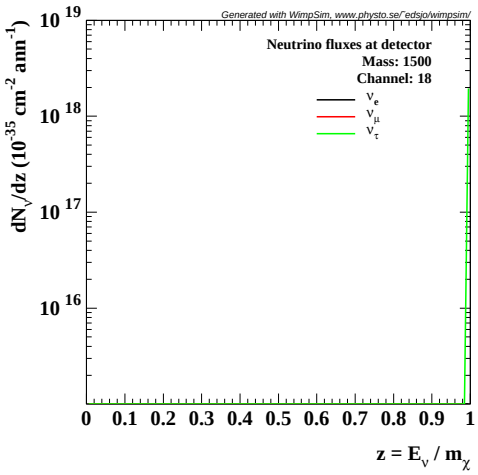


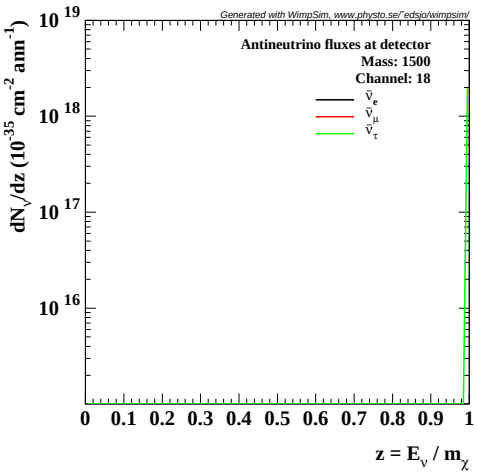
15.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



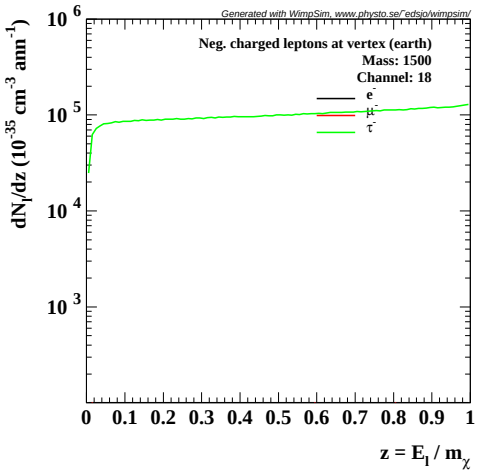


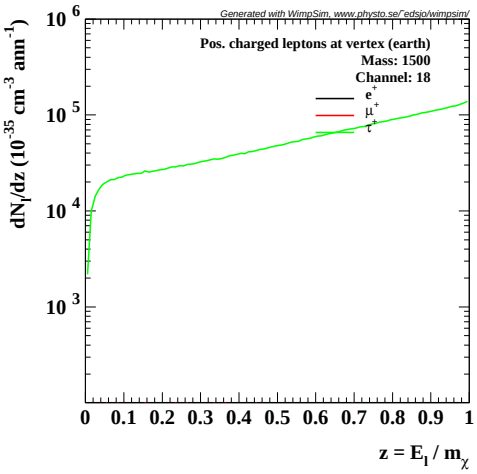
15.10.4 Neutrino fluxes at detector (Earth)



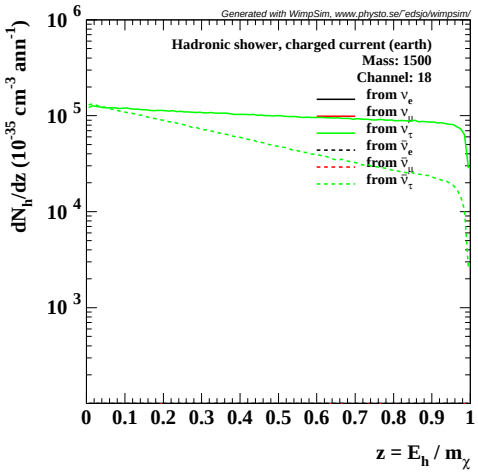


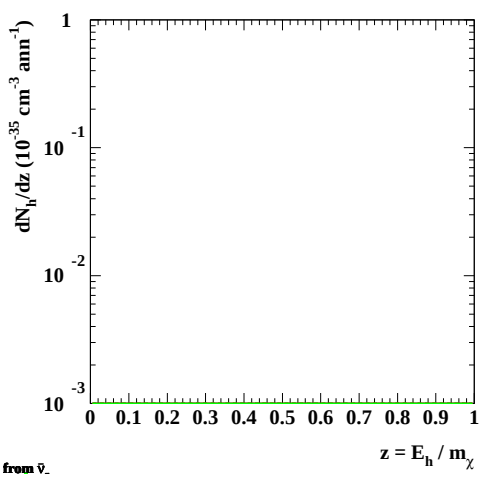
15.10.5 Charged leptons at neutrino-nucleon vertex (Earth)



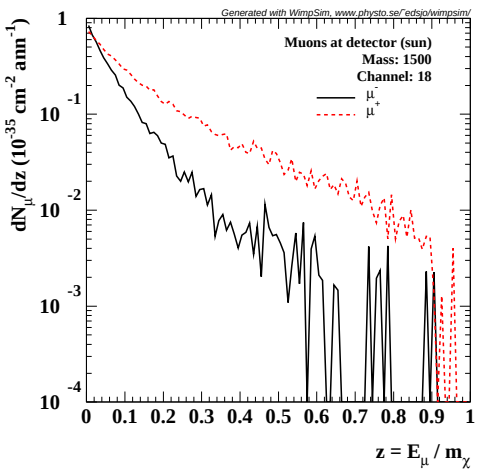


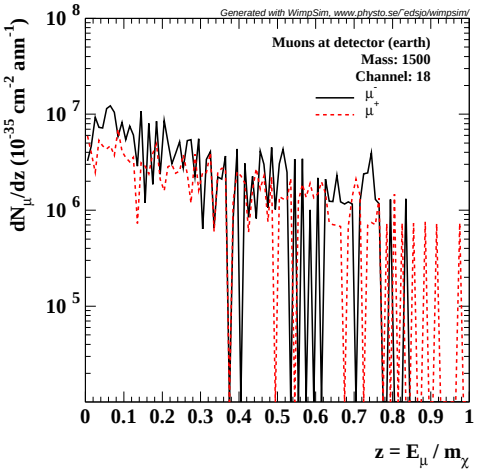
15.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)





15.10.7 Muons at detector (Sun/Earth)

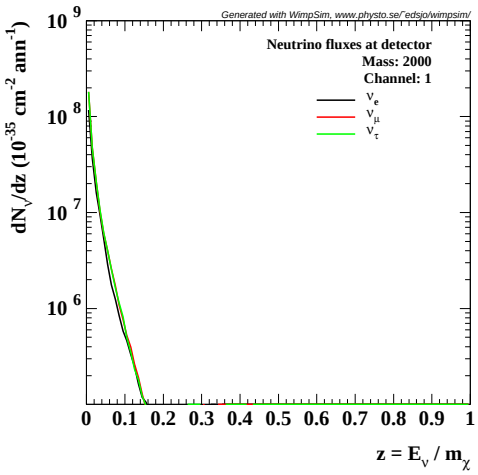


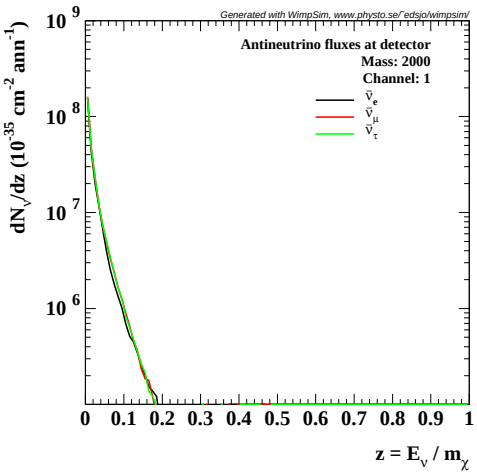


16 Mass 2000

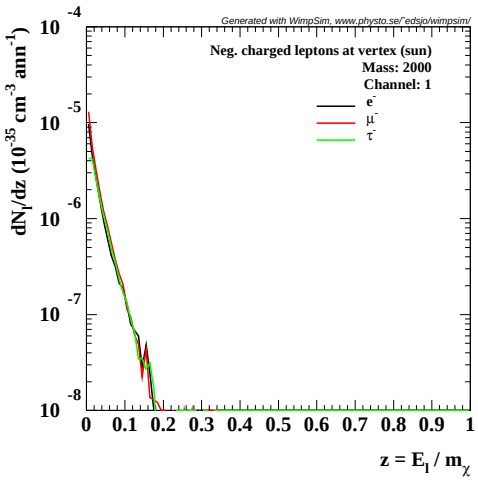
16.1 Channel 1 – $c\bar{c}$

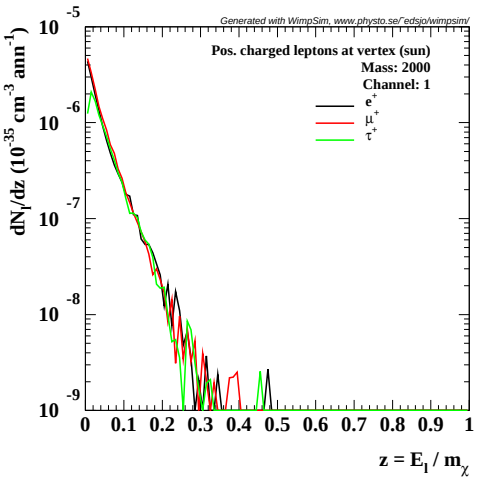
16.1.1 Neutrino fluxes at detector (Sun)



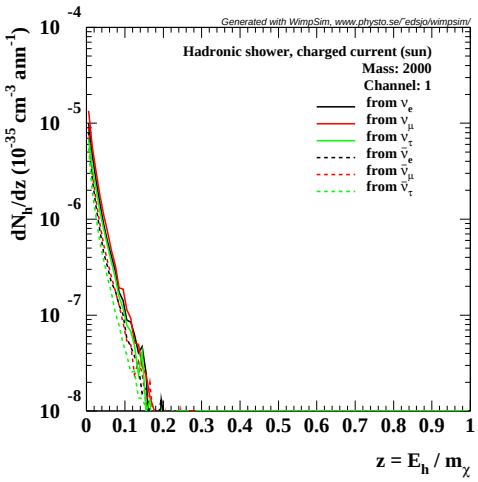


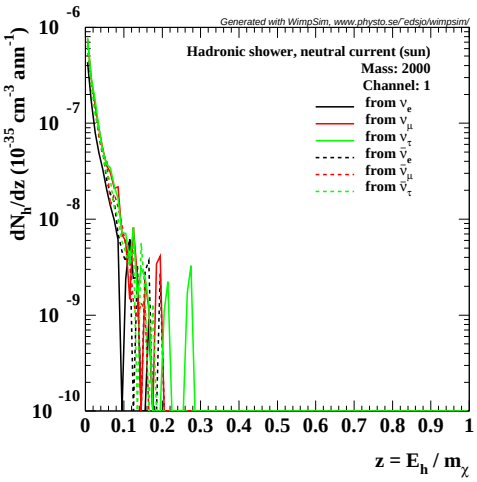
16.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



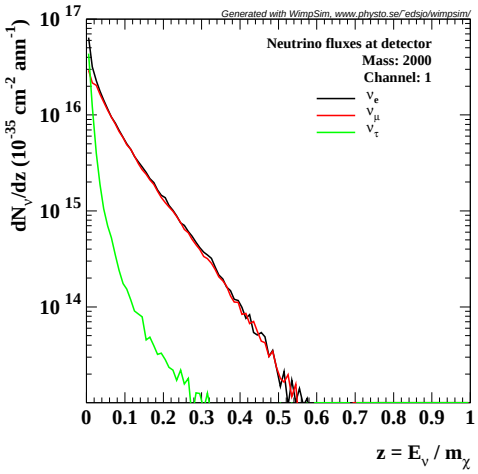


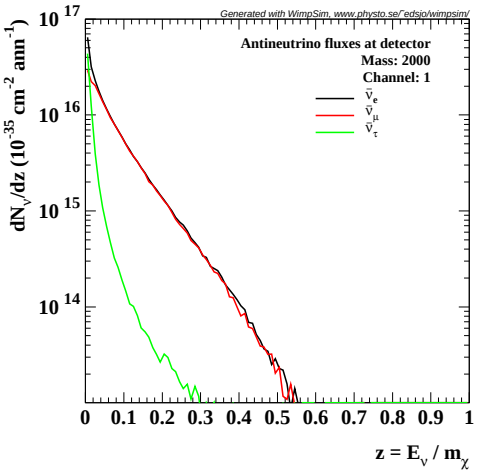
16.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



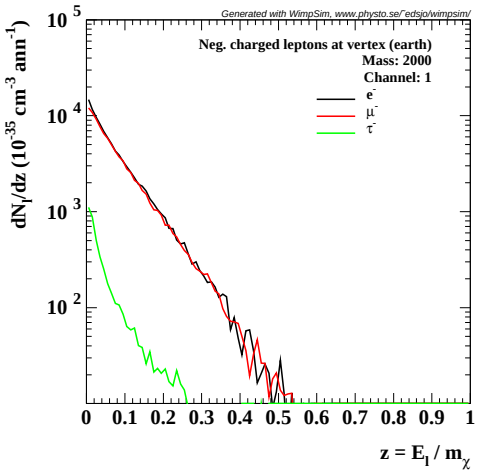


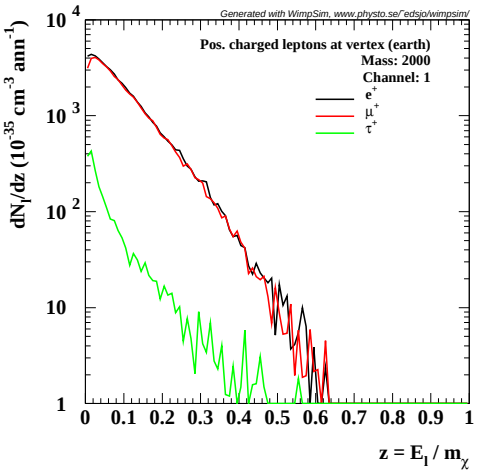
16.1.4 Neutrino fluxes at detector (Earth)



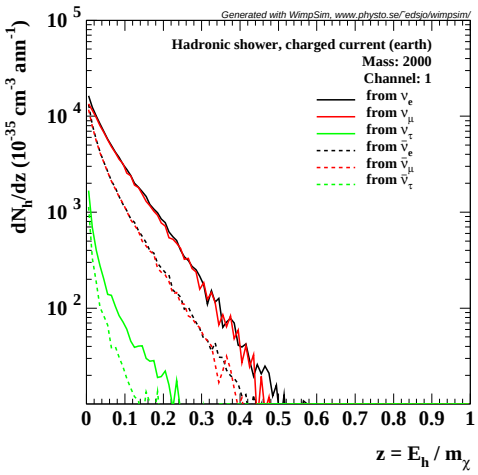


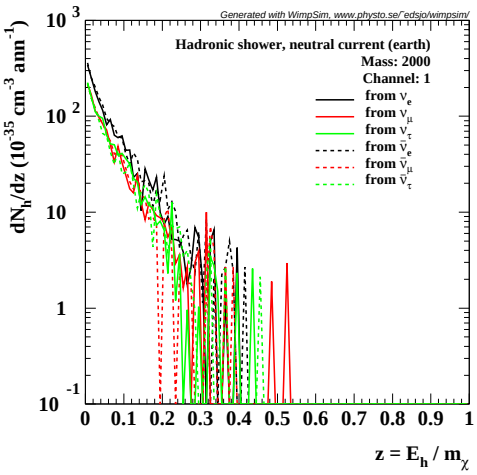
16.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



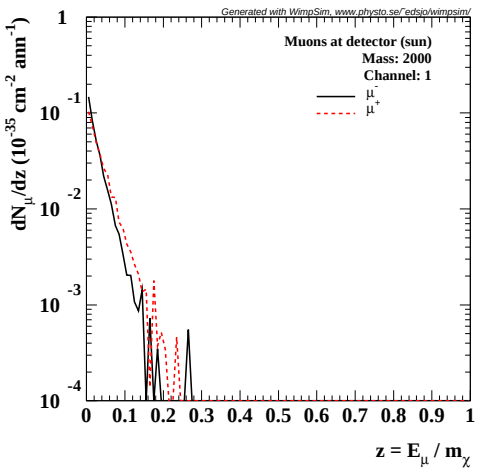


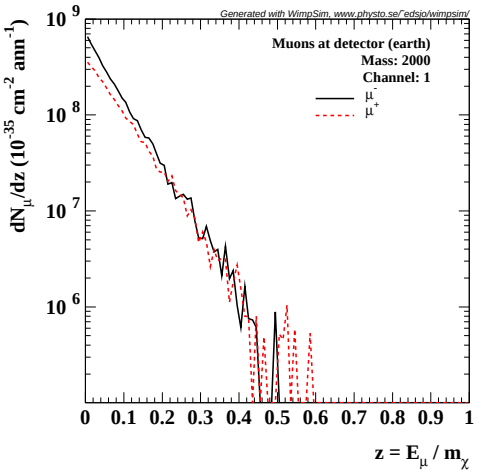
16.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





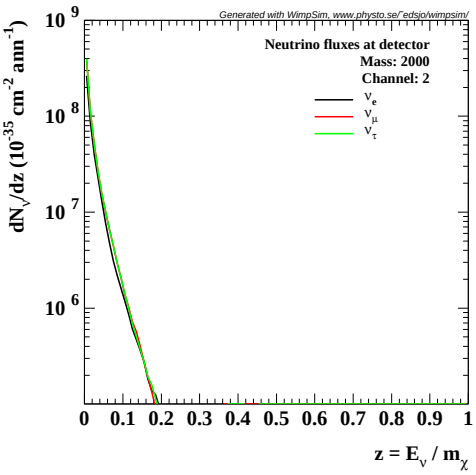
16.1.7 Muons at detector (Sun/Earth)

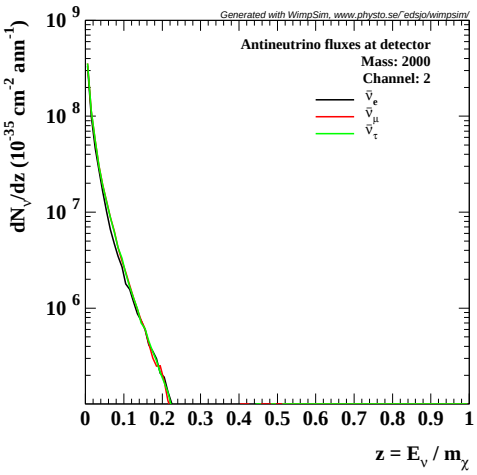




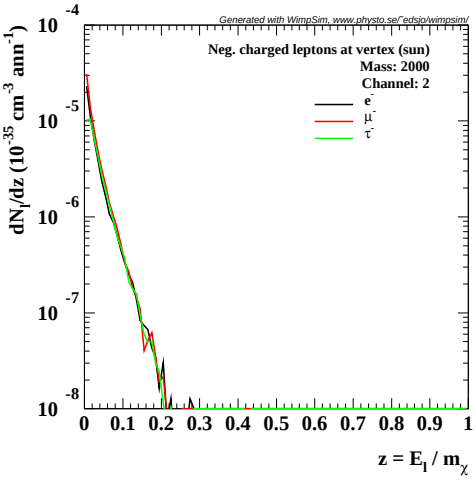
16.2 Channel 2 – $b\bar{b}$

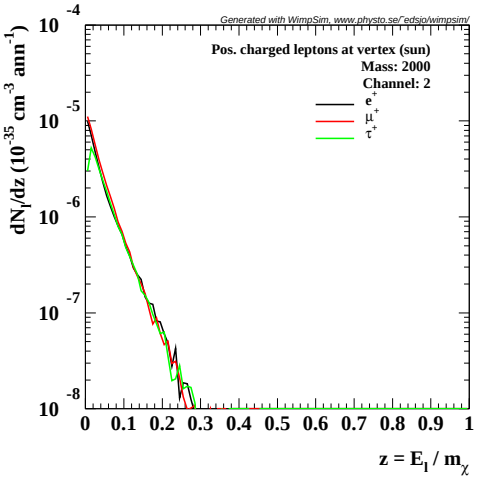
16.2.1 Neutrino fluxes at detector (Sun)



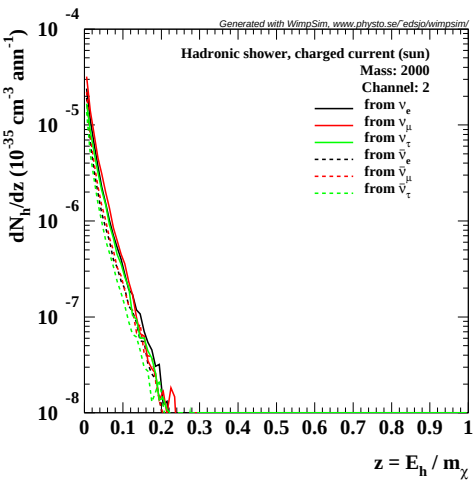


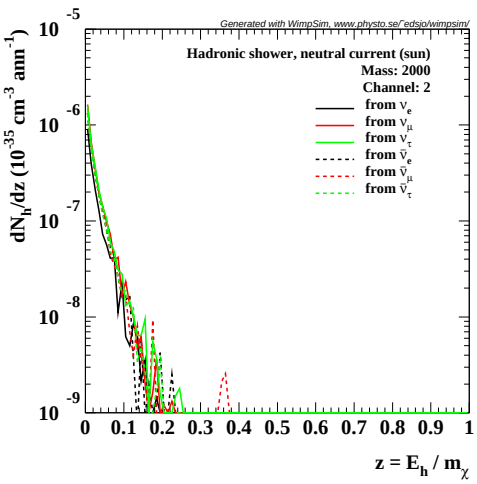
16.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



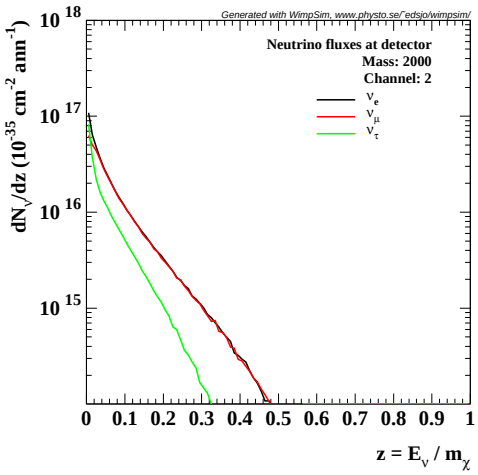


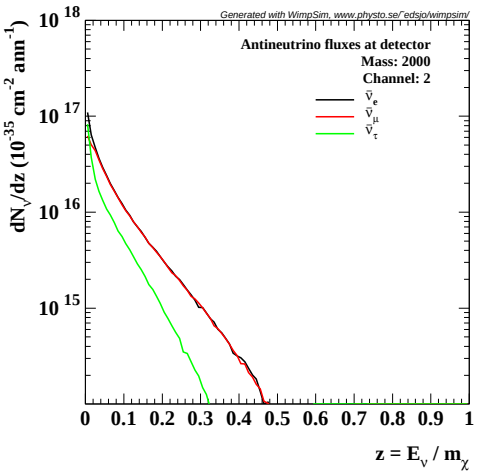
16.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



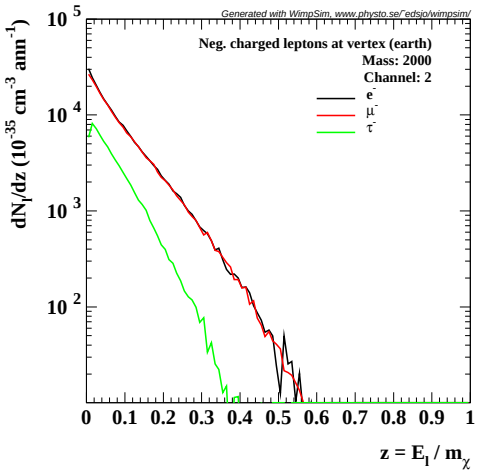


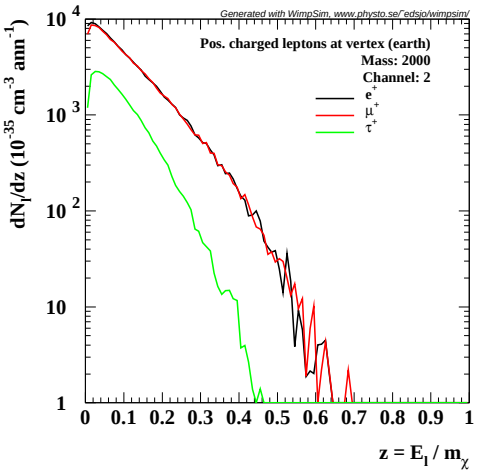
16.2.4 Neutrino fluxes at detector (Earth)



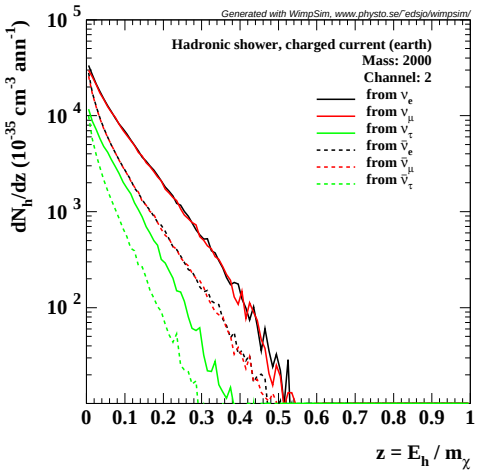


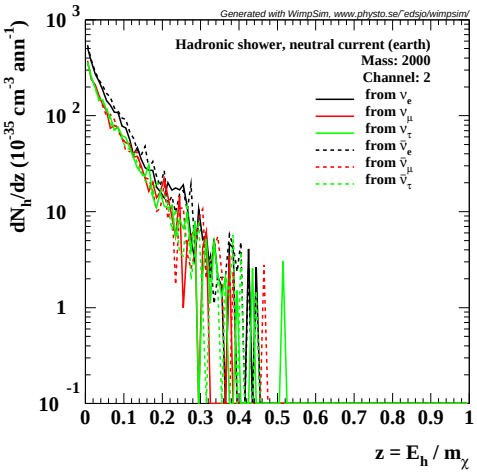
16.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



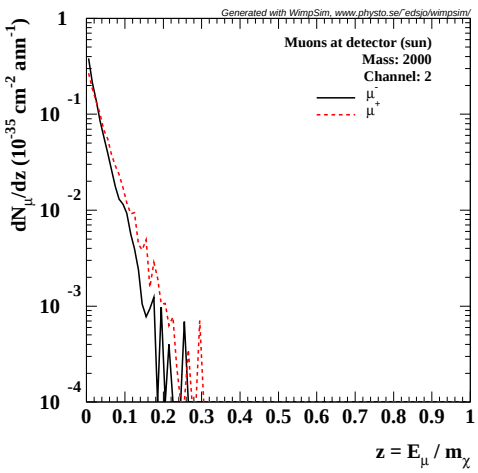


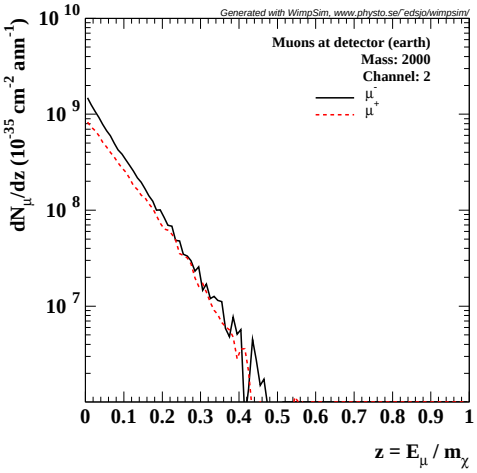
16.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





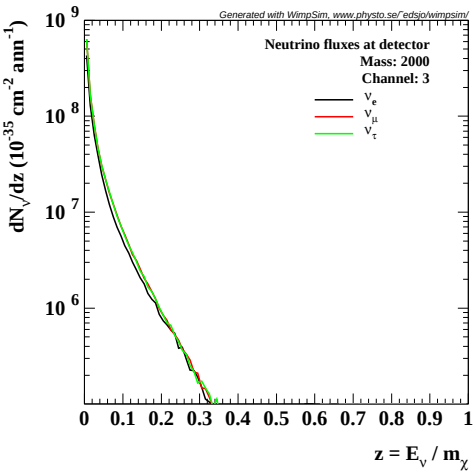
16.2.7 Muons at detector (Sun/Earth)

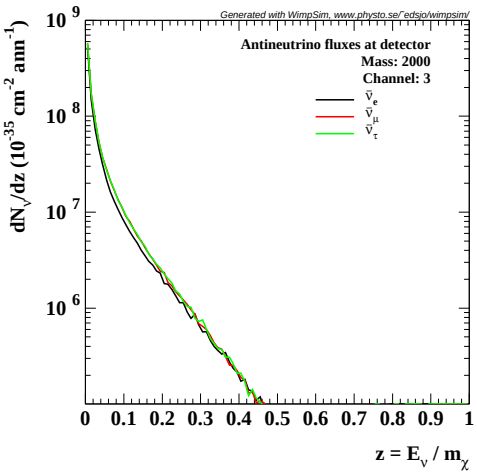




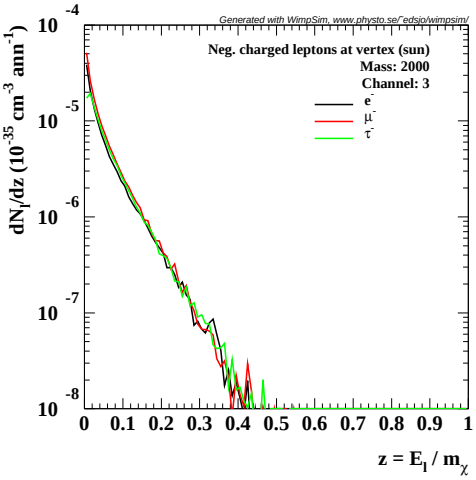
16.3 Channel 3 – $t\bar{t}$

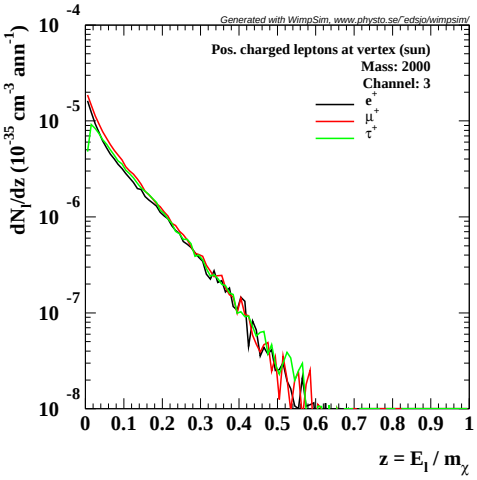
16.3.1 Neutrino fluxes at detector (Sun)



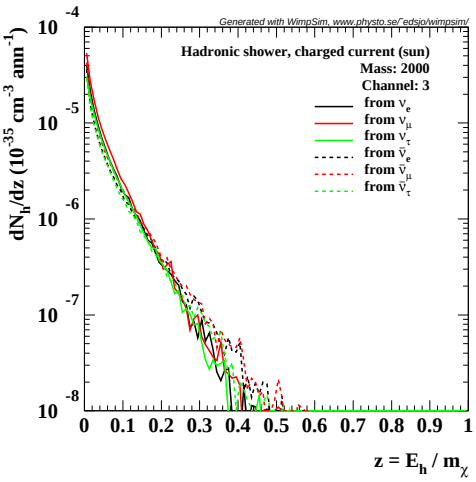


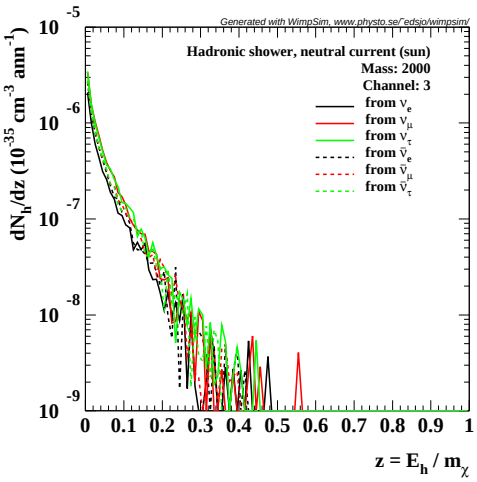
16.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



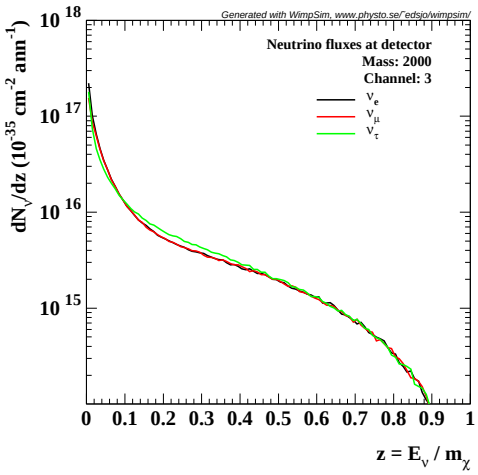


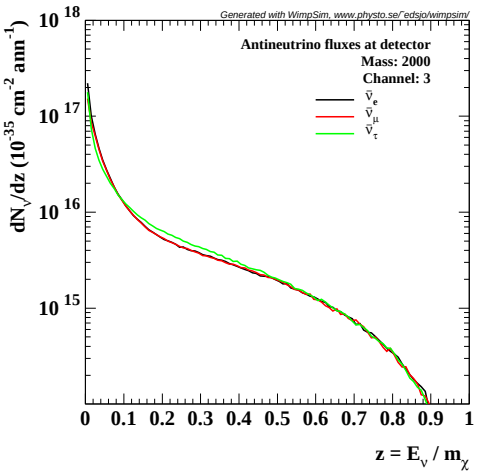
16.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



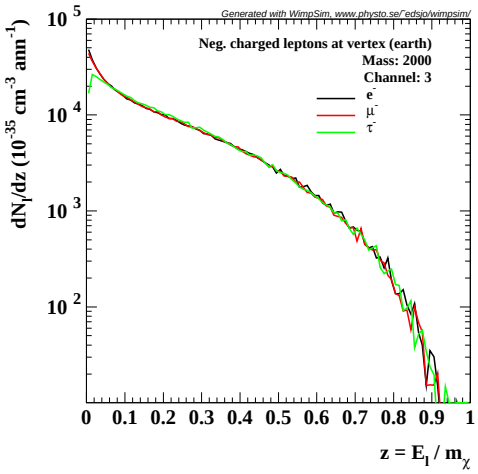


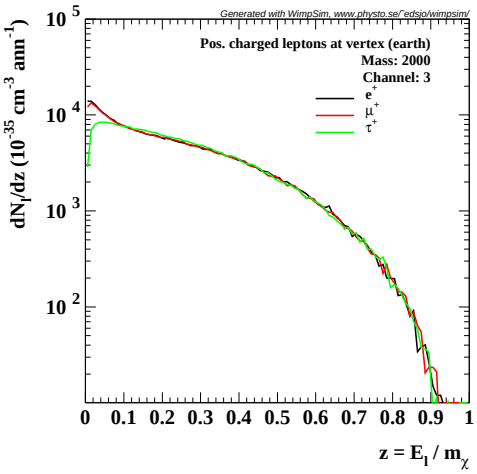
16.3.4 Neutrino fluxes at detector (Earth)



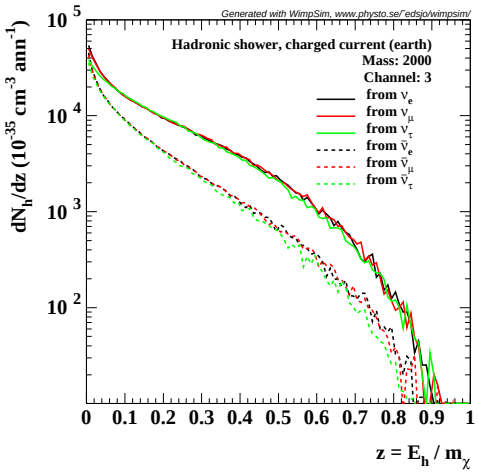


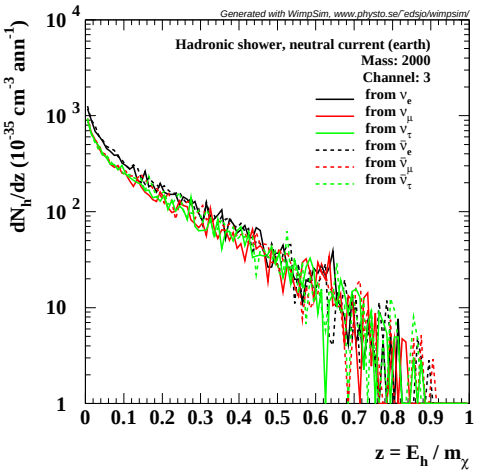
16.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



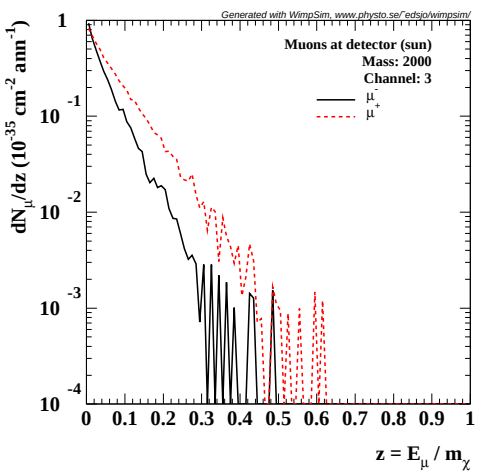


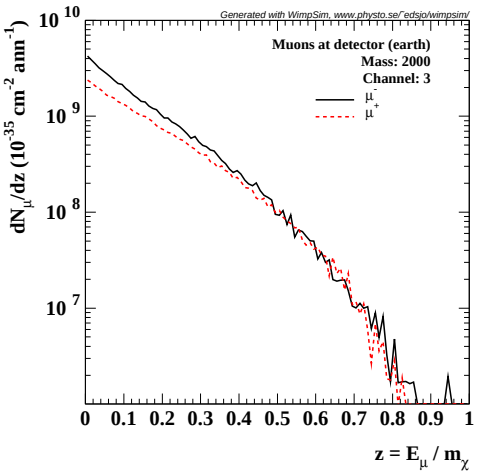
16.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





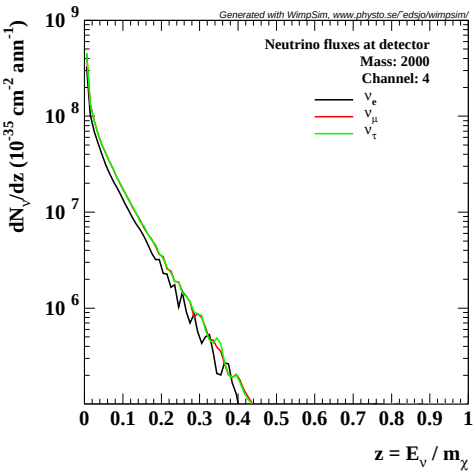
16.3.7 Muons at detector (Sun/Earth)

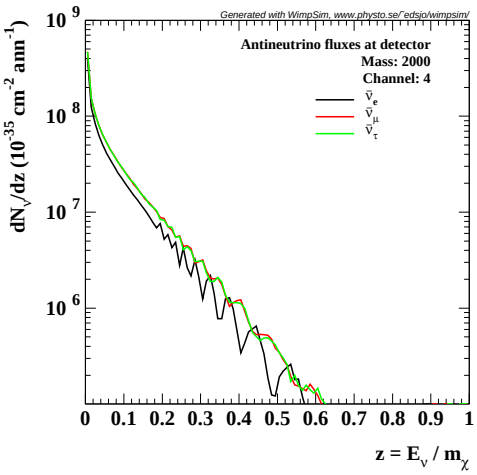




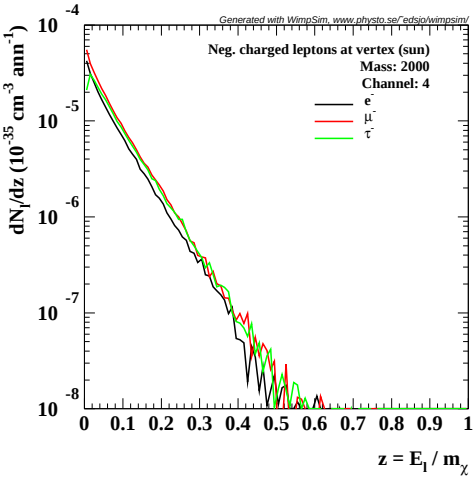
16.4 Channel 4 – $\tau^-\tau^+$

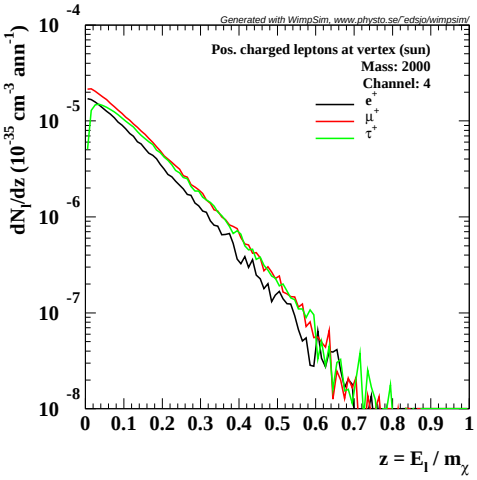
16.4.1 Neutrino fluxes at detector (Sun)



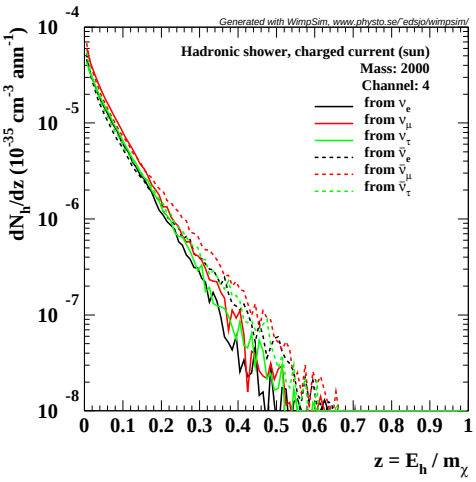


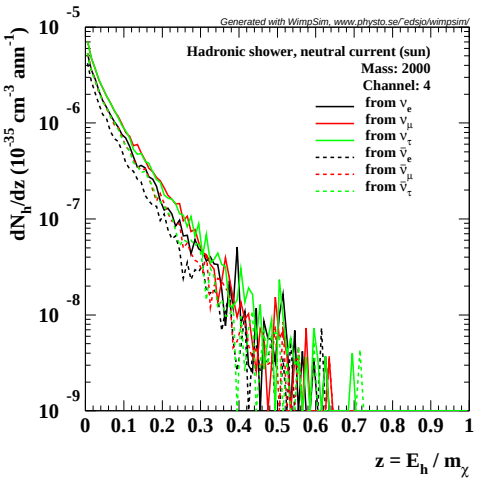
16.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



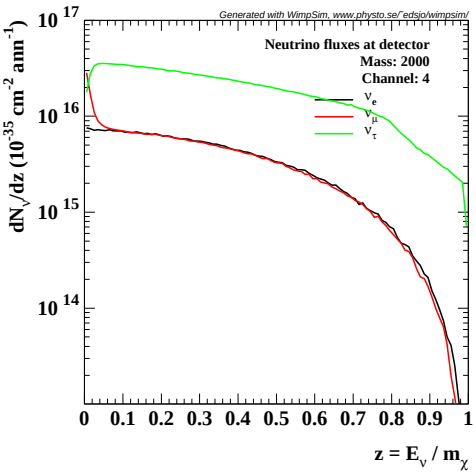


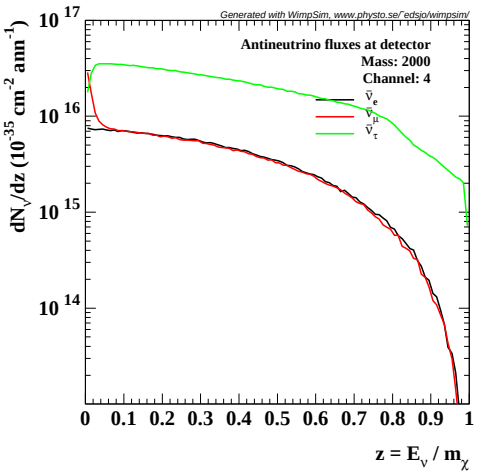
16.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



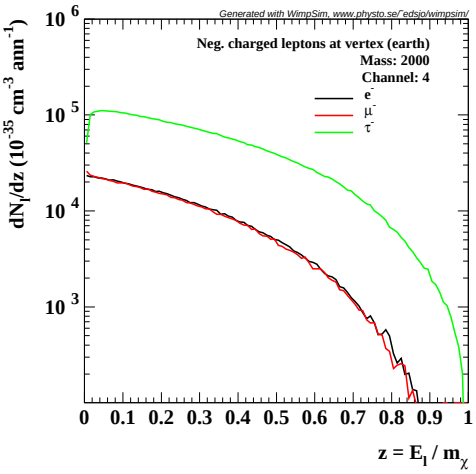


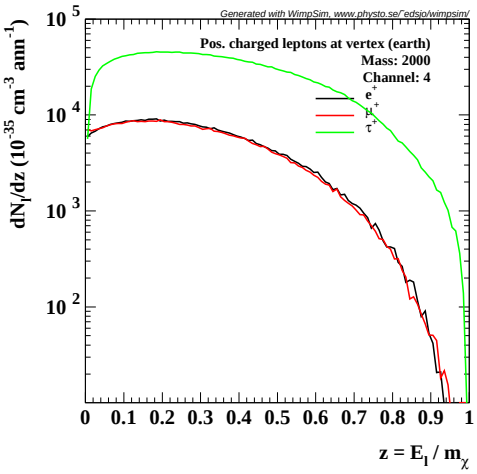
16.4.4 Neutrino fluxes at detector (Earth)



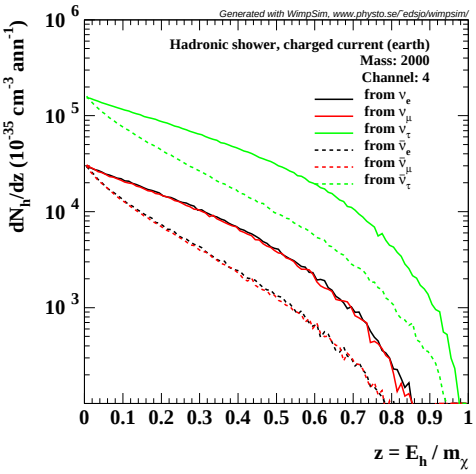


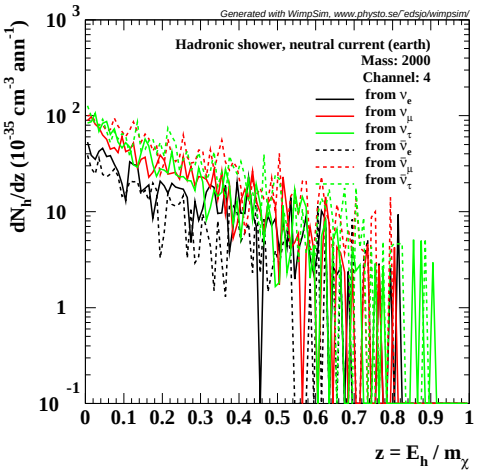
16.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



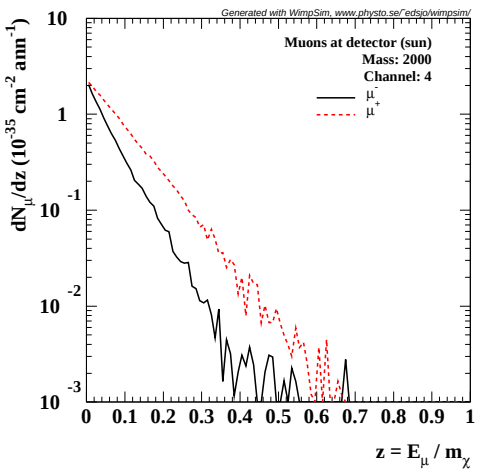


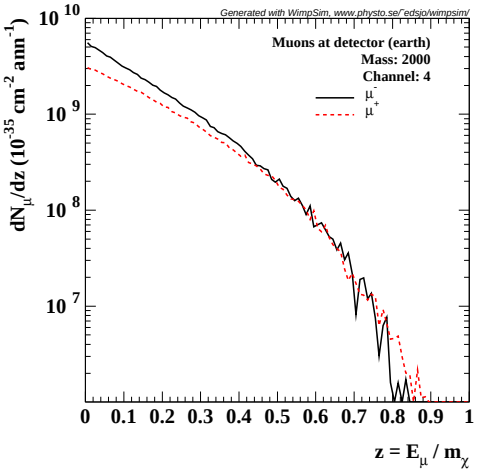
16.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





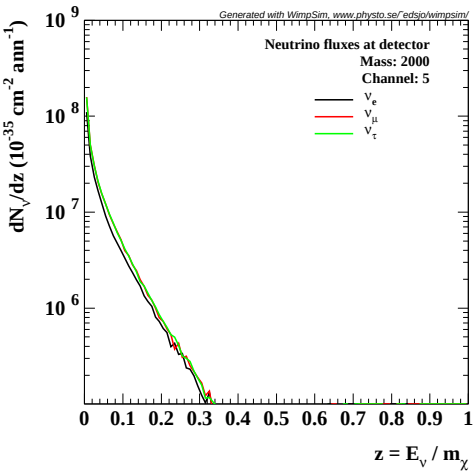
16.4.7 Muons at detector (Sun/Earth)

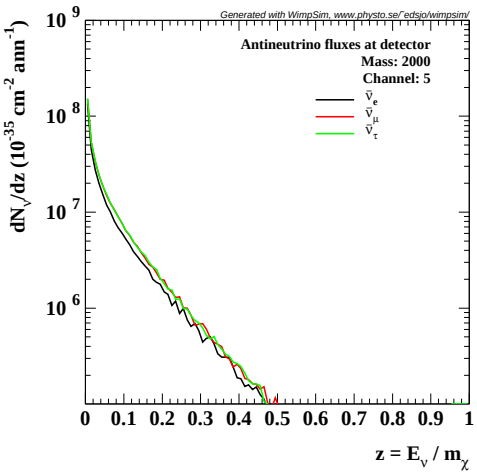




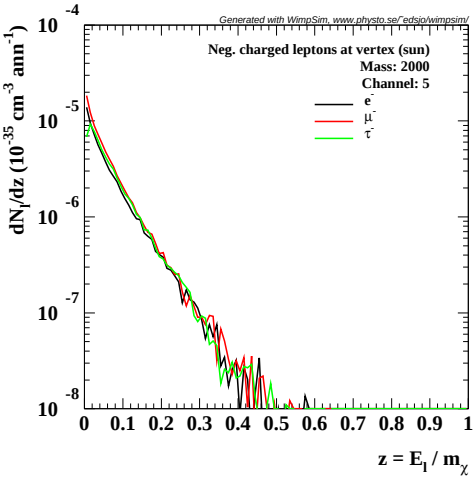
16.5 Channel 5 – W^-W^+

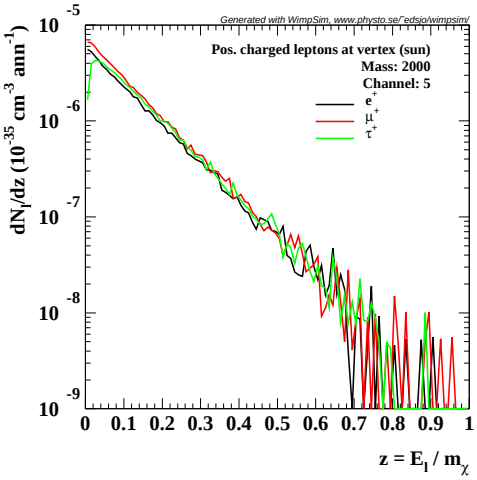
16.5.1 Neutrino fluxes at detector (Sun)



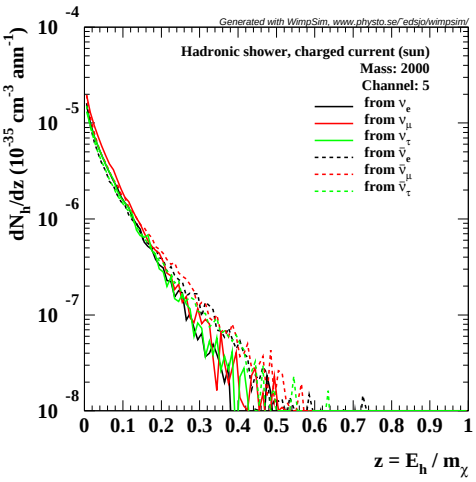


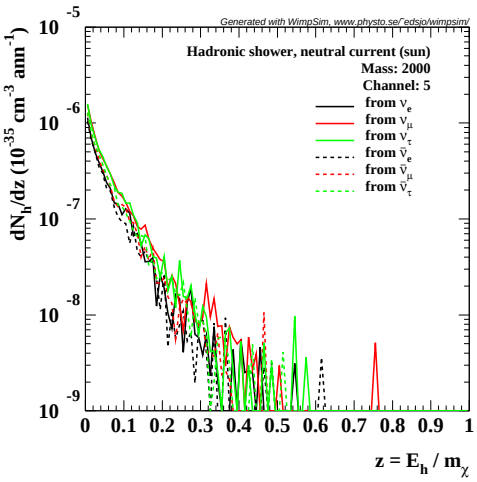
16.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



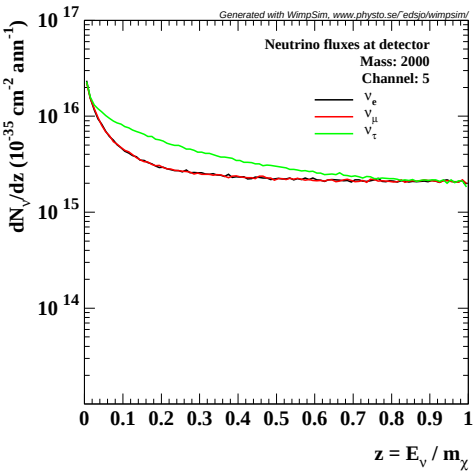


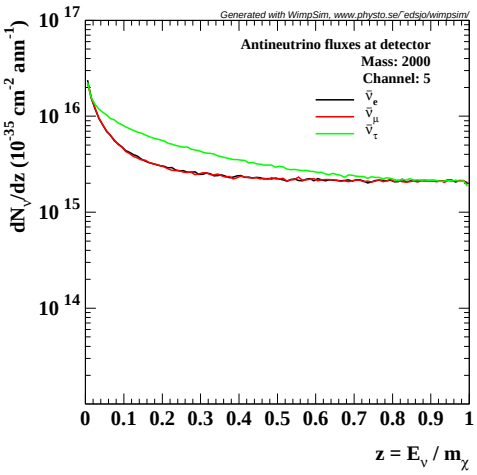
16.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



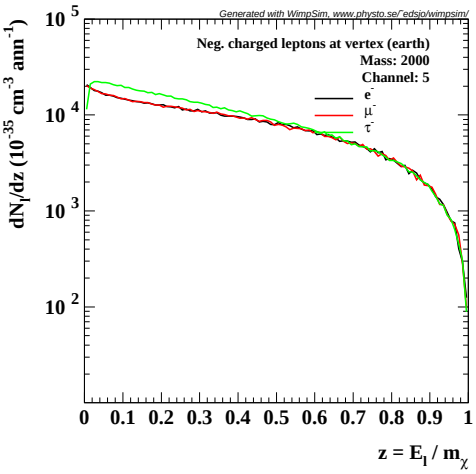


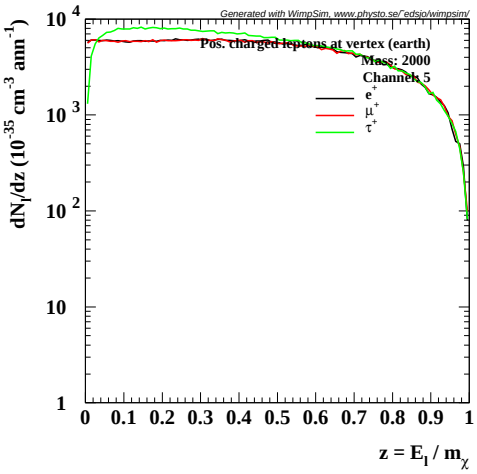
16.5.4 Neutrino fluxes at detector (Earth)



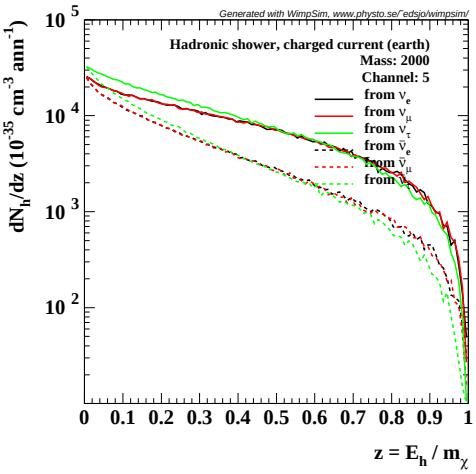


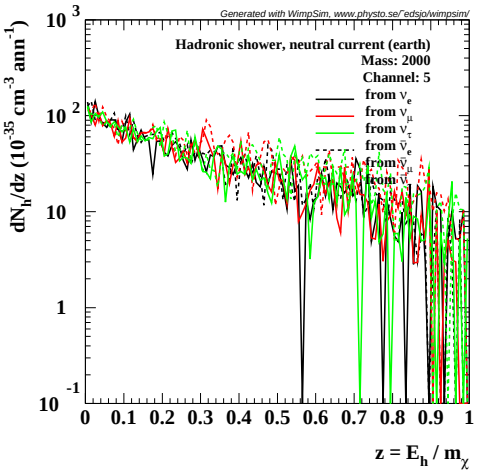
16.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



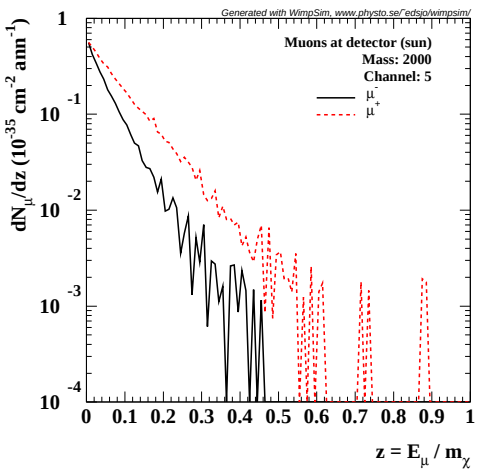


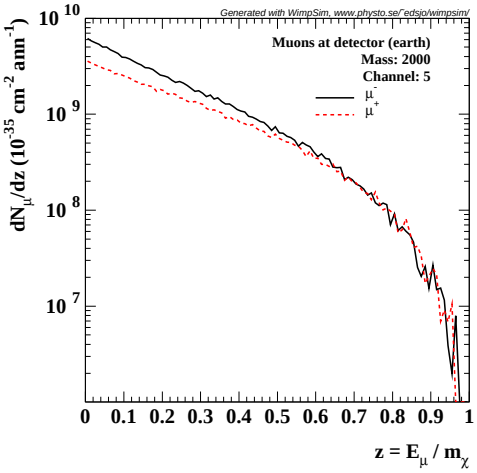
16.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





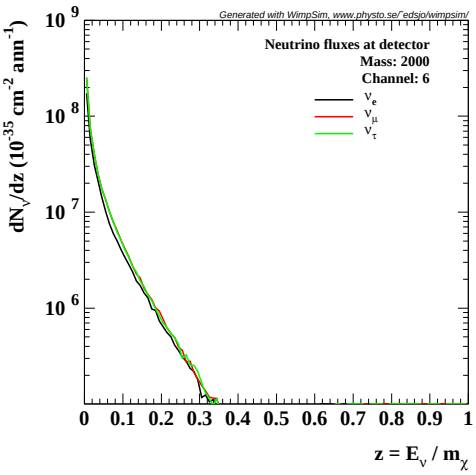
16.5.7 Muons at detector (Sun/Earth)

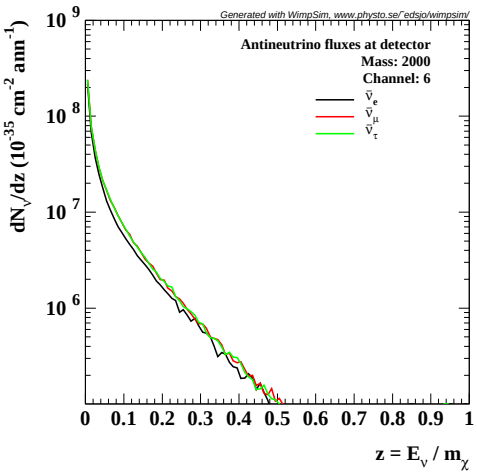




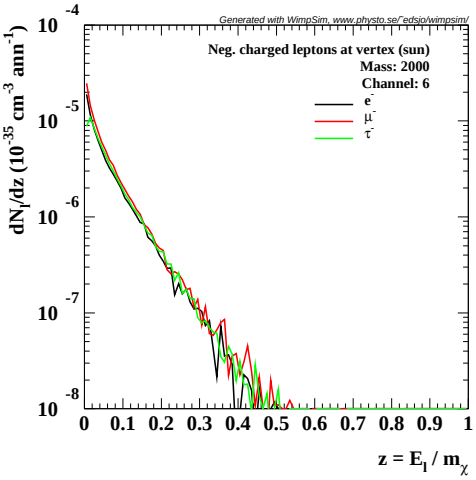
16.6 Channel 6 – $Z^0 Z^0$

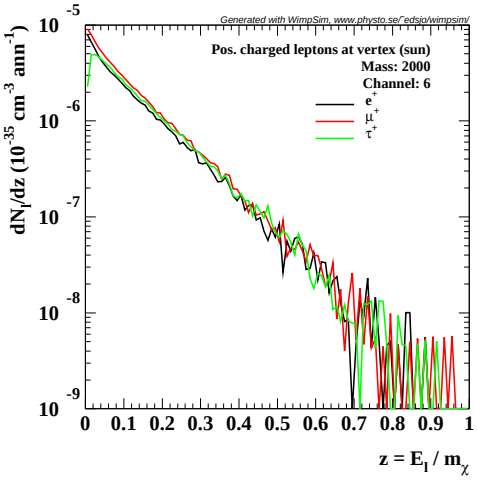
16.6.1 Neutrino fluxes at detector (Sun)



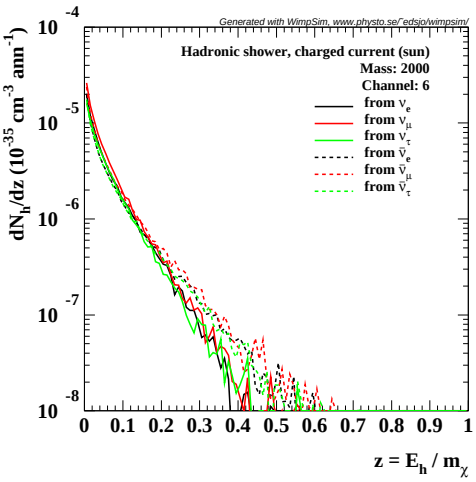


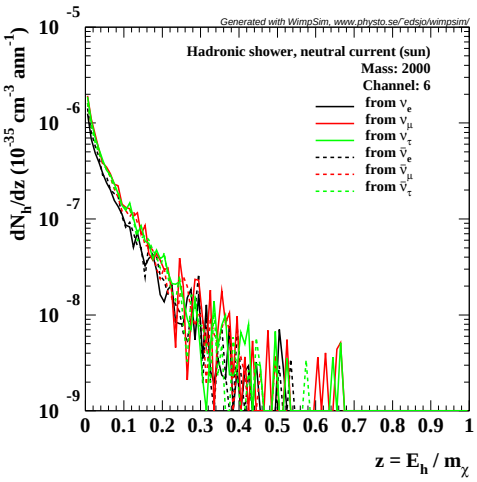
16.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



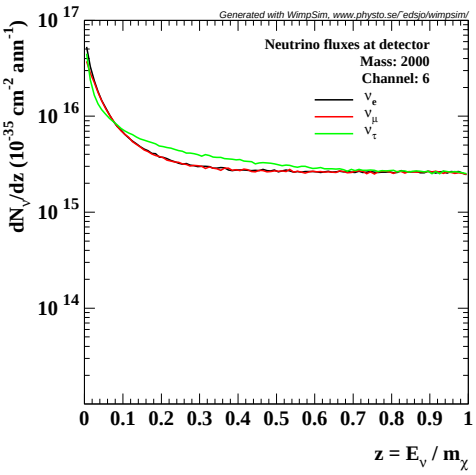


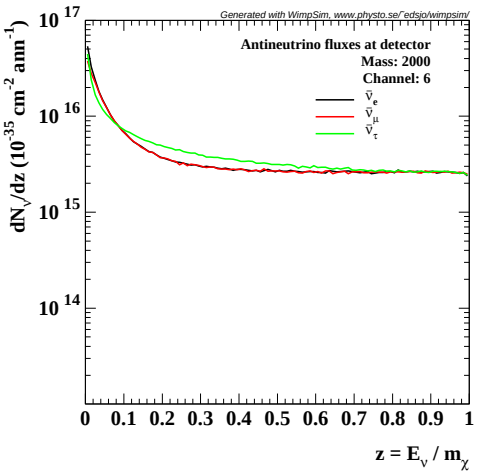
16.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



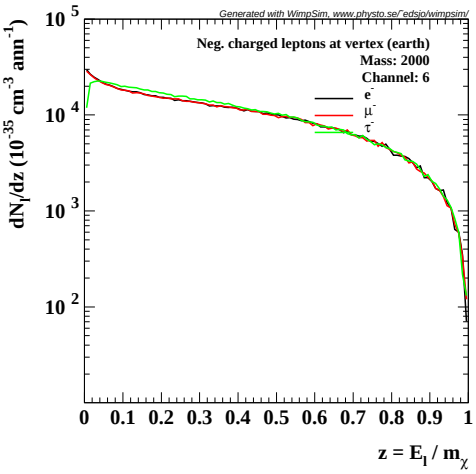


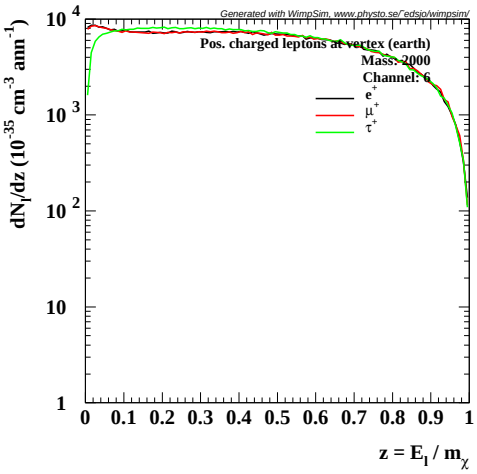
16.6.4 Neutrino fluxes at detector (Earth)



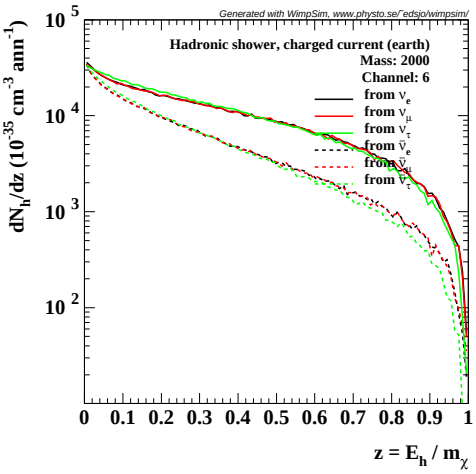


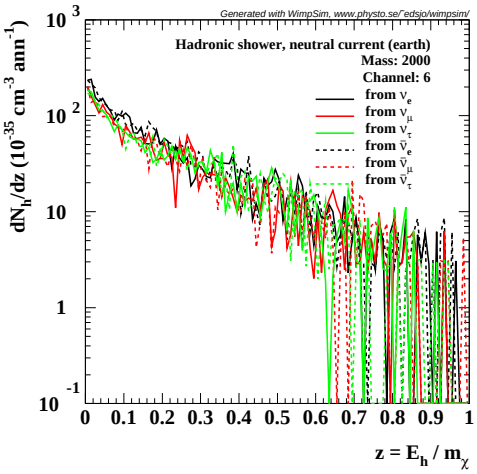
16.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



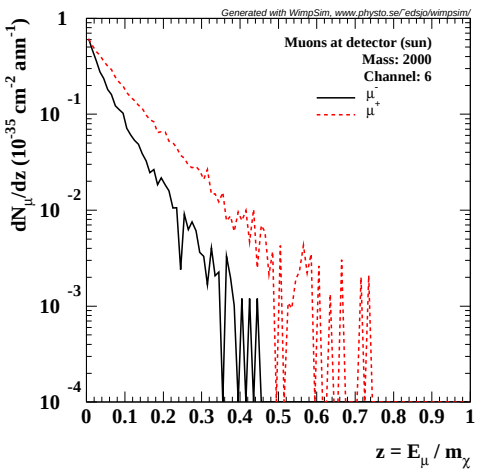


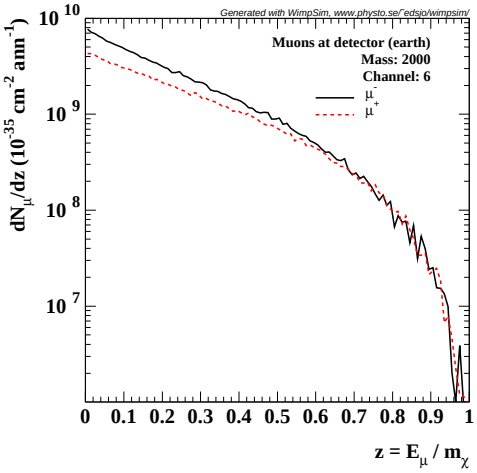
16.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





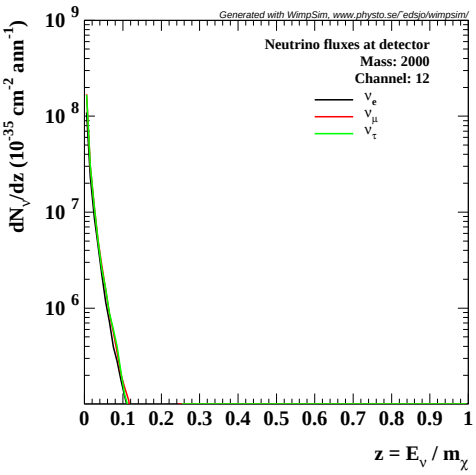
16.6.7 Muons at detector (Sun/Earth)

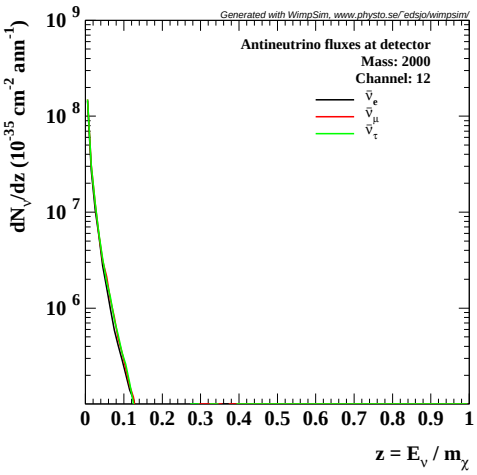




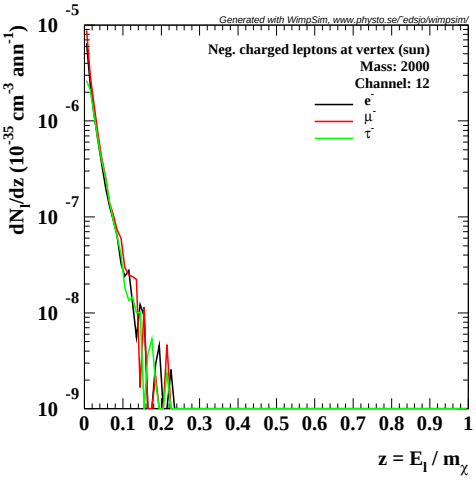
16.7 Channel 12 – gg

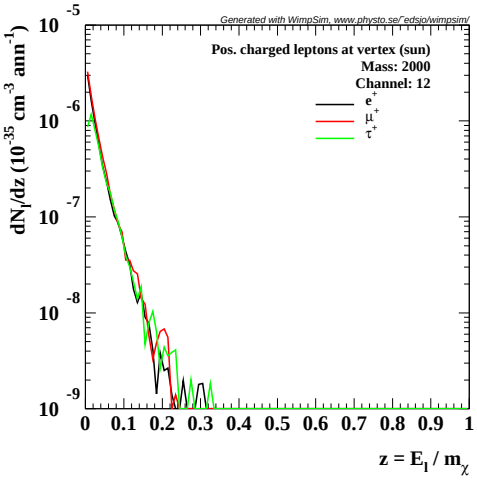
16.7.1 Neutrino fluxes at detector (Sun)



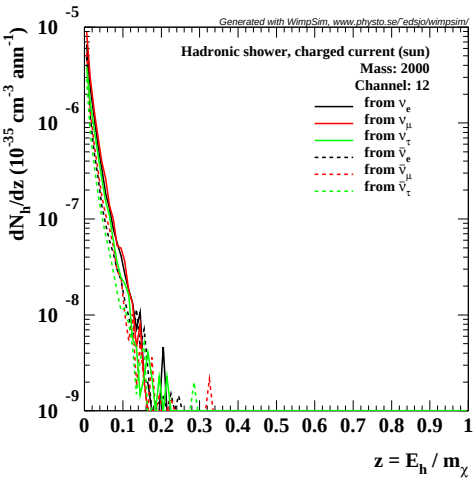


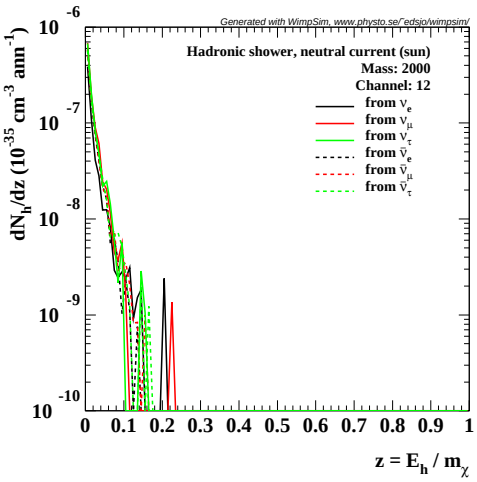
16.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



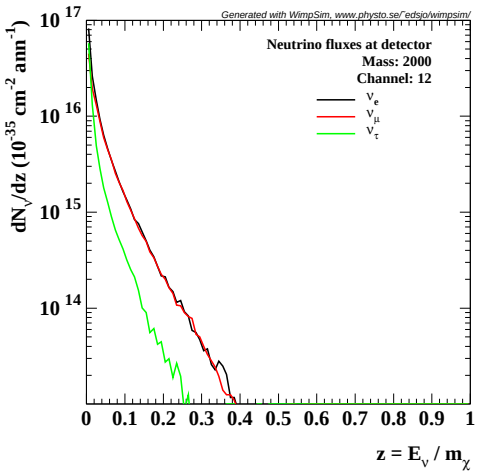


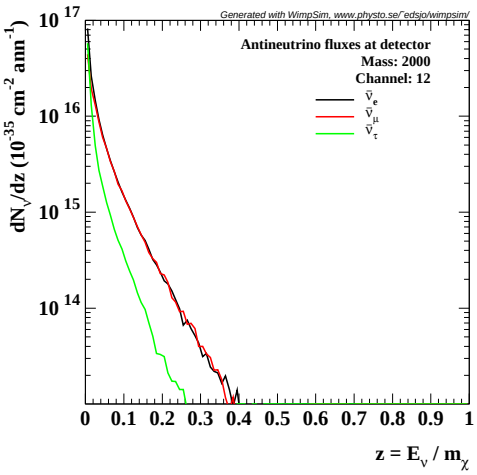
16.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



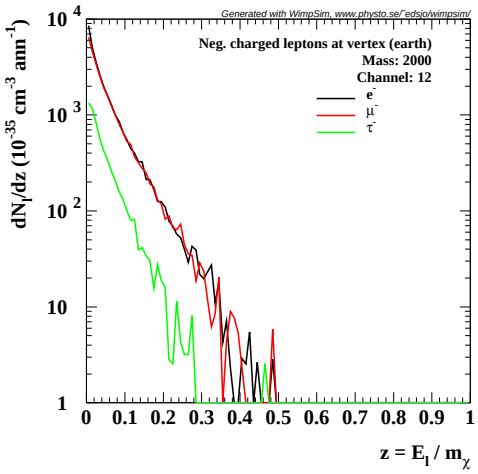


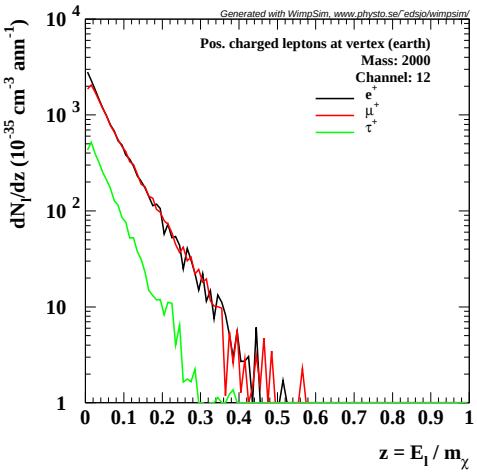
16.7.4 Neutrino fluxes at detector (Earth)



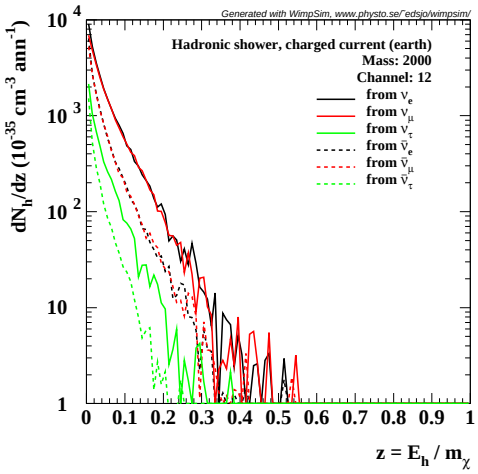


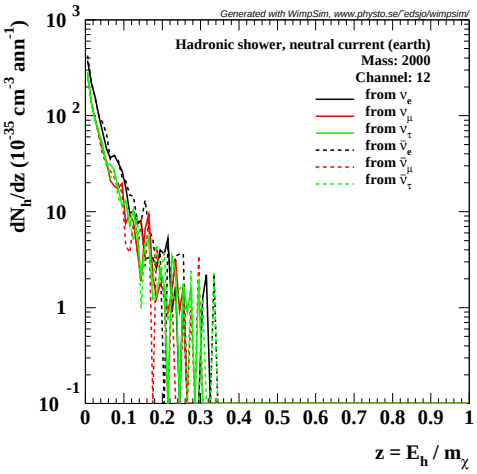
16.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



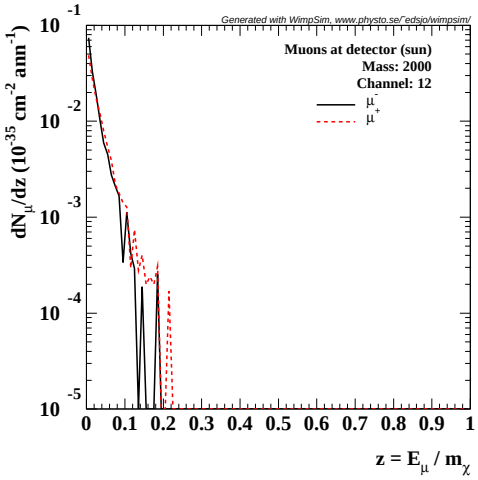


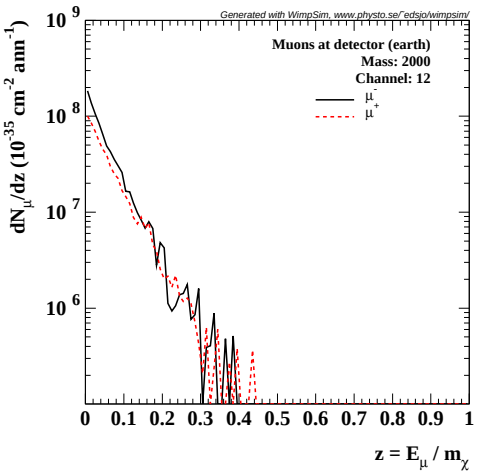
16.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





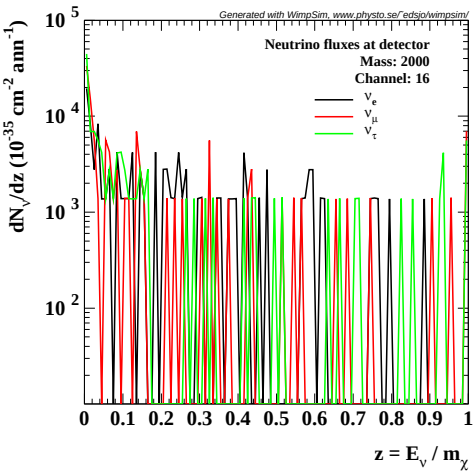
16.7.7 Muons at detector (Sun/Earth)

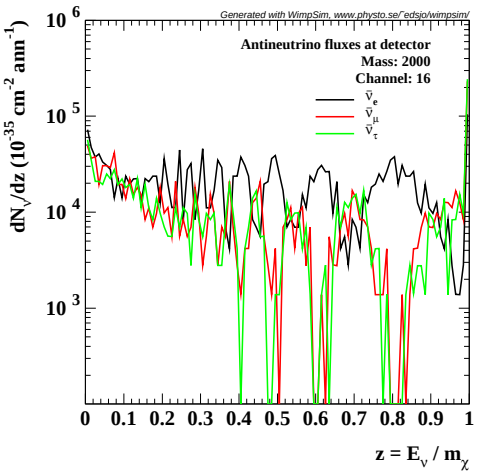




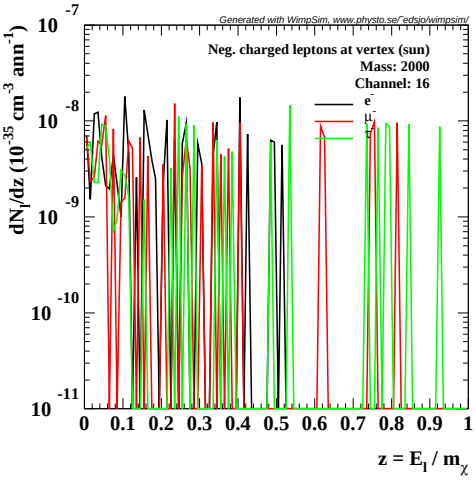
16.8 Channel 16 – $\nu_e\bar{\nu}_e$

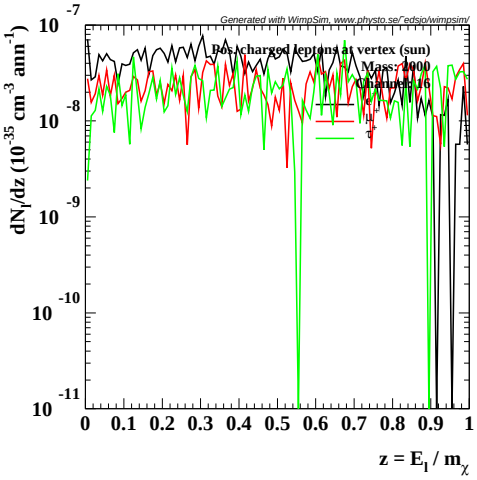
16.8.1 Neutrino fluxes at detector (Sun)



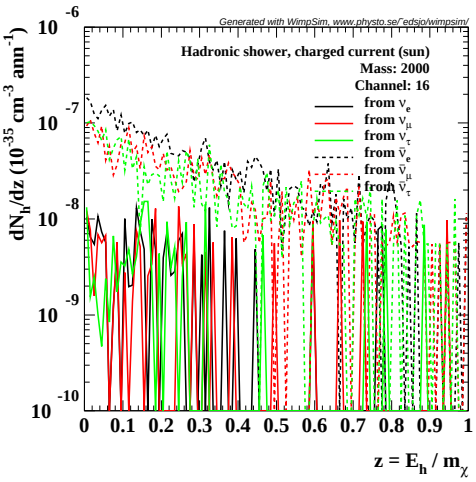


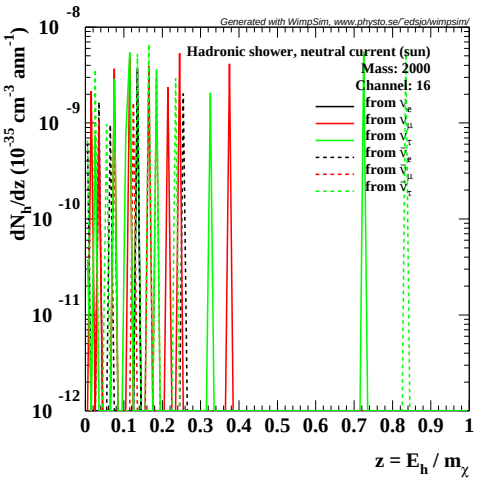
16.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



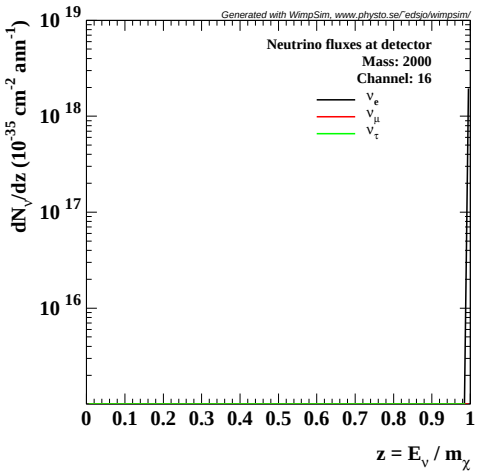


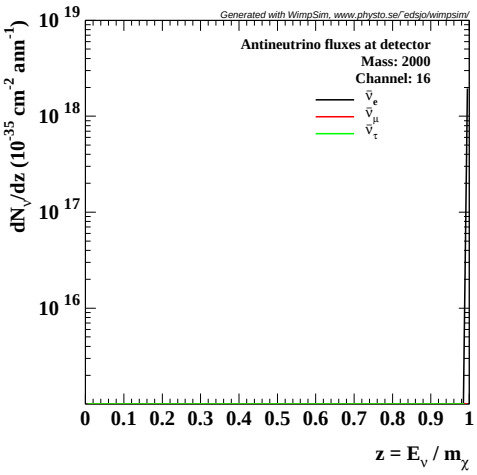
16.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



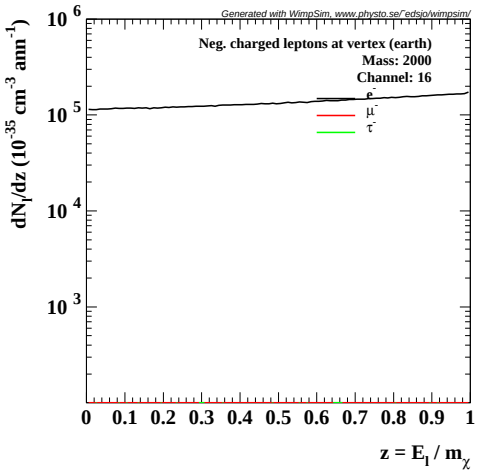


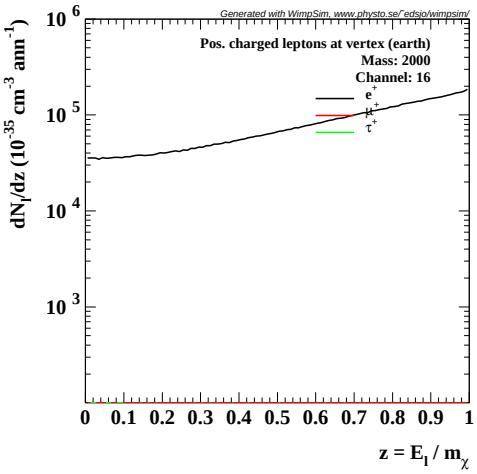
16.8.4 Neutrino fluxes at detector (Earth)



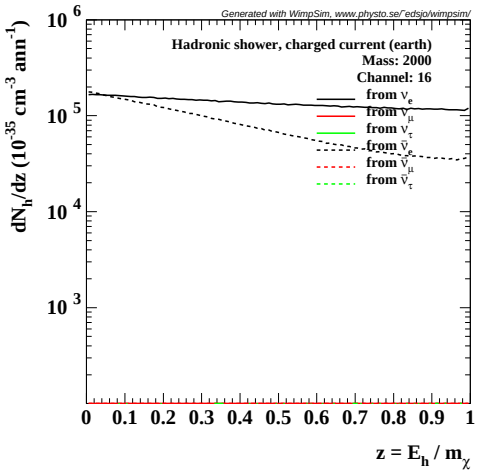


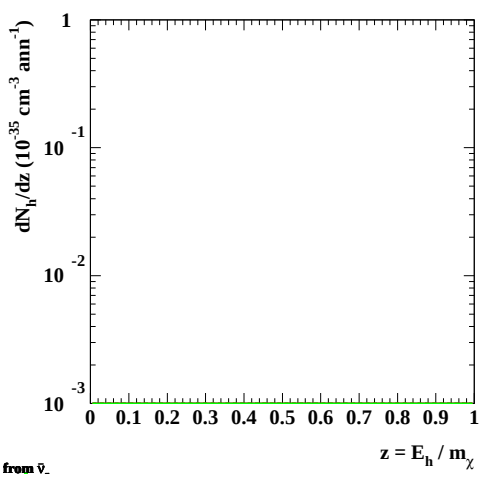
16.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





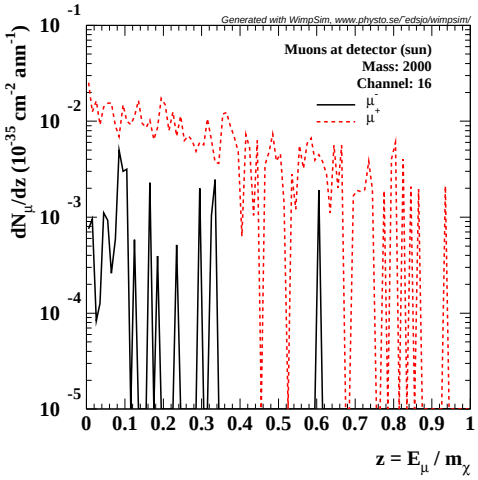
16.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

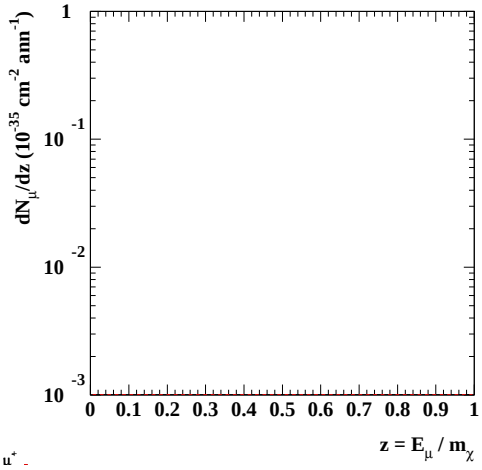




from $\bar{\nu}_\tau$

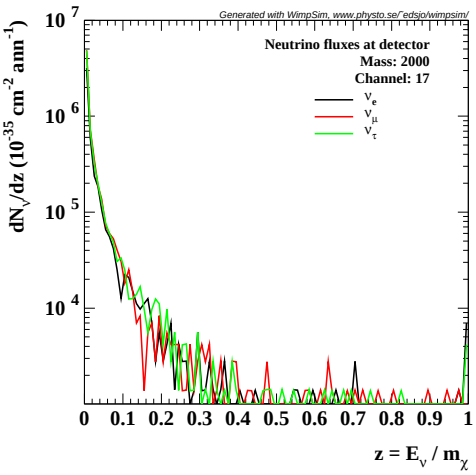
16.8.7 Muons at detector (Sun/Earth)

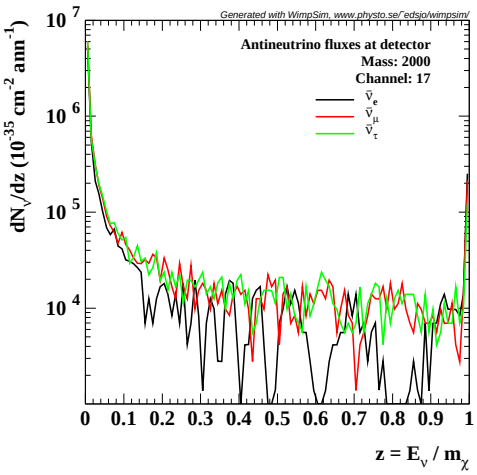




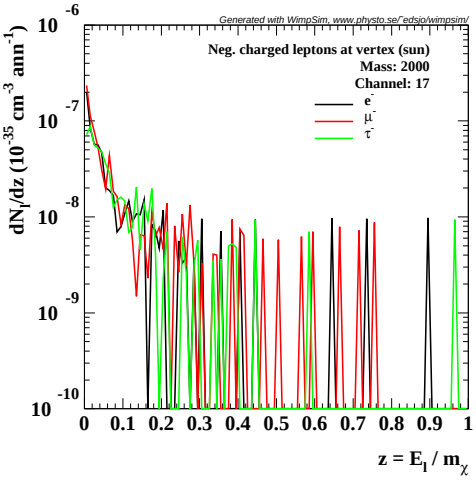
16.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

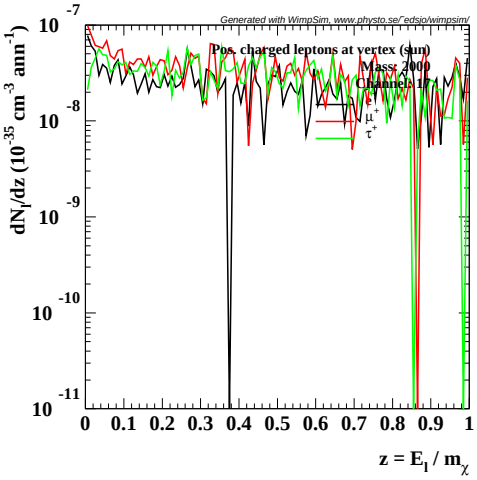
16.9.1 Neutrino fluxes at detector (Sun)



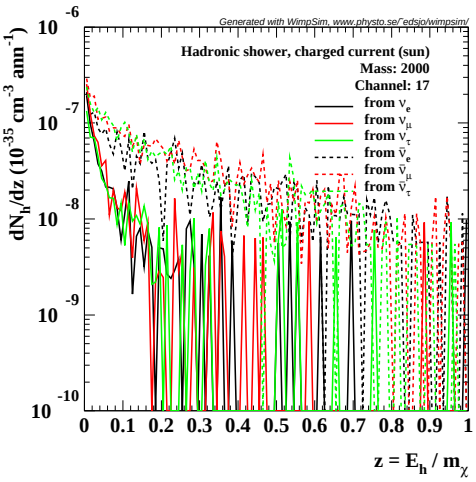


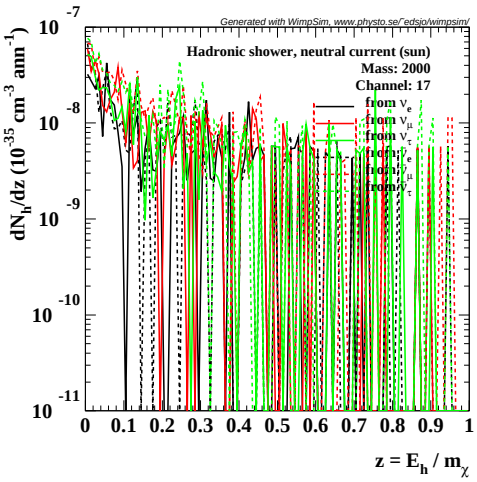
16.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



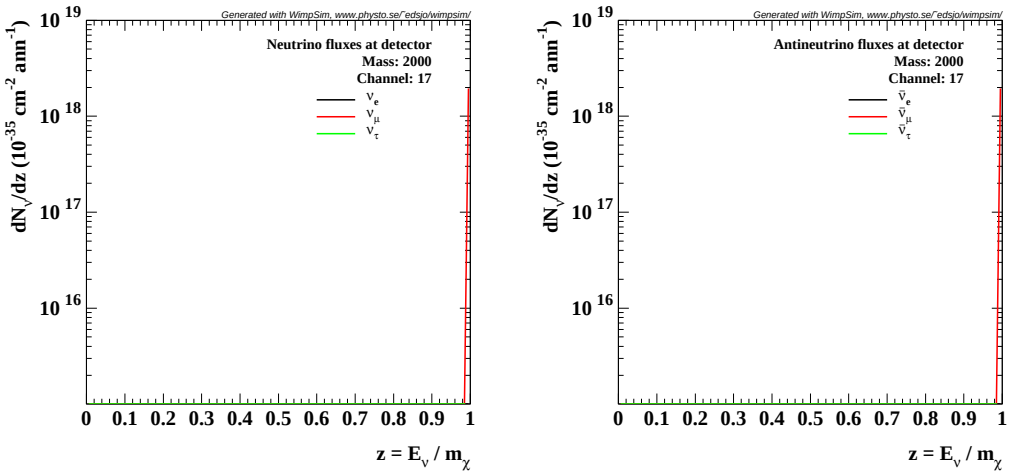


16.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)

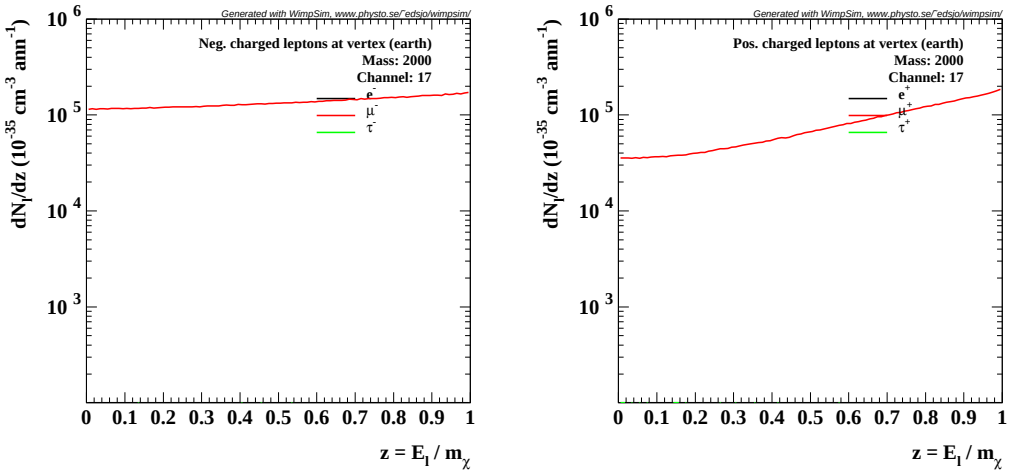




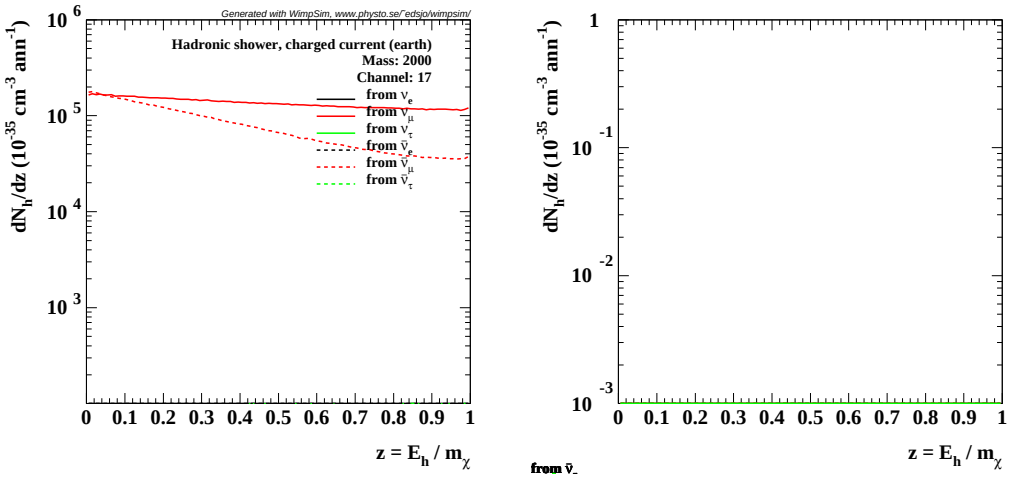
16.9.4 Neutrino fluxes at detector (Earth)



16.9.5 Charged leptons at neutrino-nucleon vertex (Earth)

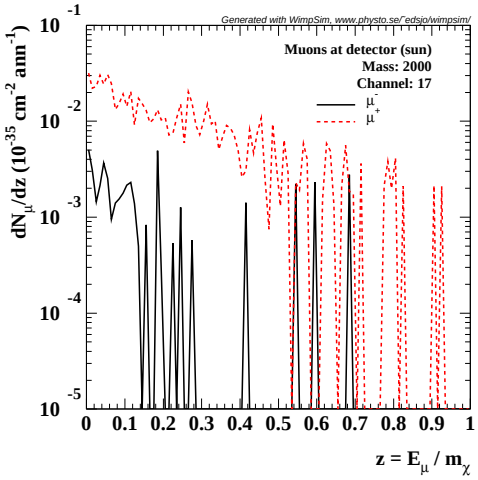


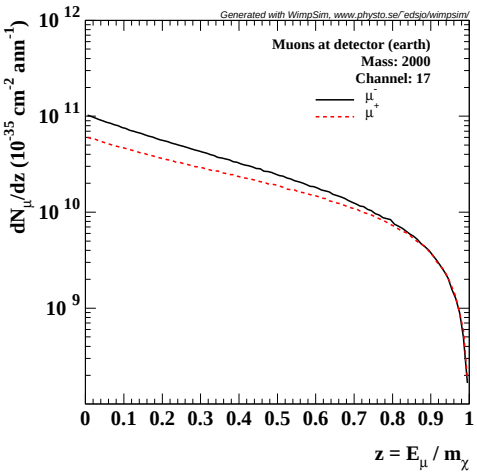
16.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)



from $\bar{\nu}_\tau$

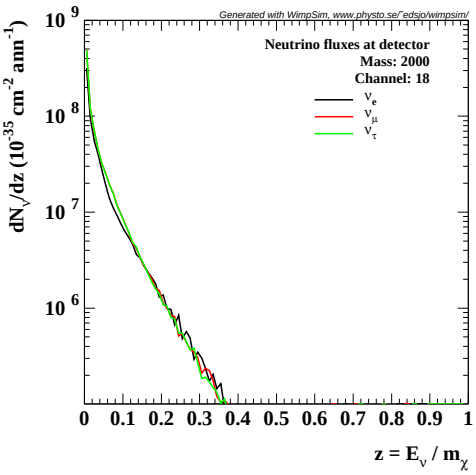
16.9.7 Muons at detector (Sun/Earth)

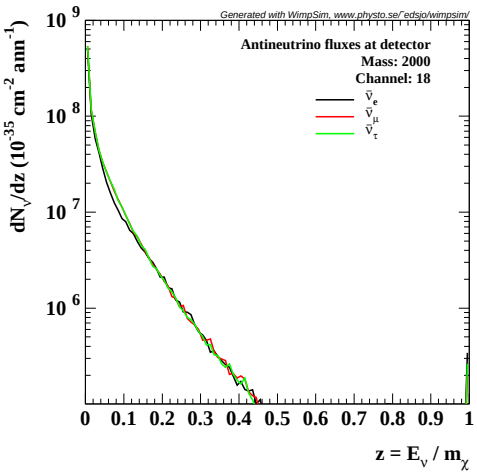




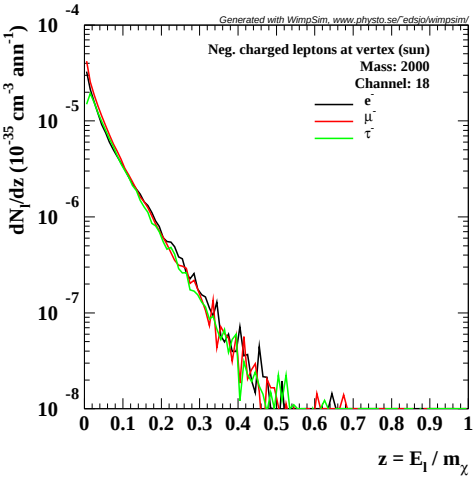
16.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

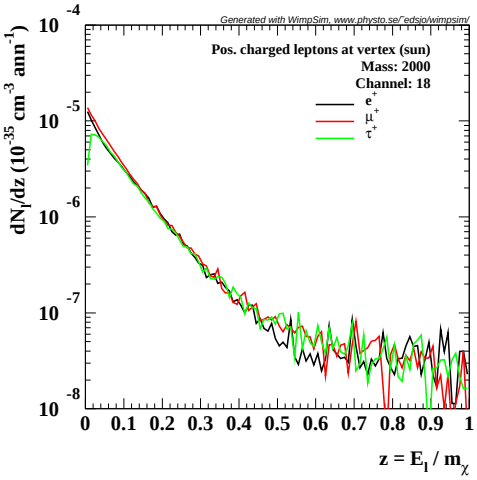
16.10.1 Neutrino fluxes at detector (Sun)



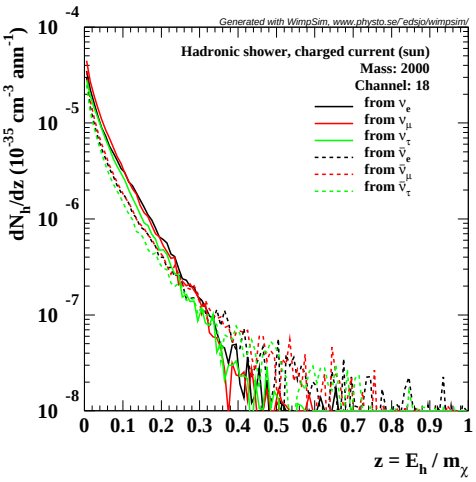


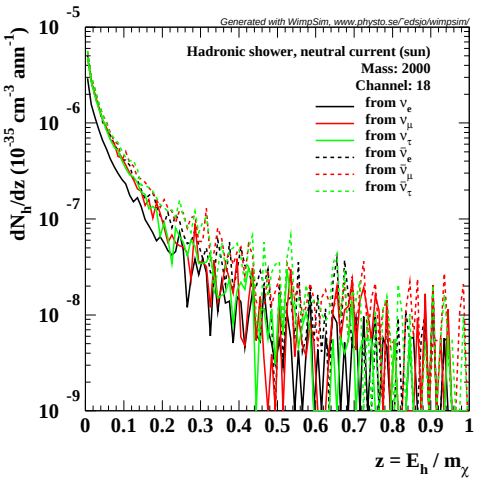
16.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



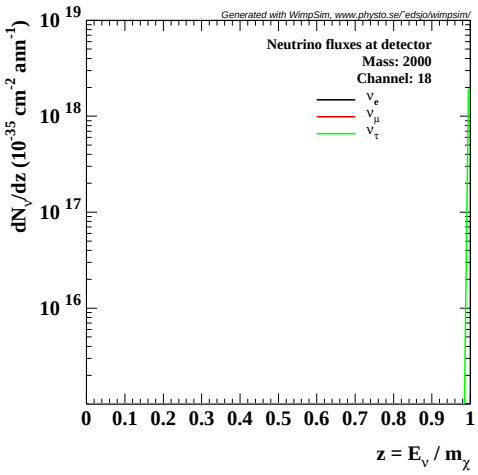


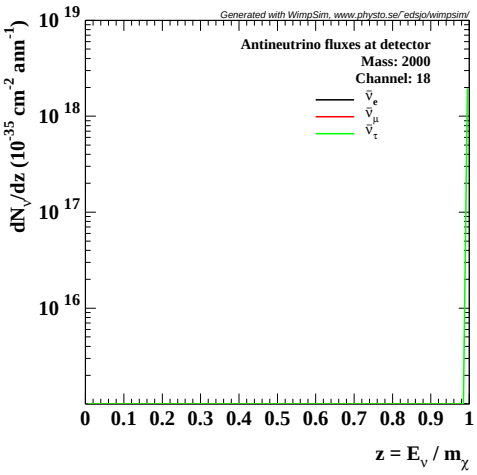
16.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



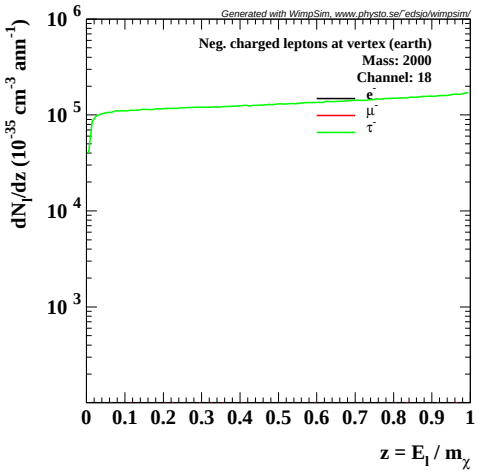


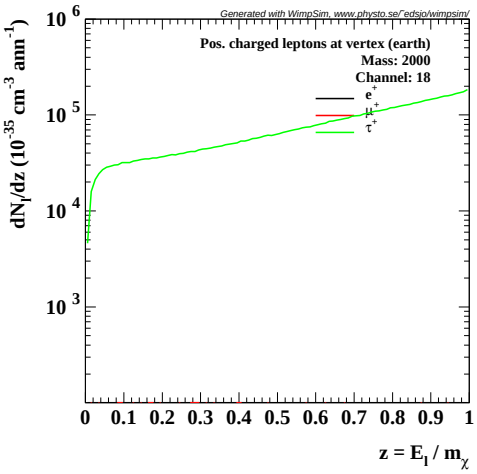
16.10.4 Neutrino fluxes at detector (Earth)



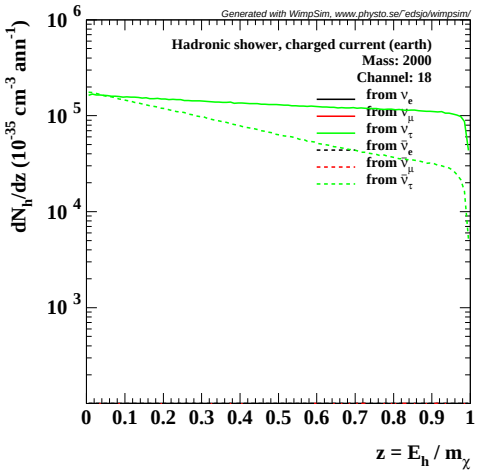


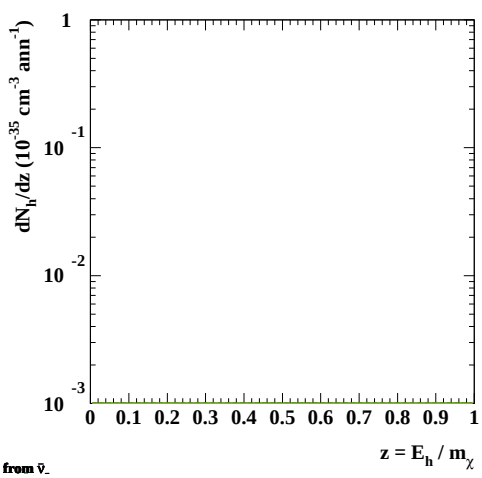
16.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





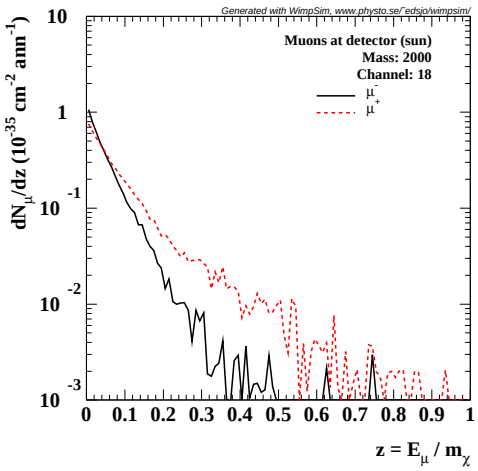
16.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

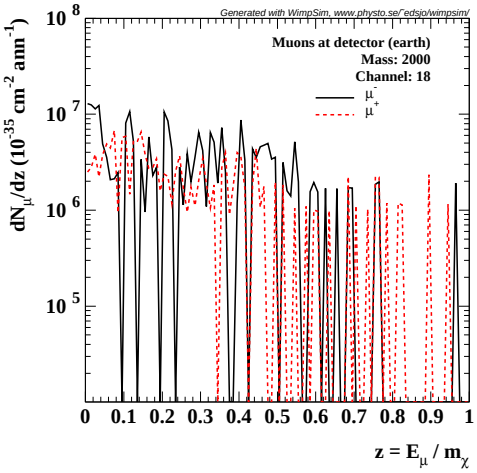




from $\bar{\nu}_\tau$

16.10.7 Muons at detector (Sun/Earth)

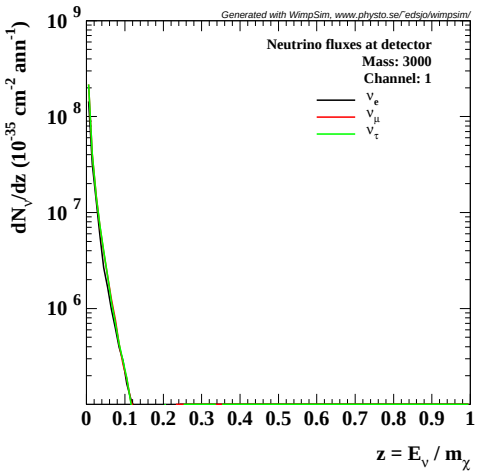


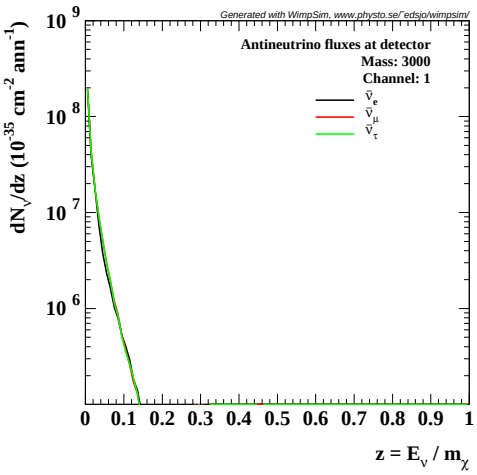


17 Mass 3000

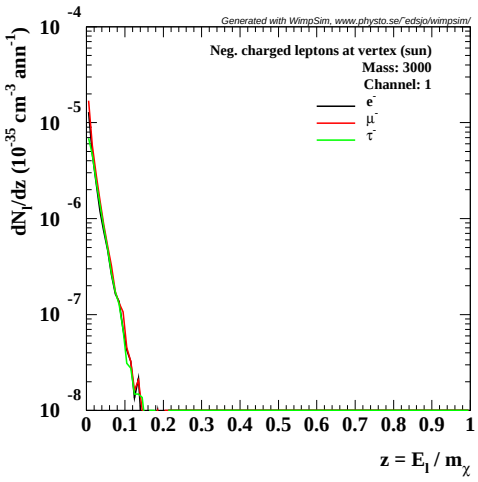
17.1 Channel 1 – $c\bar{c}$

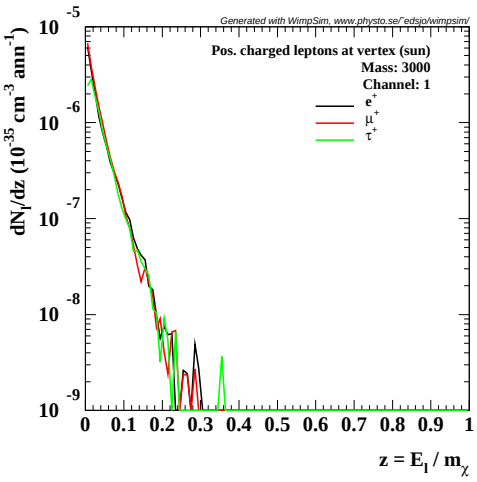
17.1.1 Neutrino fluxes at detector (Sun)



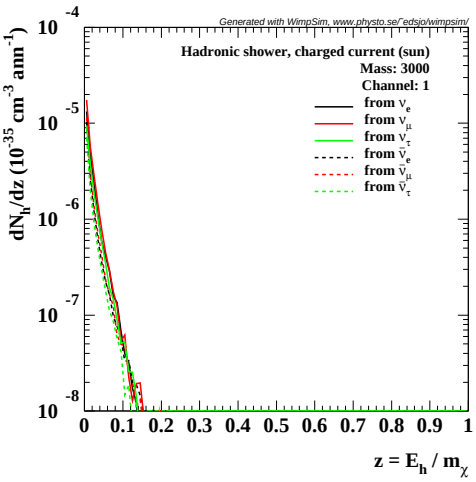


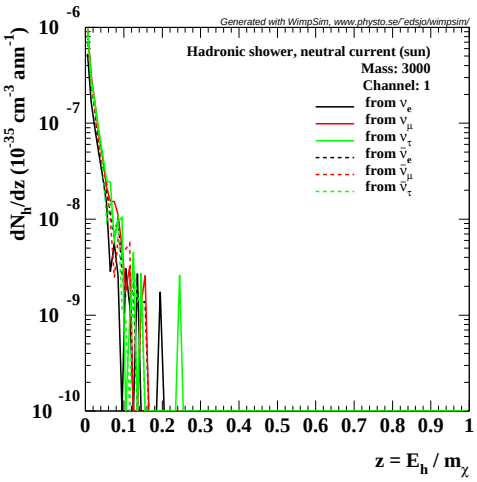
17.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



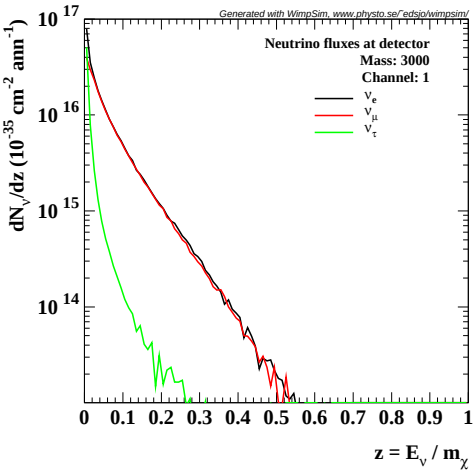


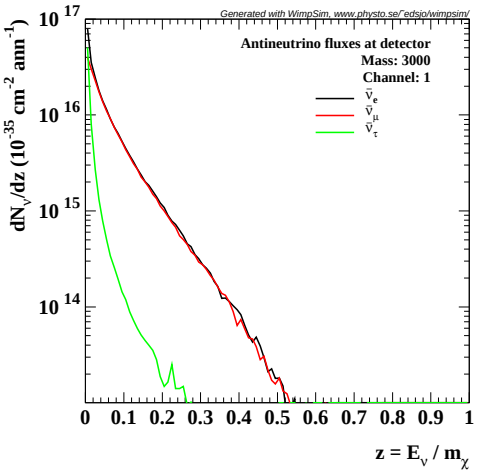
17.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



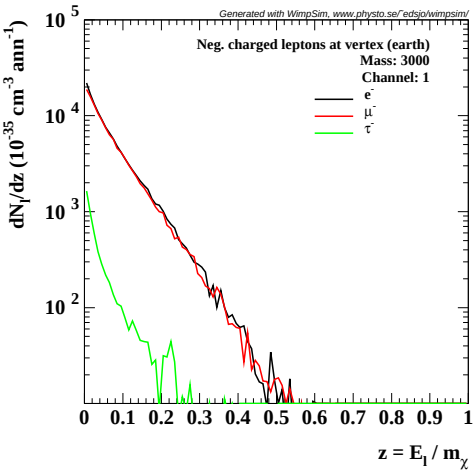


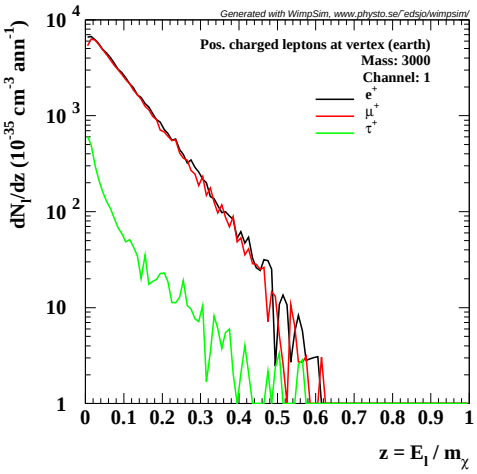
17.1.4 Neutrino fluxes at detector (Earth)



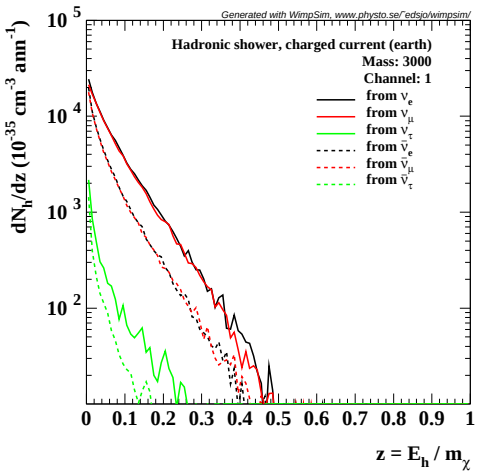


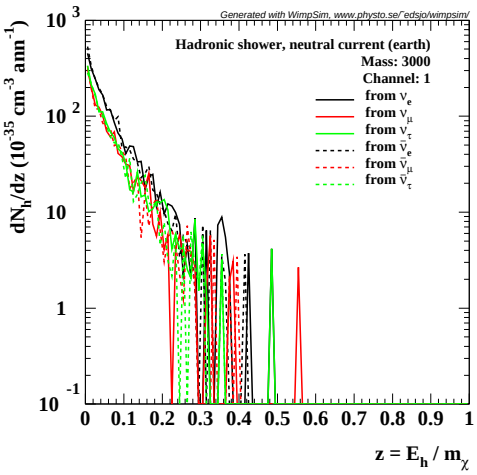
17.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



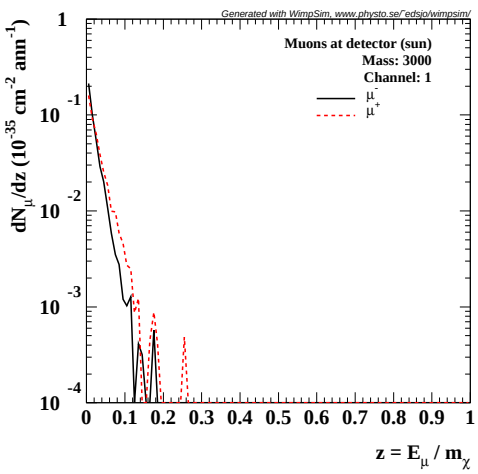


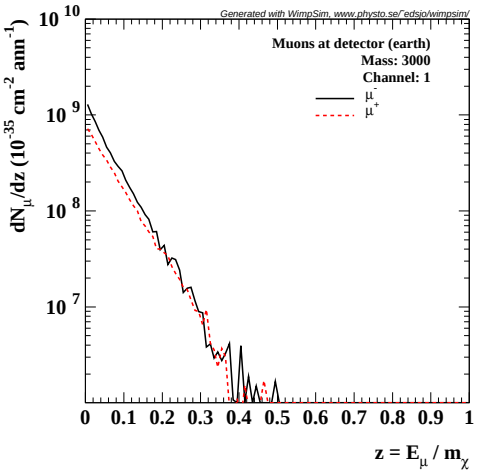
17.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





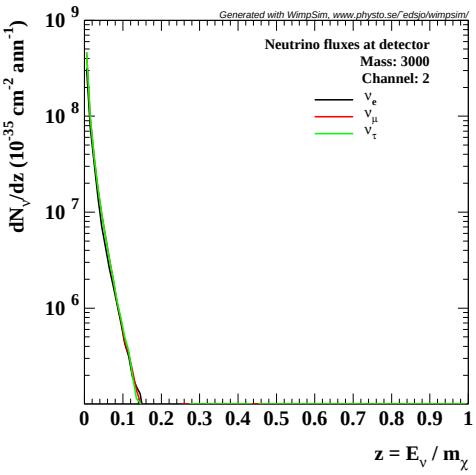
17.1.7 Muons at detector (Sun/Earth)

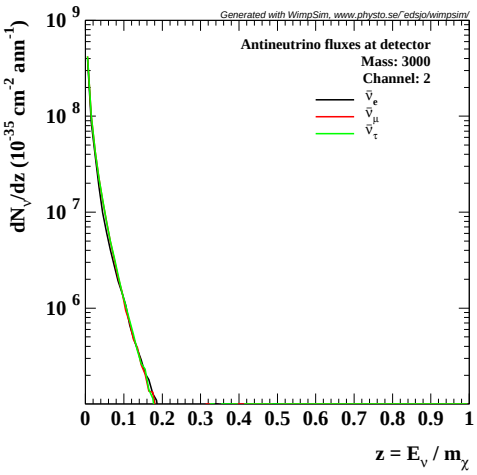




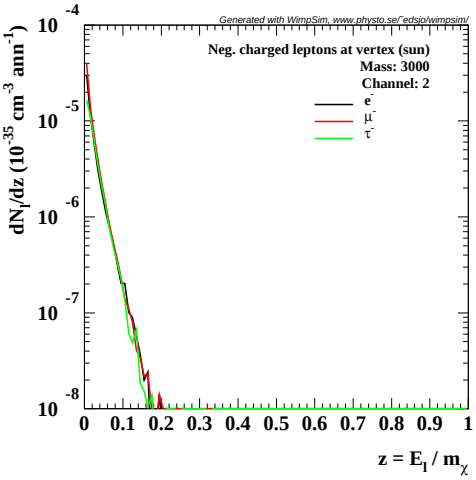
17.2 Channel 2 – $b\bar{b}$

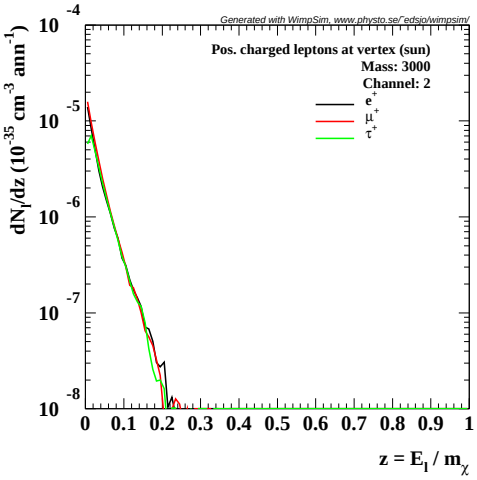
17.2.1 Neutrino fluxes at detector (Sun)



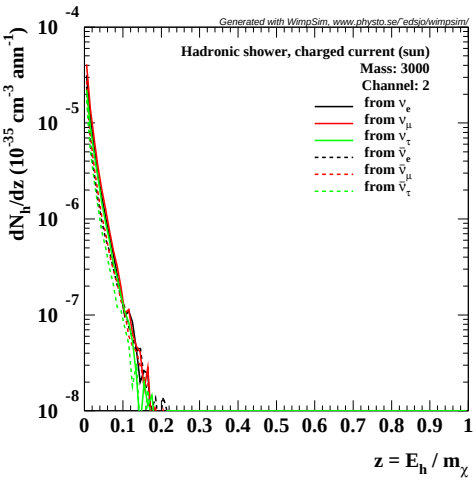


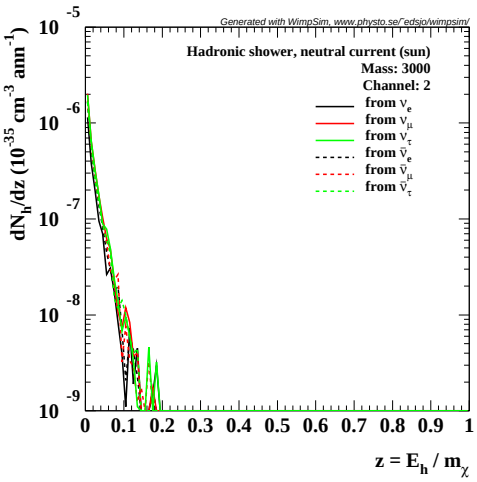
17.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



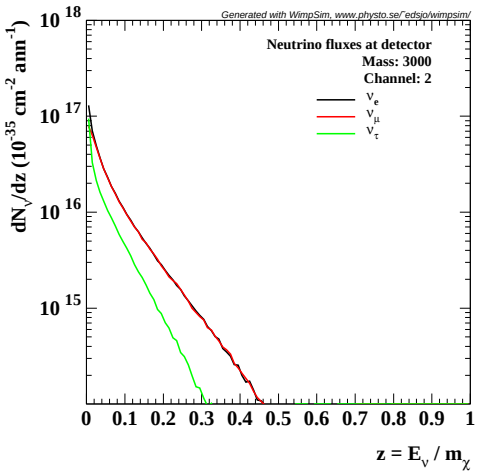


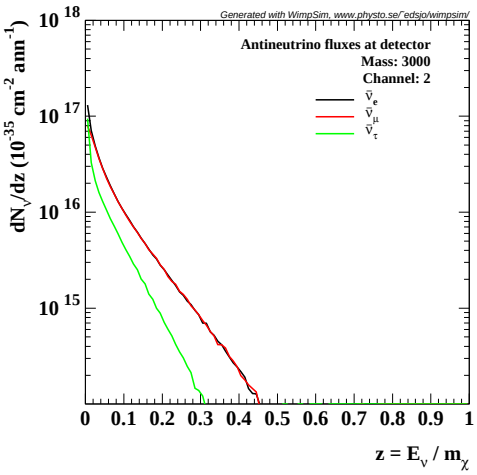
17.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



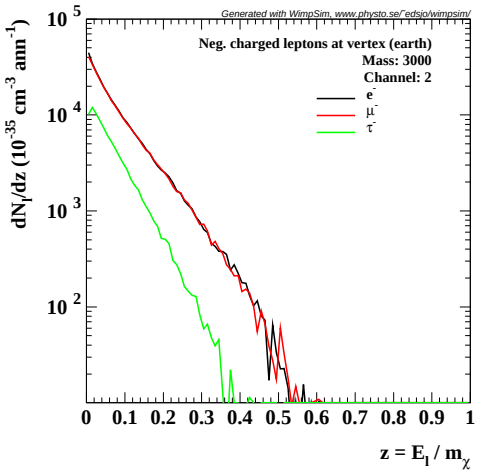


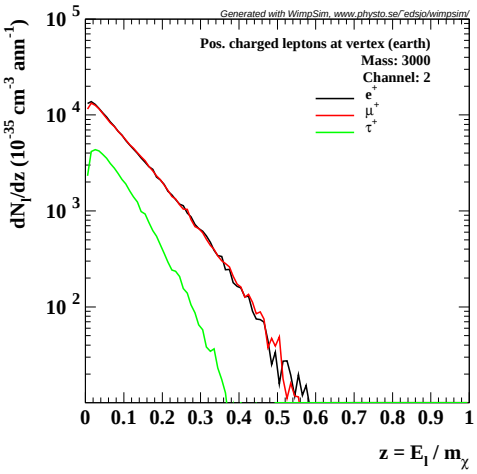
17.2.4 Neutrino fluxes at detector (Earth)



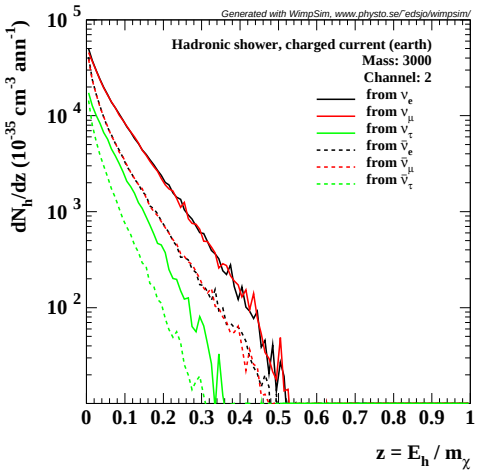


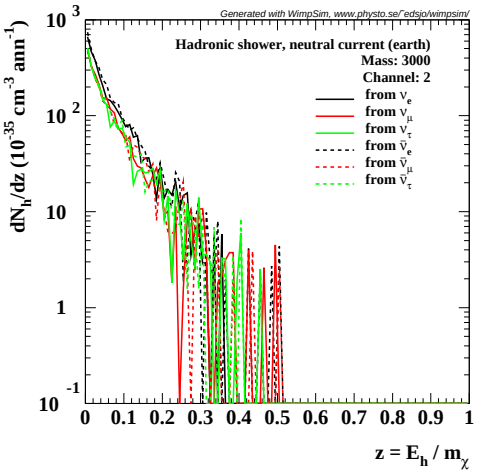
17.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



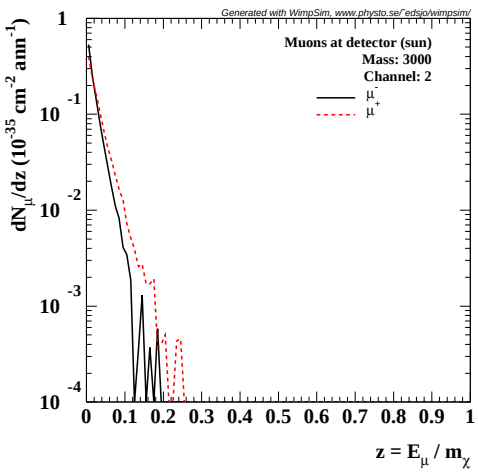


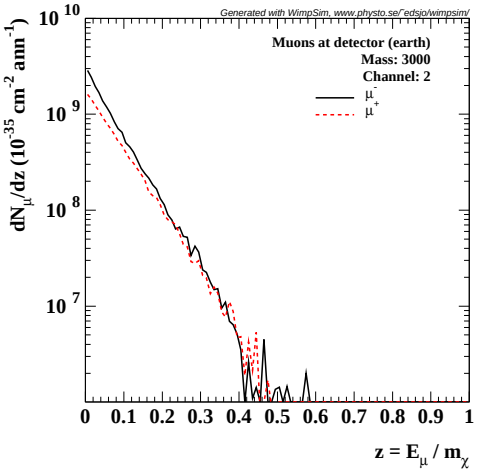
17.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





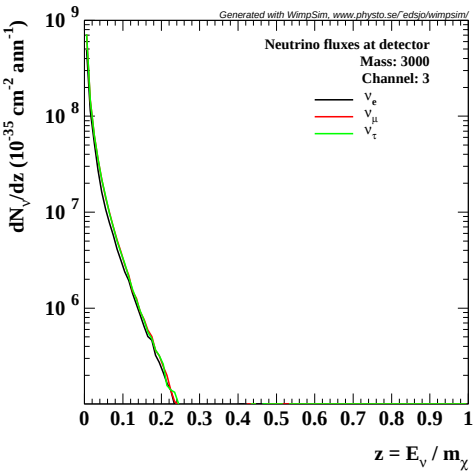
17.2.7 Muons at detector (Sun/Earth)

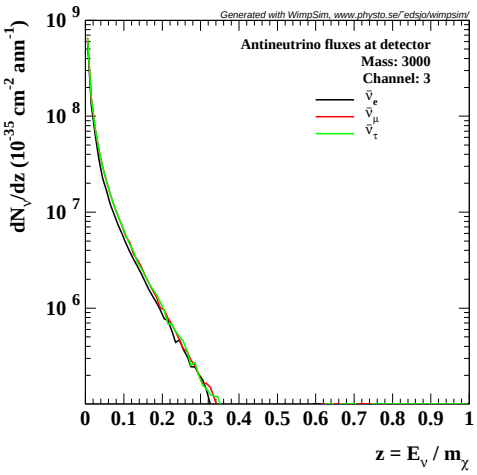




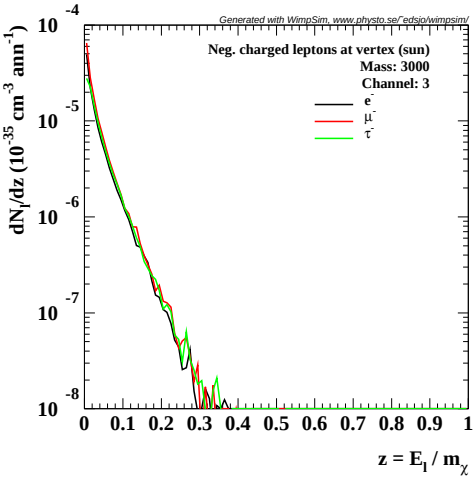
17.3 Channel 3 – $t\bar{t}$

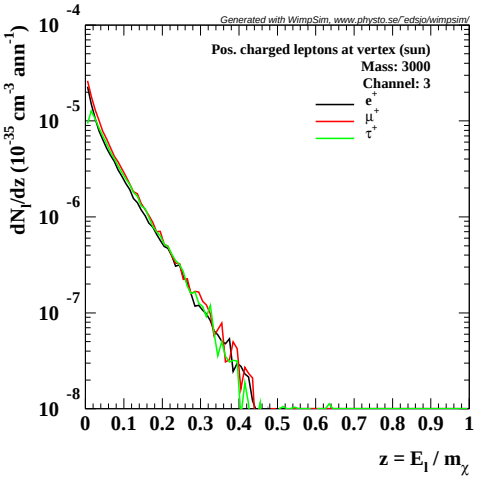
17.3.1 Neutrino fluxes at detector (Sun)



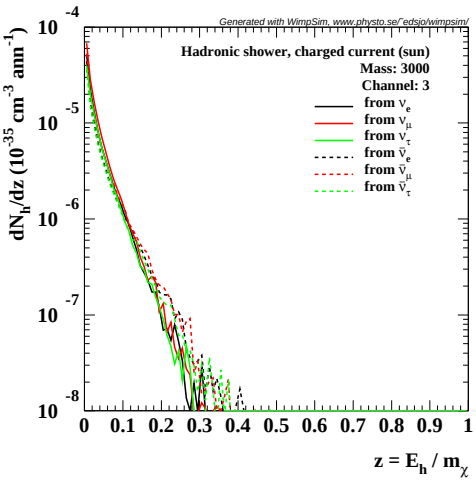


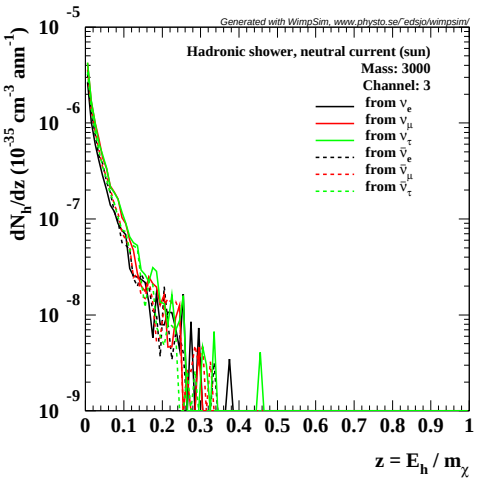
17.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



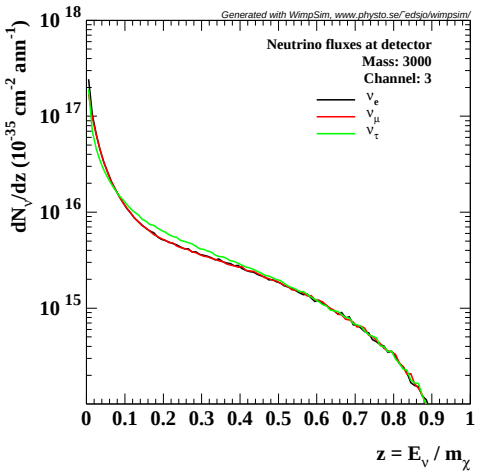


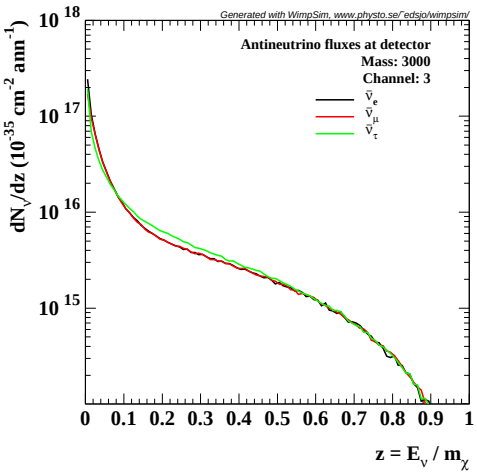
17.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



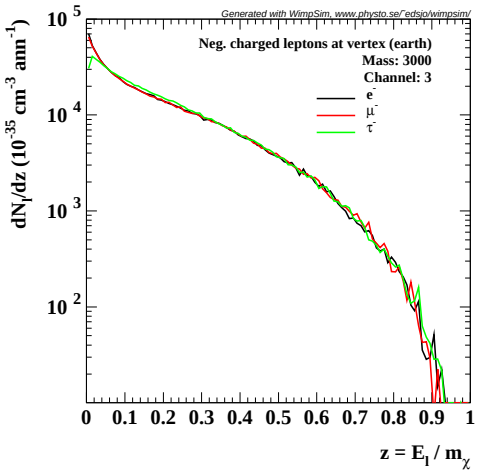


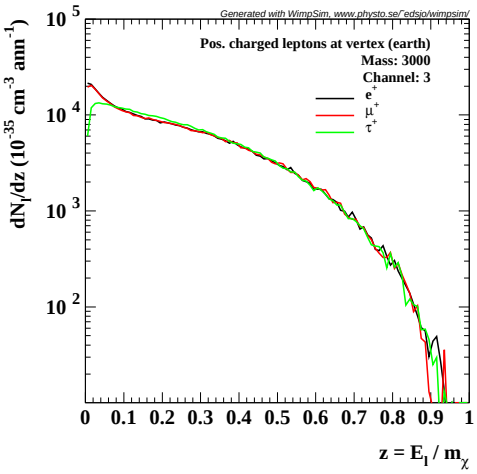
17.3.4 Neutrino fluxes at detector (Earth)



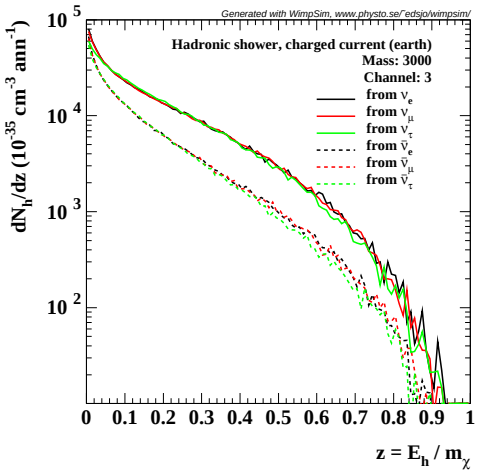


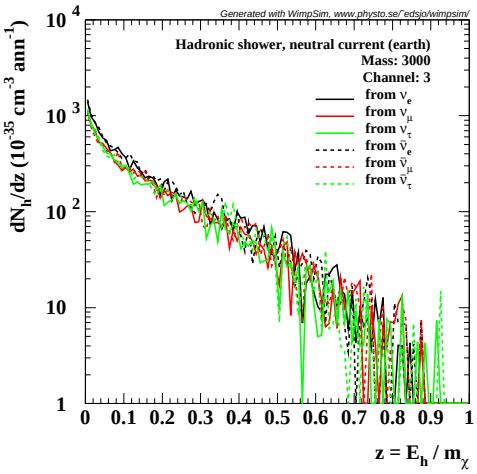
17.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



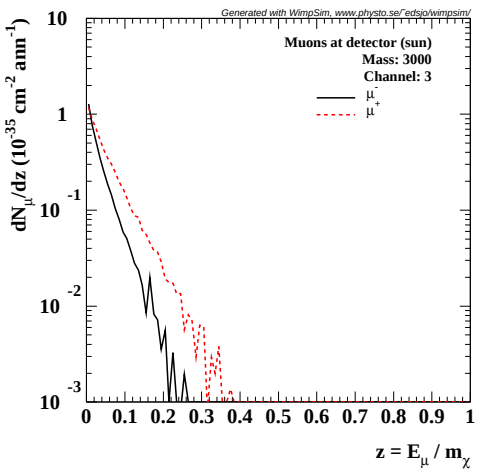


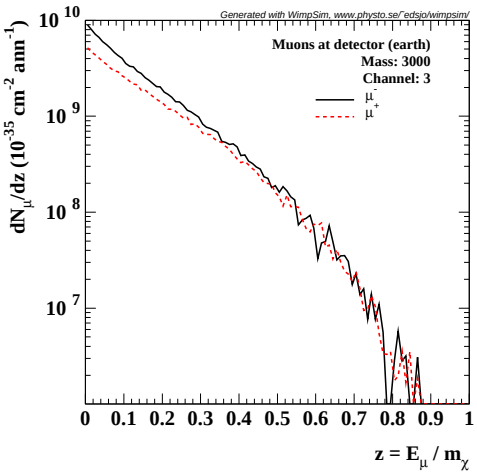
17.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





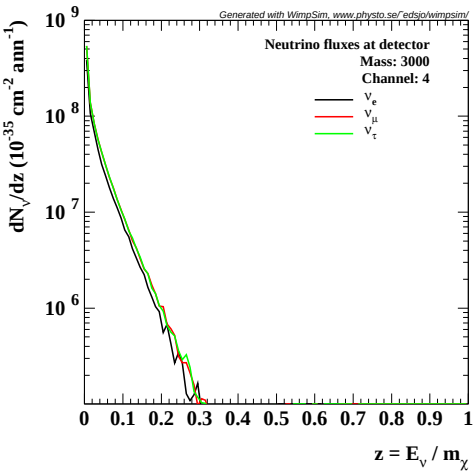
17.3.7 Muons at detector (Sun/Earth)

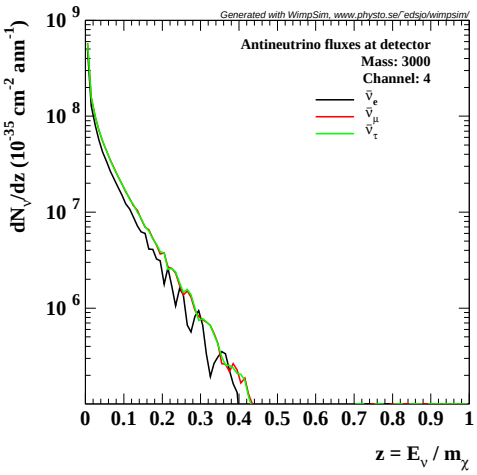




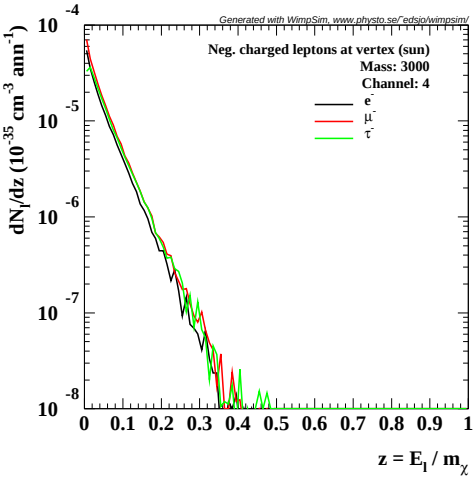
17.4 Channel 4 – $\tau^-\tau^+$

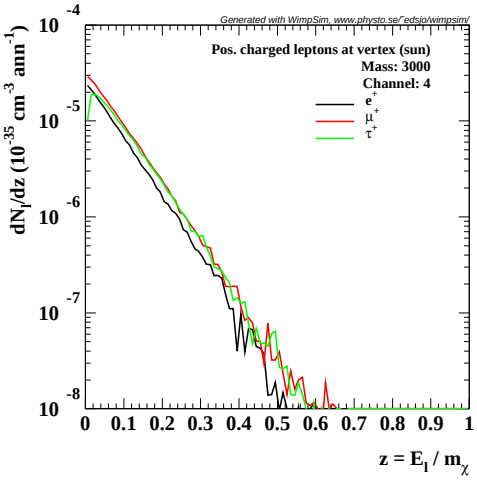
17.4.1 Neutrino fluxes at detector (Sun)



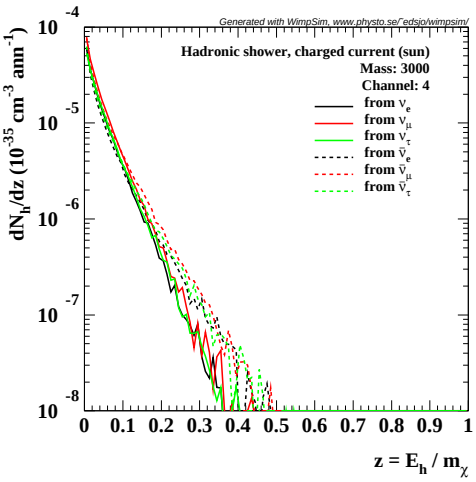


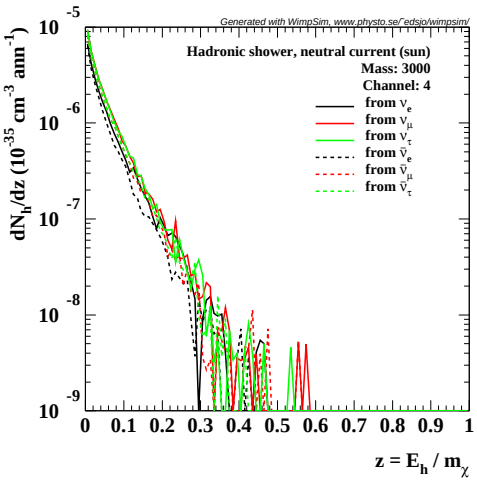
17.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



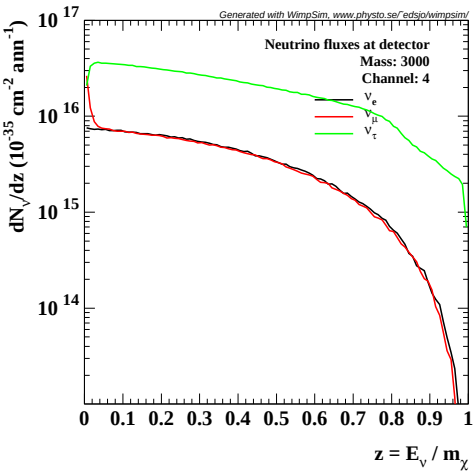


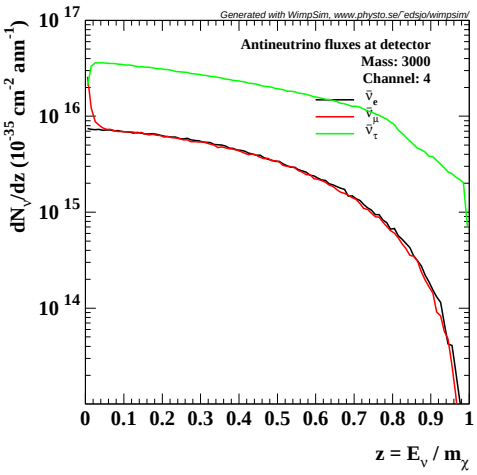
17.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



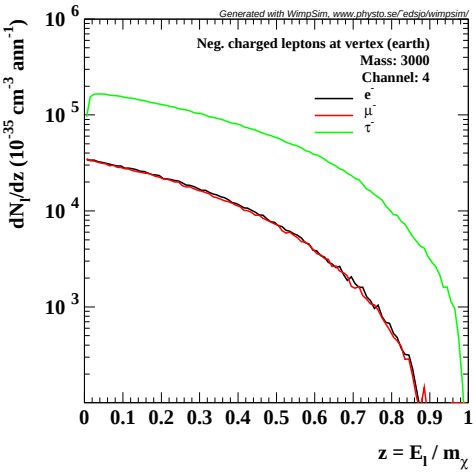


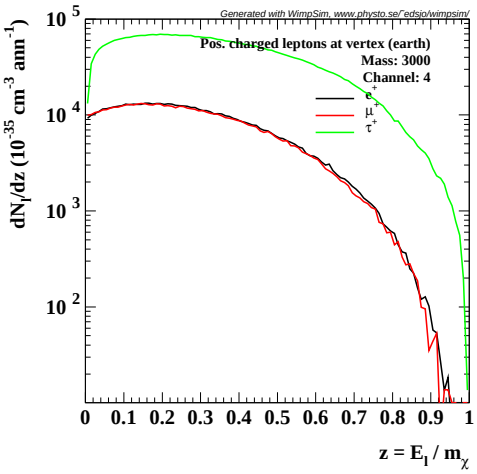
17.4.4 Neutrino fluxes at detector (Earth)



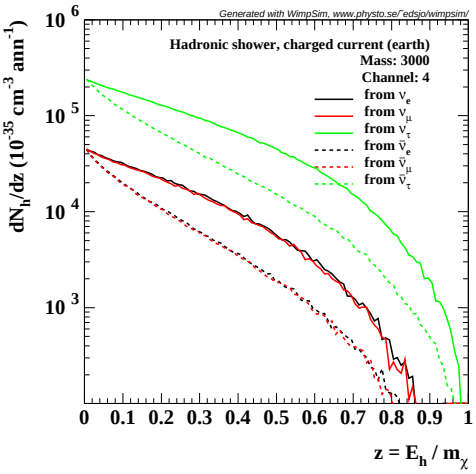


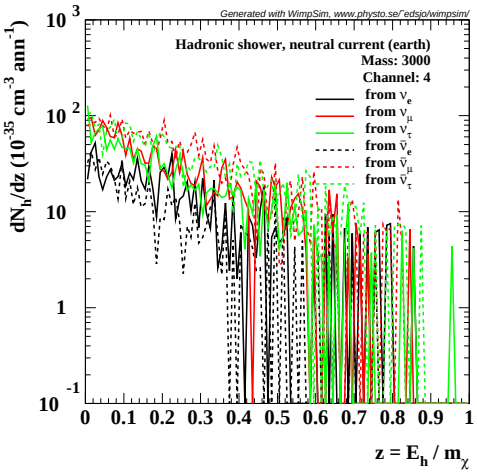
17.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



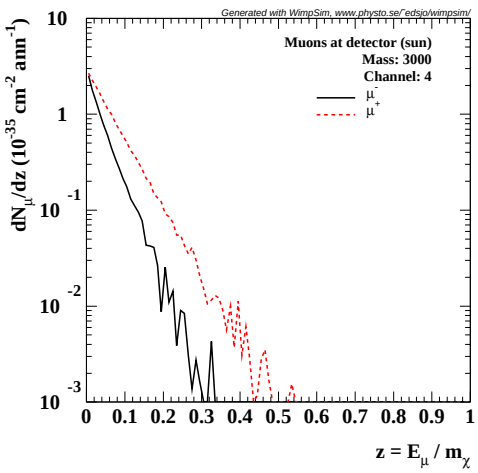


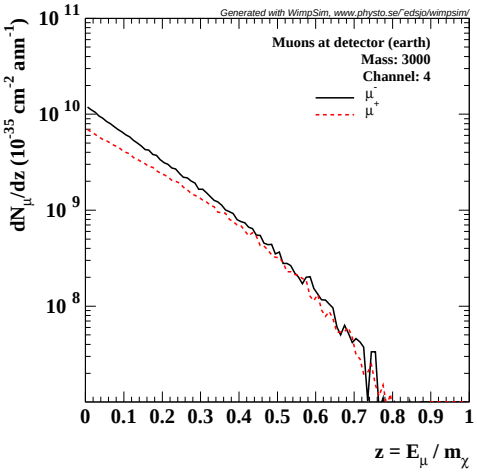
17.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





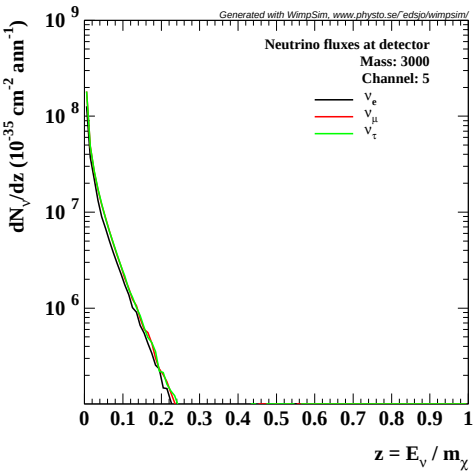
17.4.7 Muons at detector (Sun/Earth)

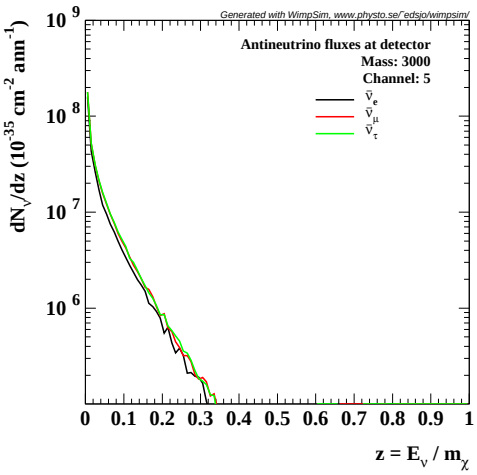




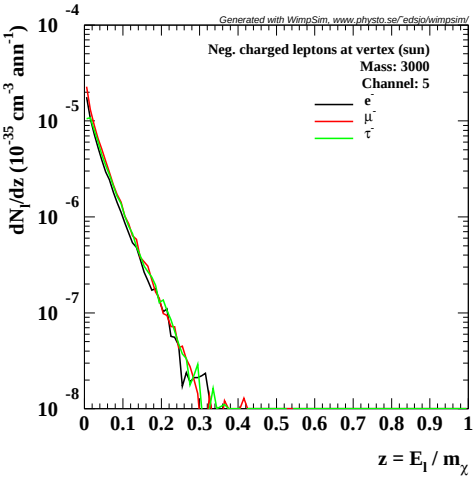
17.5 Channel 5 – W^-W^+

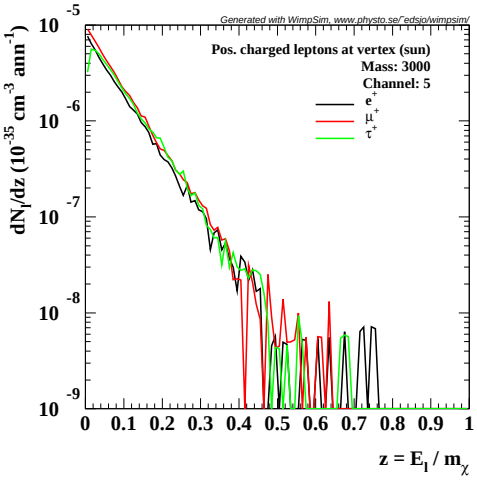
17.5.1 Neutrino fluxes at detector (Sun)



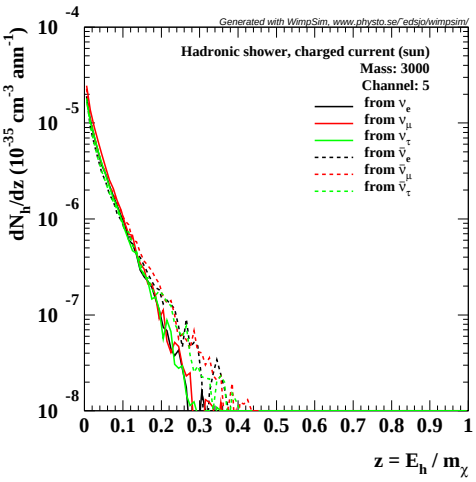


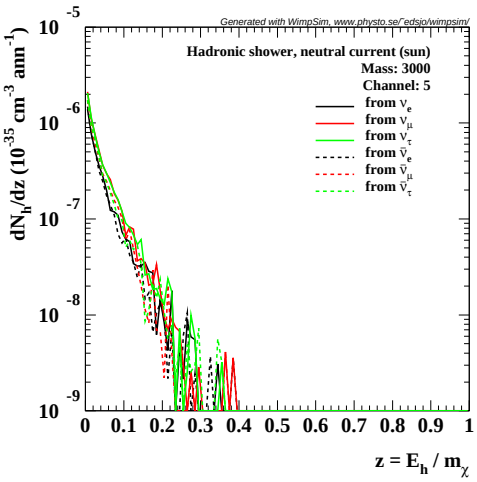
17.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



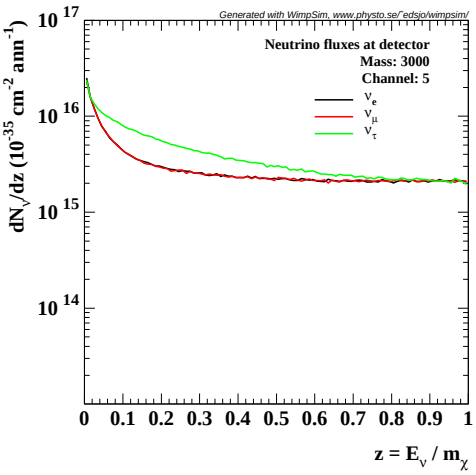


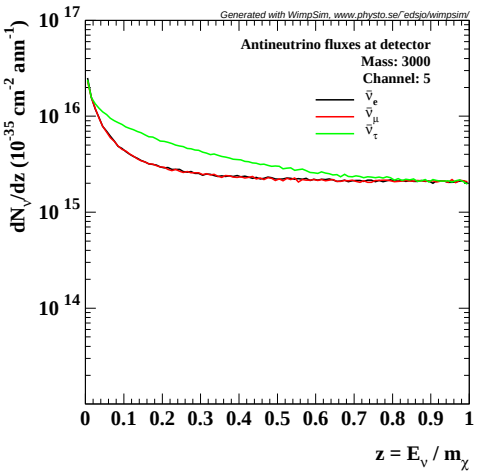
17.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



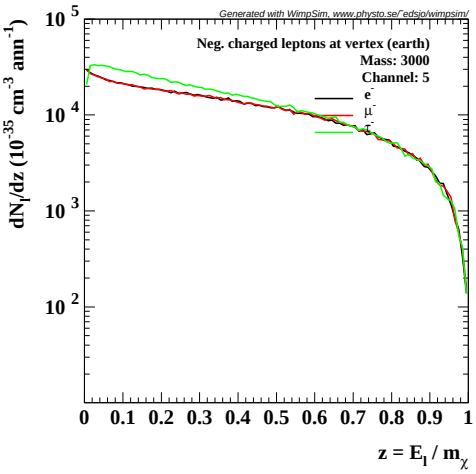


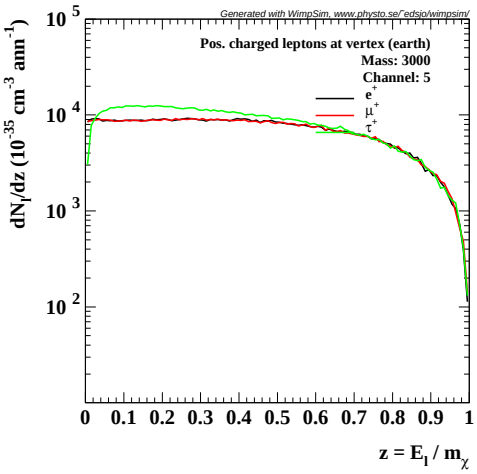
17.5.4 Neutrino fluxes at detector (Earth)



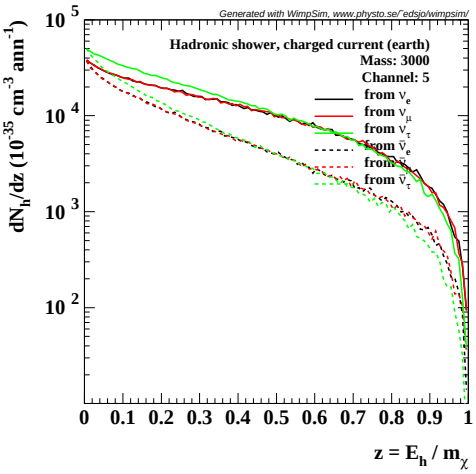


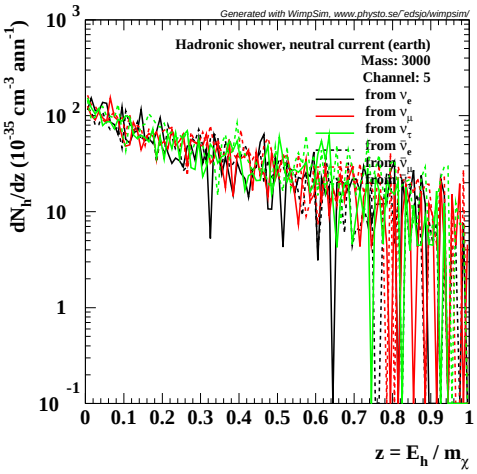
17.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



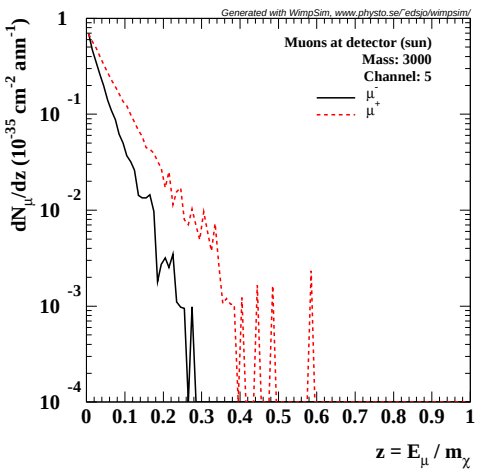


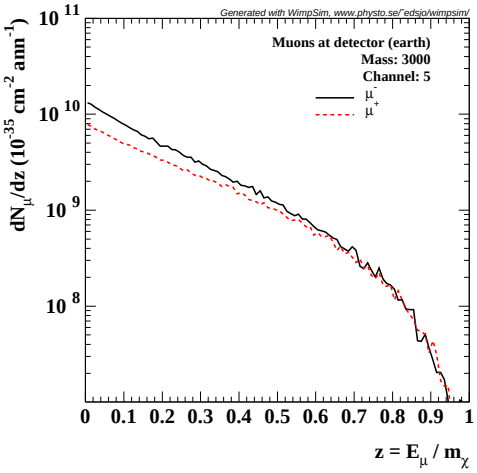
17.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





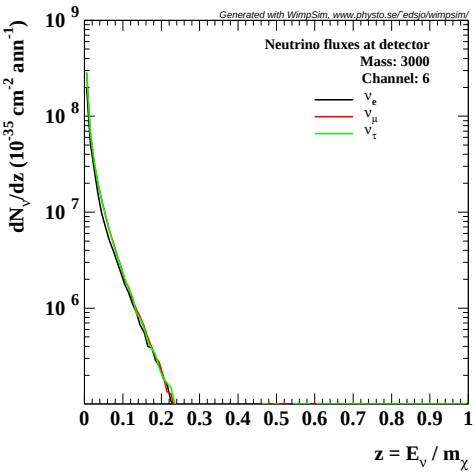
17.5.7 Muons at detector (Sun/Earth)

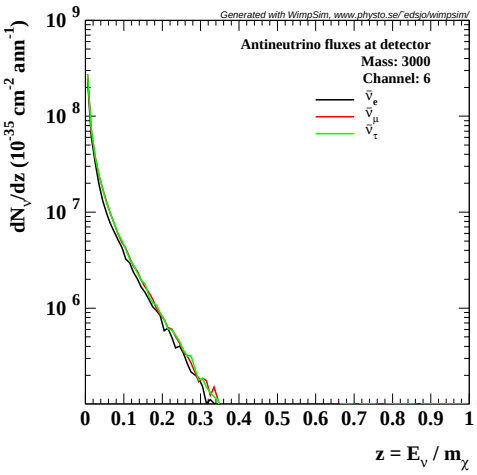




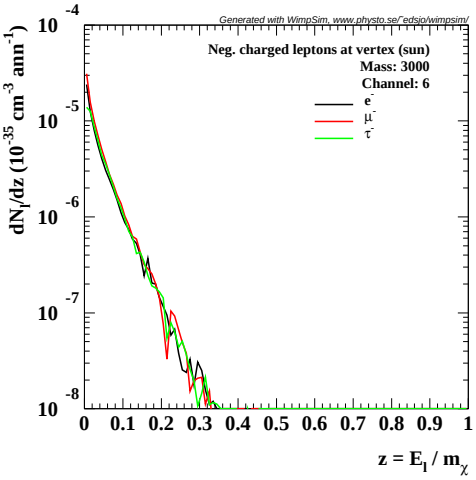
17.6 Channel 6 – $Z^0 Z^0$

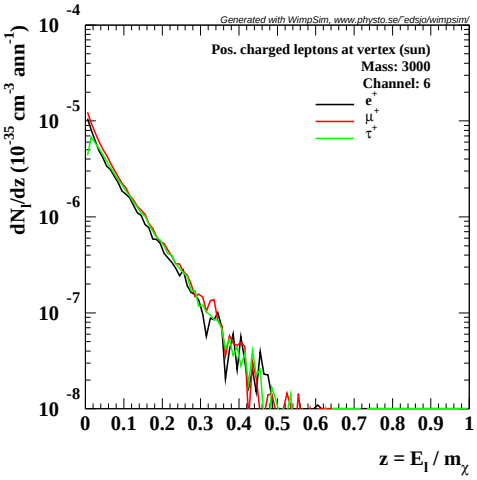
17.6.1 Neutrino fluxes at detector (Sun)



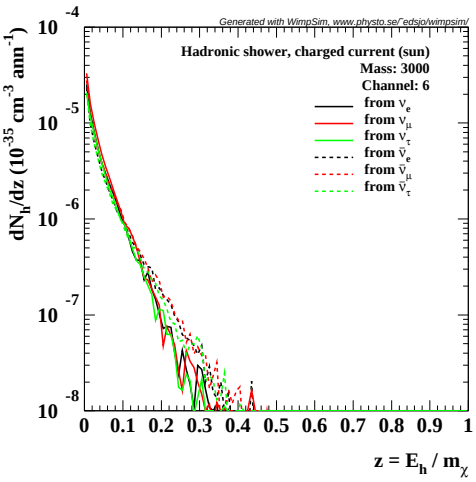


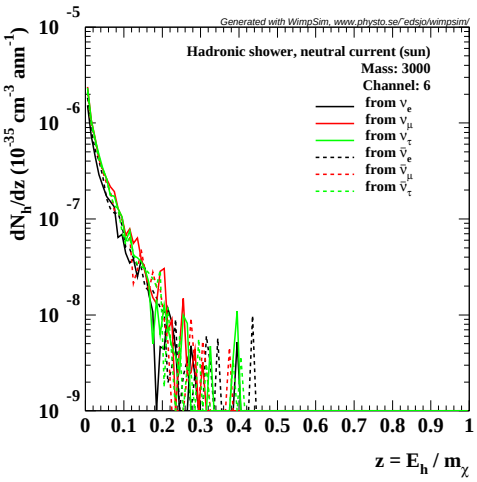
17.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



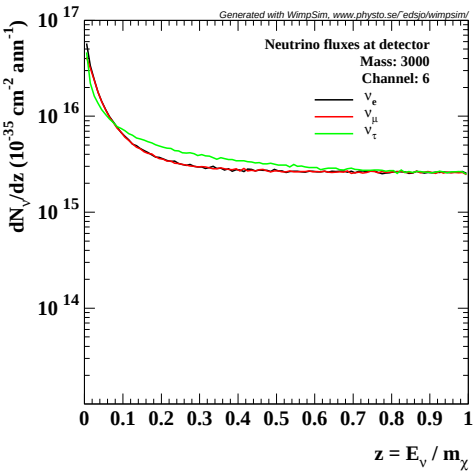


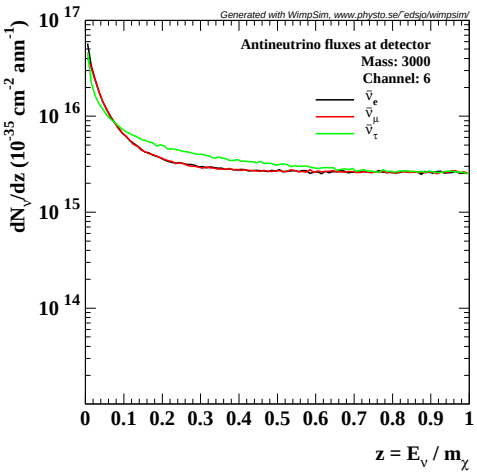
17.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



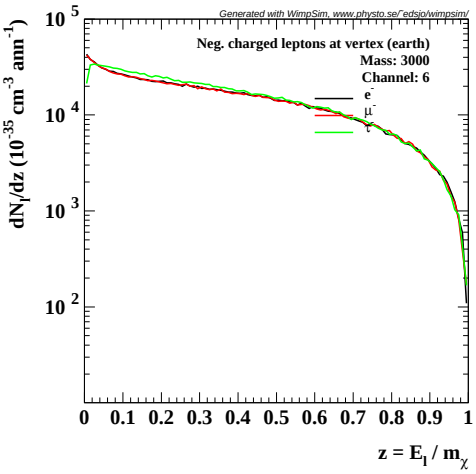


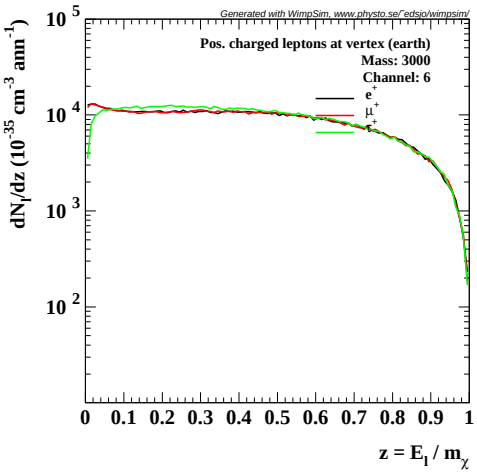
17.6.4 Neutrino fluxes at detector (Earth)



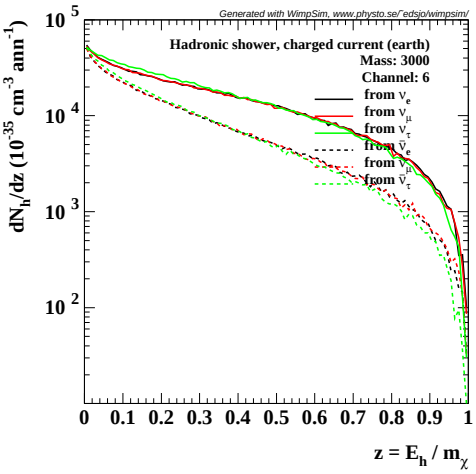


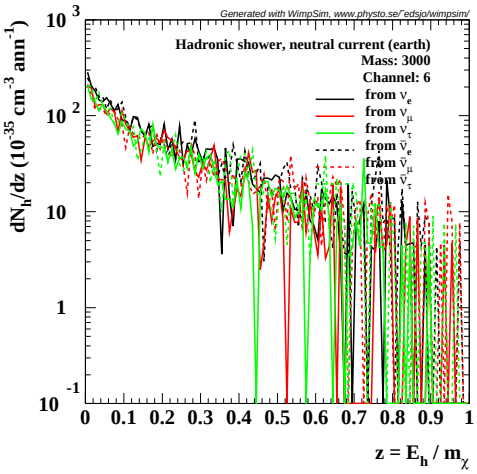
17.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



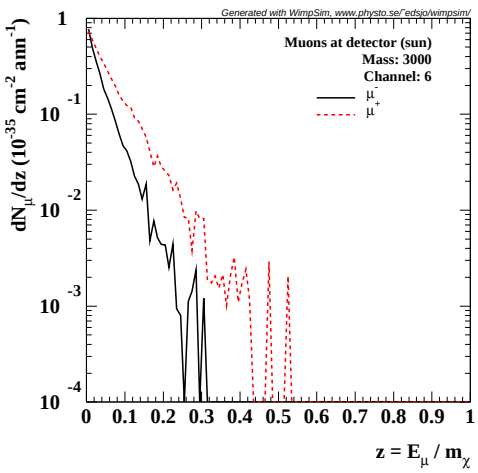


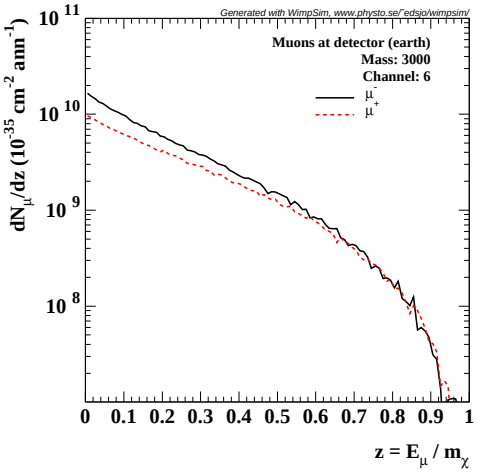
17.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





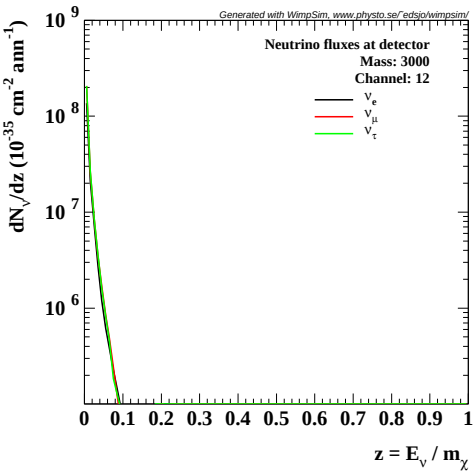
17.6.7 Muons at detector (Sun/Earth)

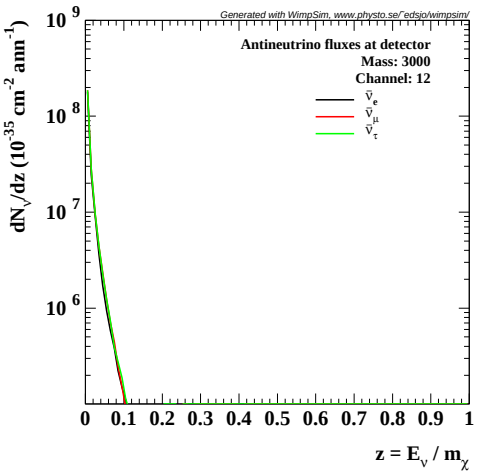




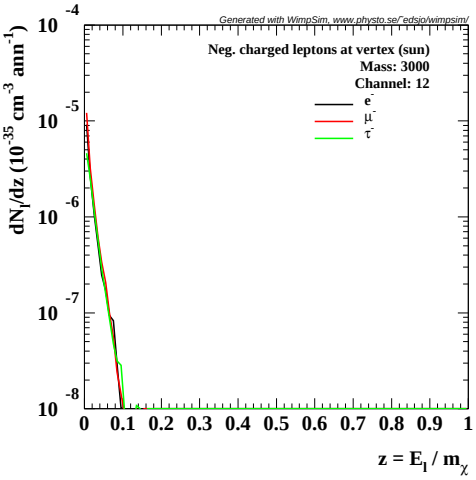
17.7 Channel 12 – gg

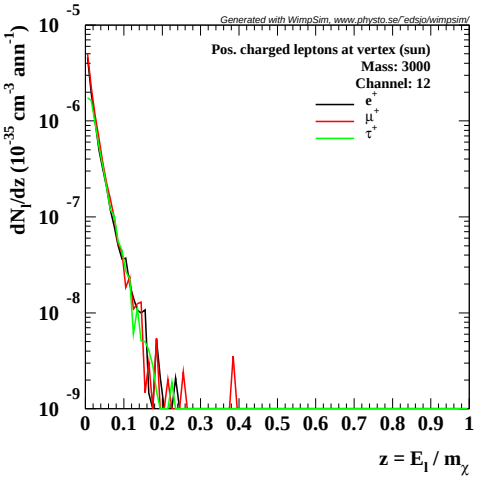
17.7.1 Neutrino fluxes at detector (Sun)



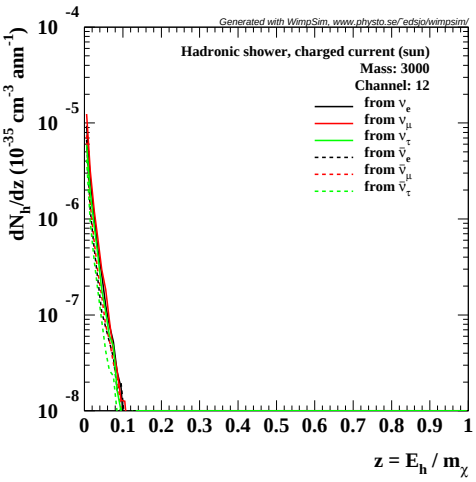


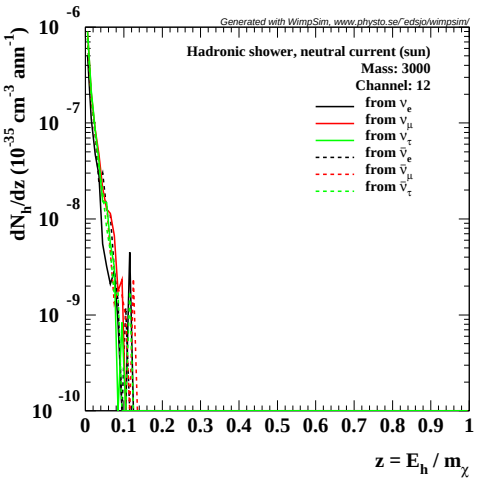
17.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



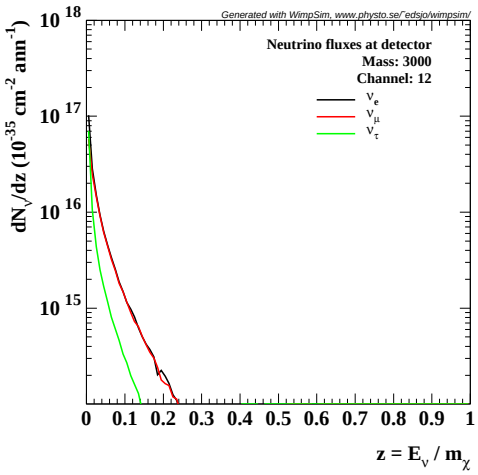


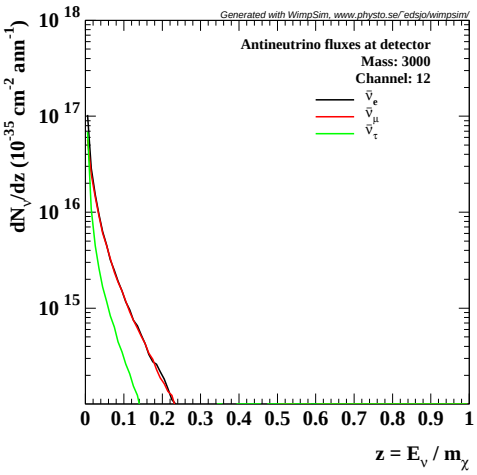
17.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



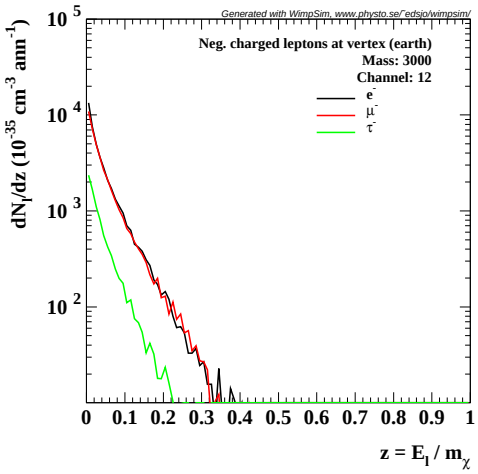


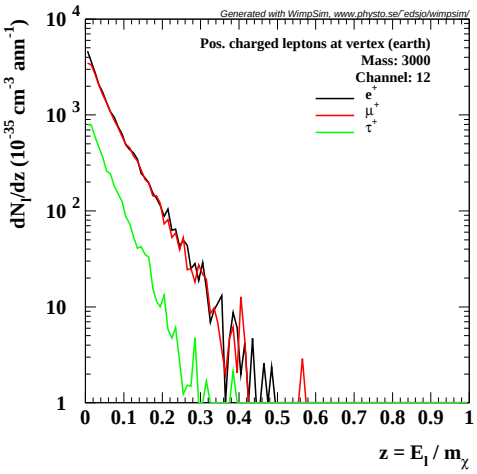
17.7.4 Neutrino fluxes at detector (Earth)



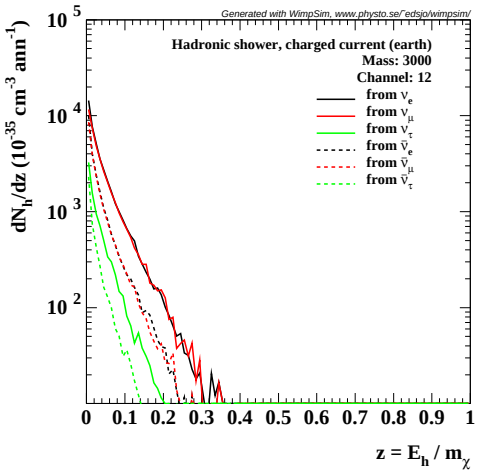


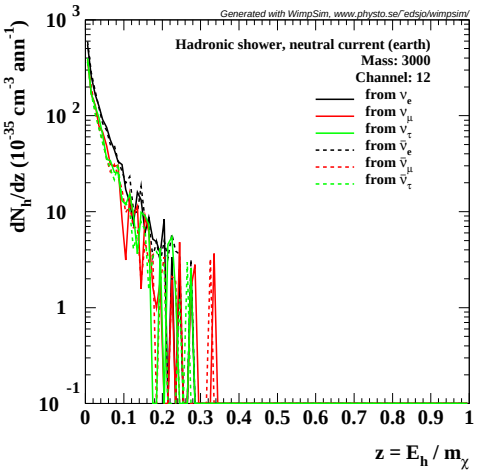
17.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



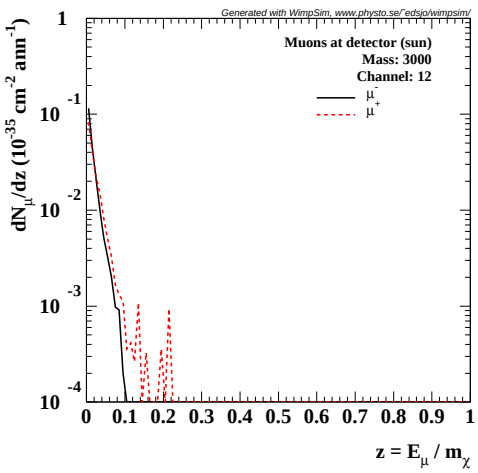


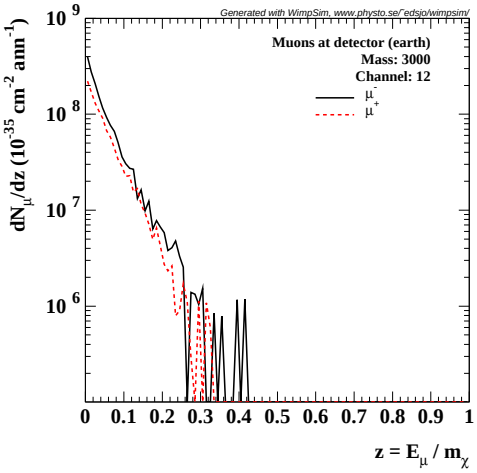
17.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





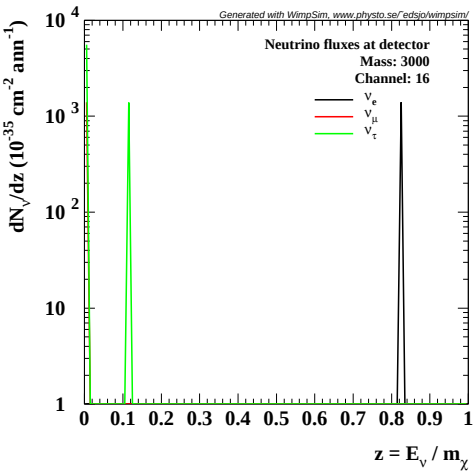
17.7.7 Muons at detector (Sun/Earth)

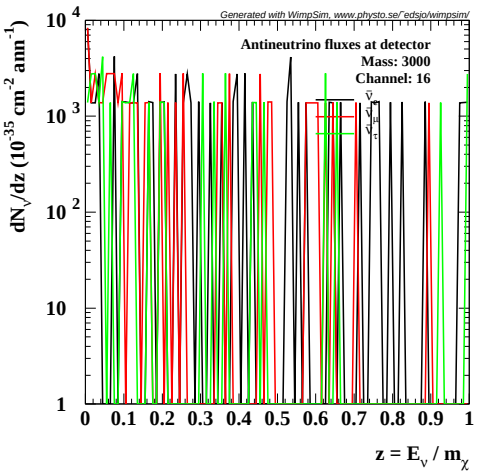




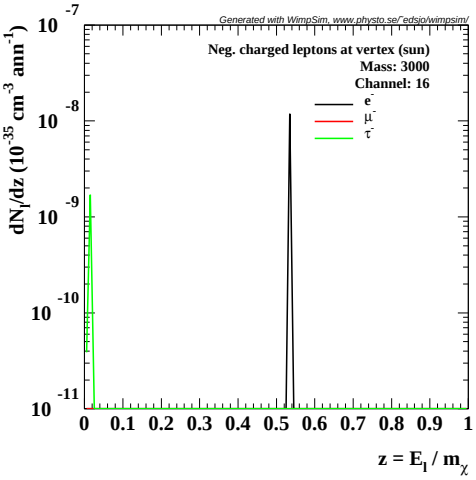
17.8 Channel 16 – $\nu_e\bar{\nu}_e$

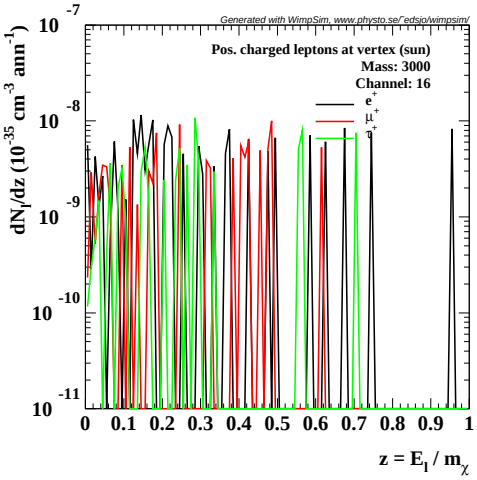
17.8.1 Neutrino fluxes at detector (Sun)



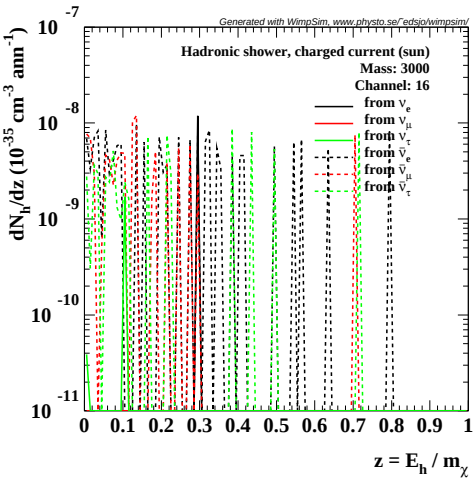


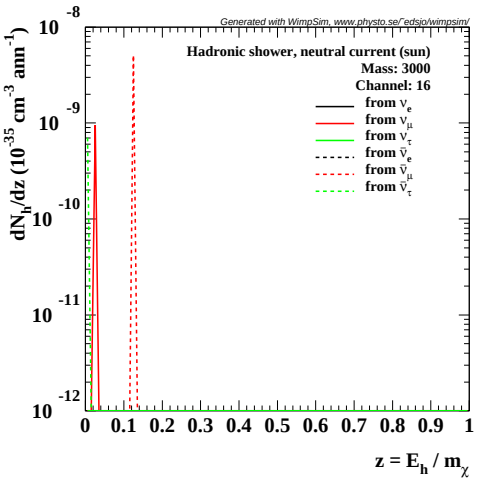
17.8.2 Charged leptons at neutrino-nucleon vertex (Sun)



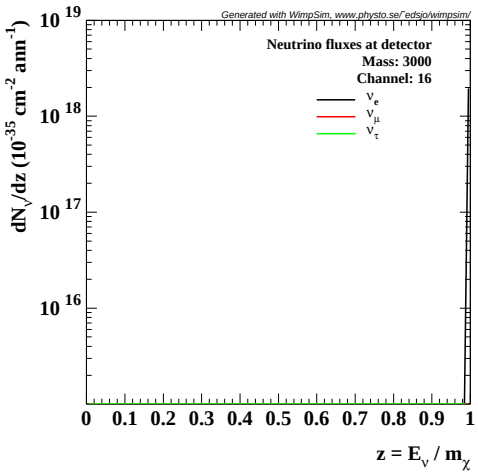


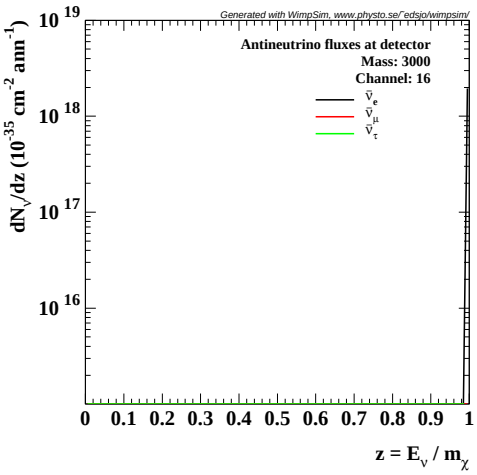
17.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)



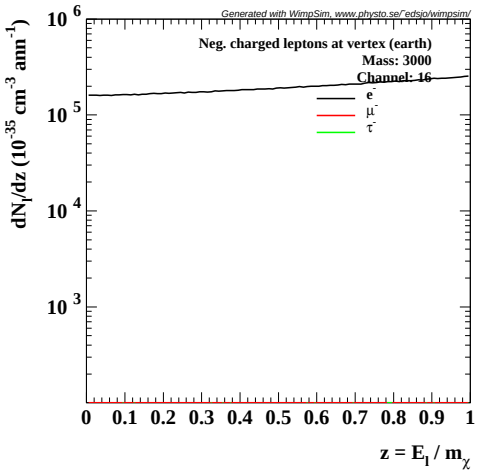


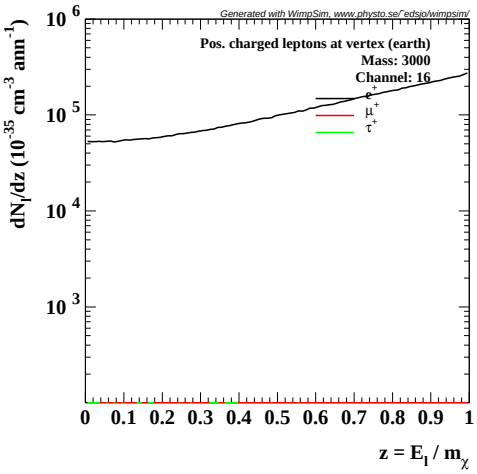
17.8.4 Neutrino fluxes at detector (Earth)



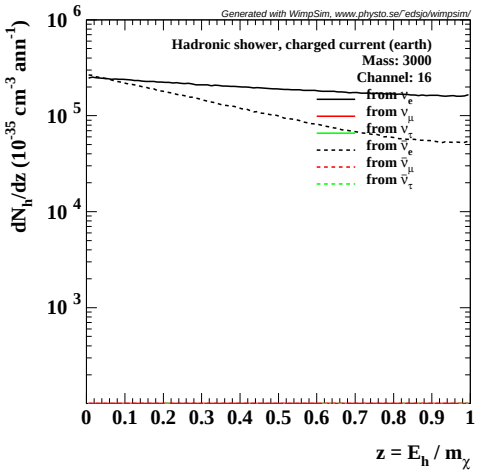


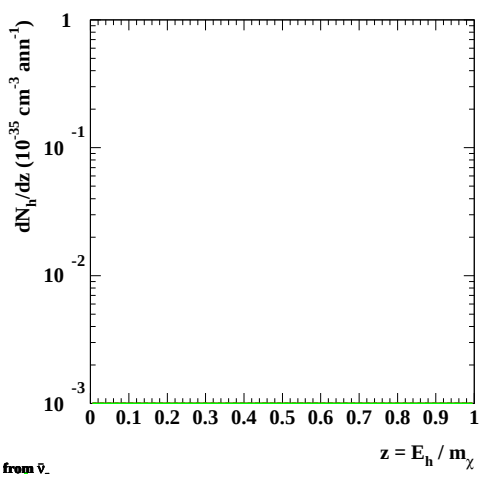
17.8.5 Charged leptons at neutrino-nucleon vertex (Earth)



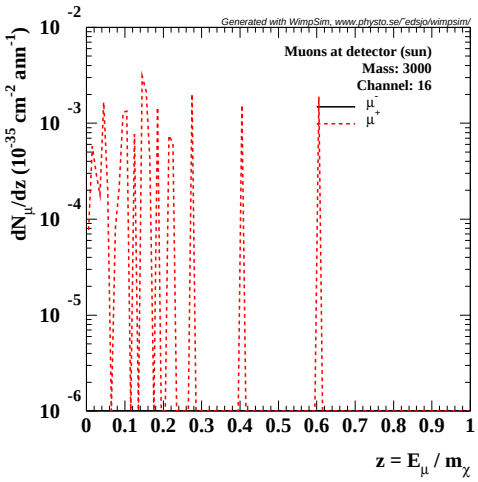


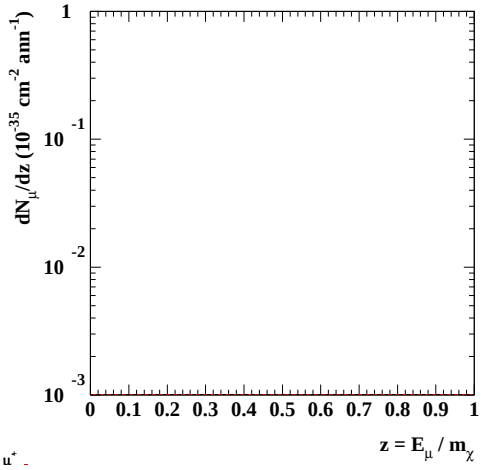
17.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





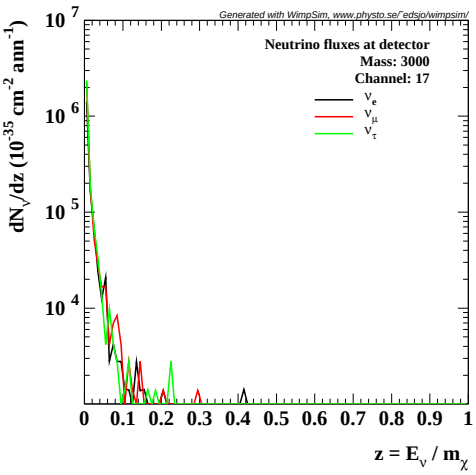
17.8.7 Muons at detector (Sun/Earth)

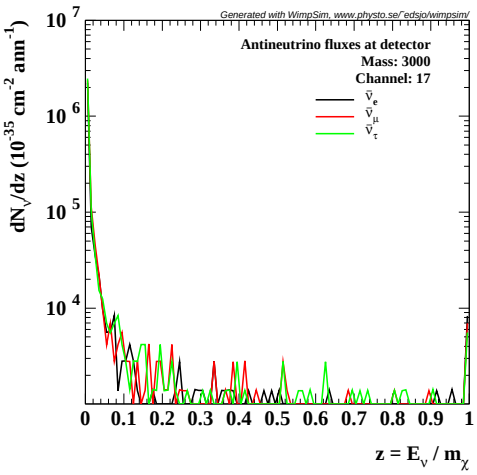




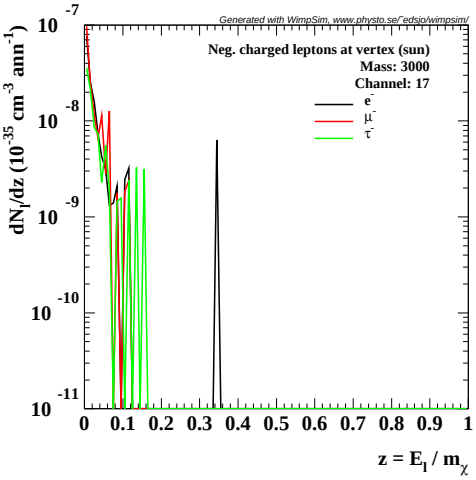
17.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

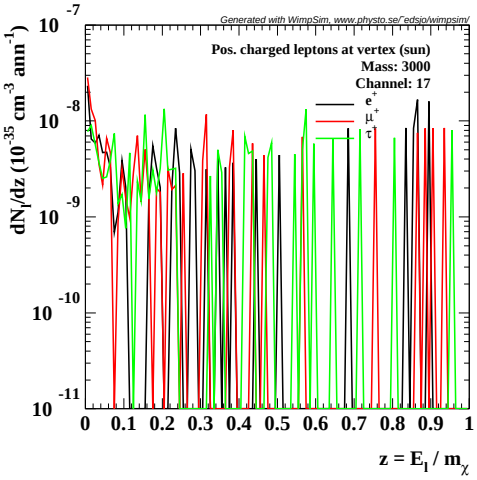
17.9.1 Neutrino fluxes at detector (Sun)



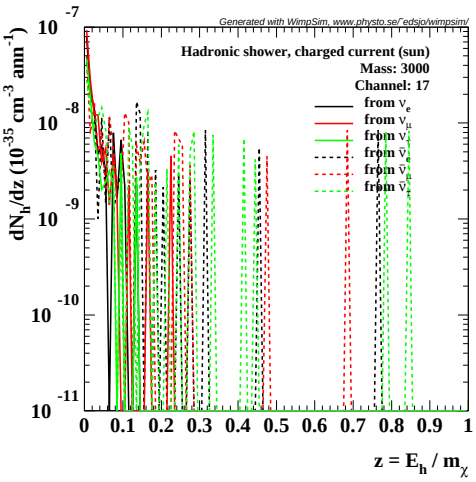


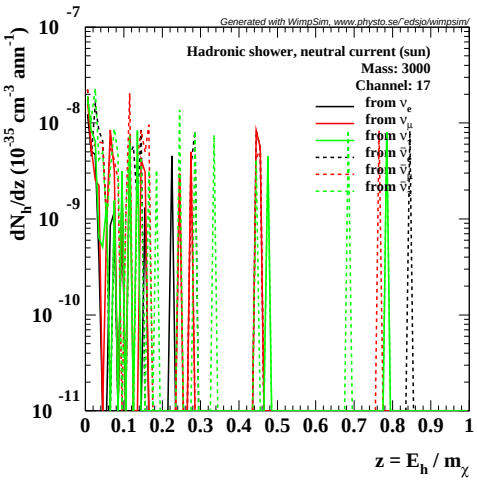
17.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



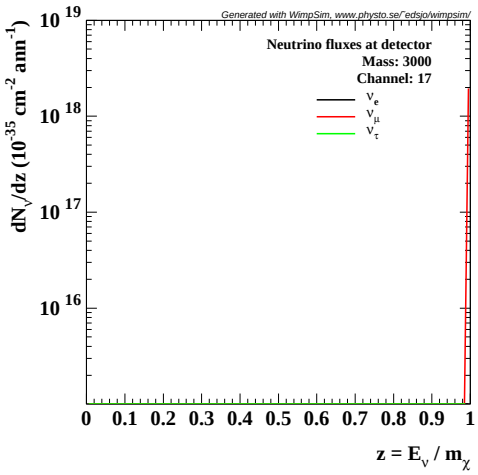


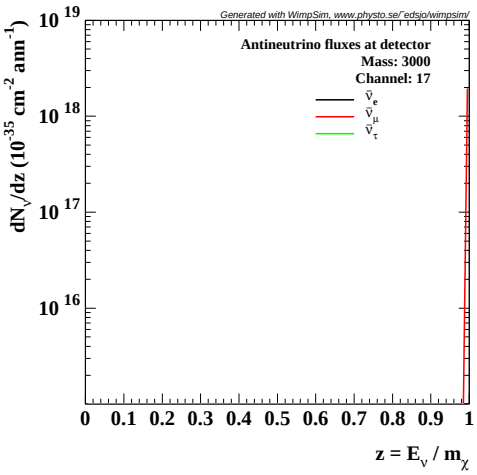
17.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



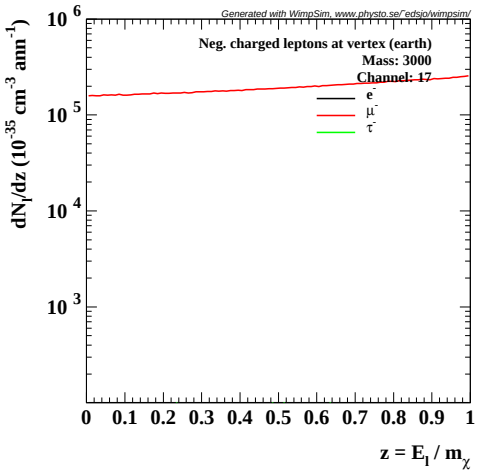


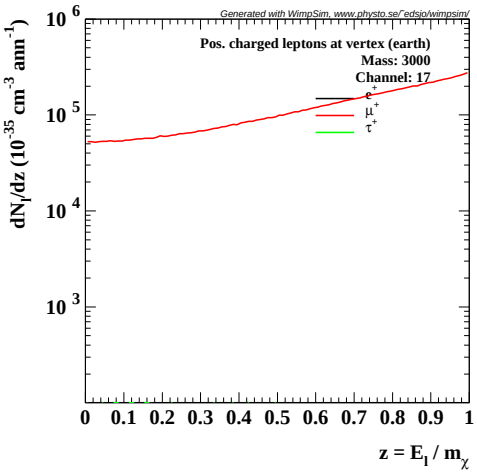
17.9.4 Neutrino fluxes at detector (Earth)



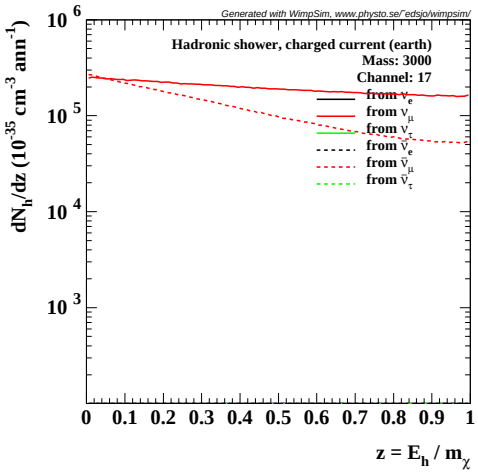


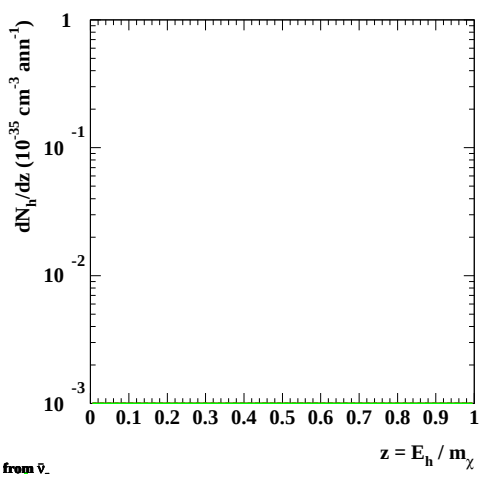
17.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



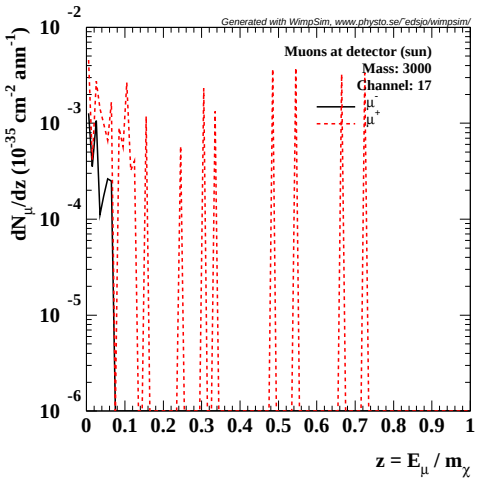


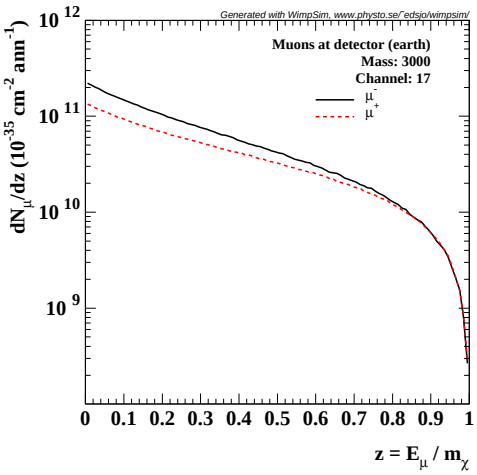
17.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





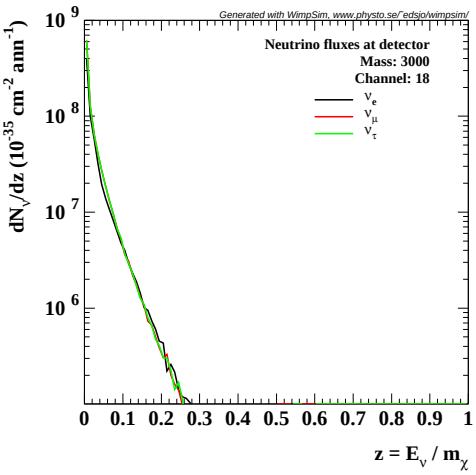
17.9.7 Muons at detector (Sun/Earth)

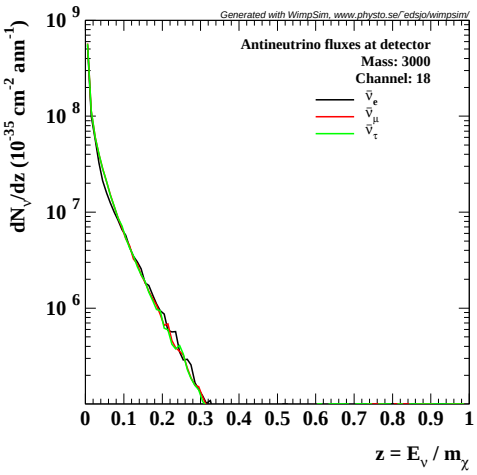




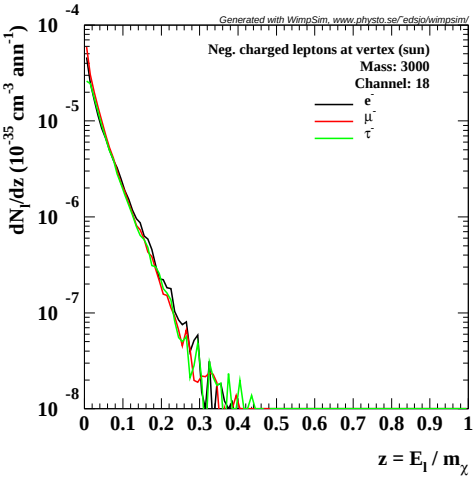
17.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

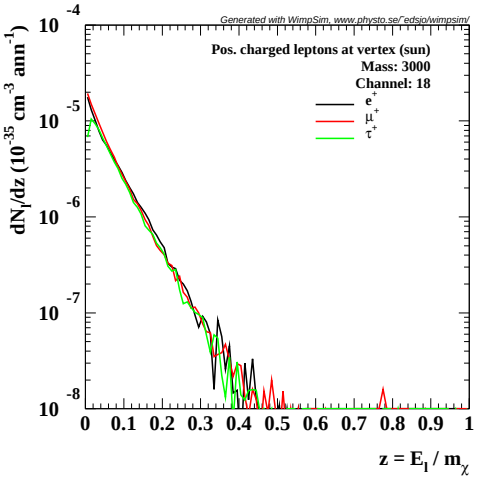
17.10.1 Neutrino fluxes at detector (Sun)



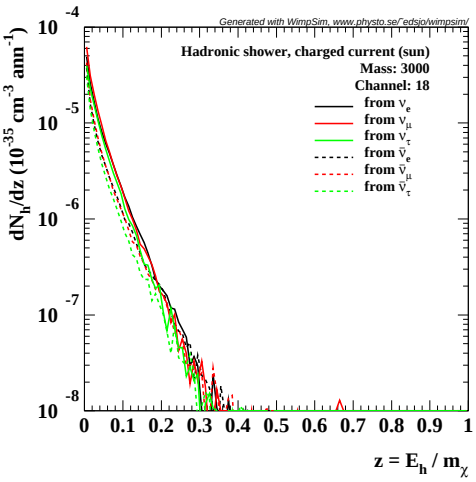


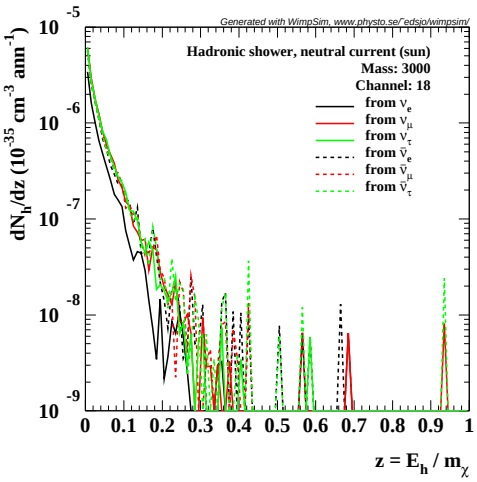
17.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



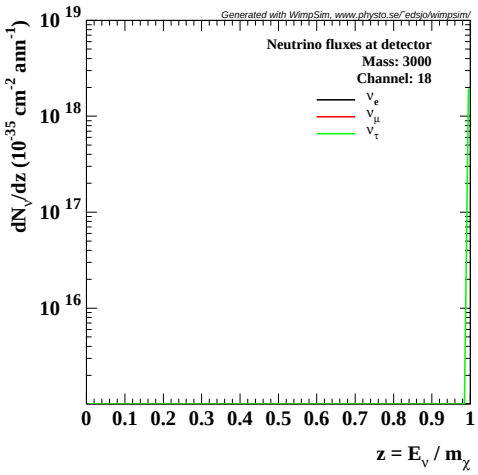


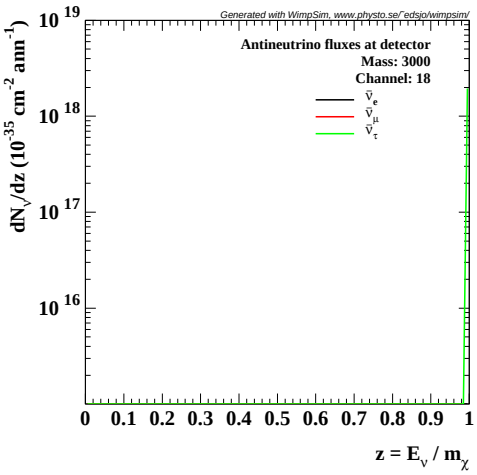
17.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



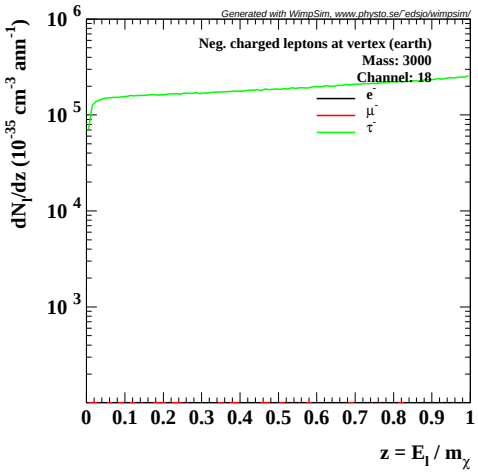


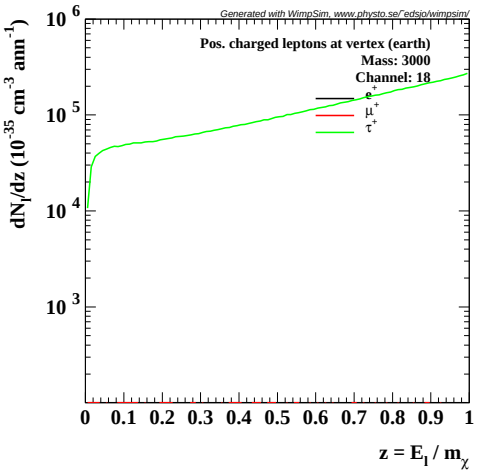
17.10.4 Neutrino fluxes at detector (Earth)



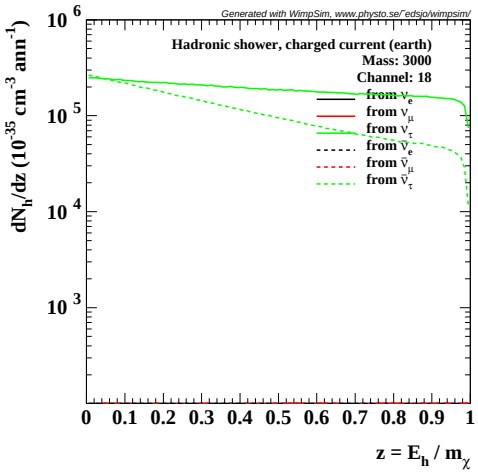


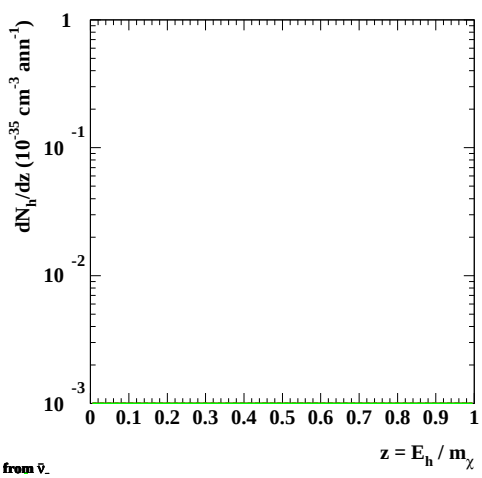
17.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





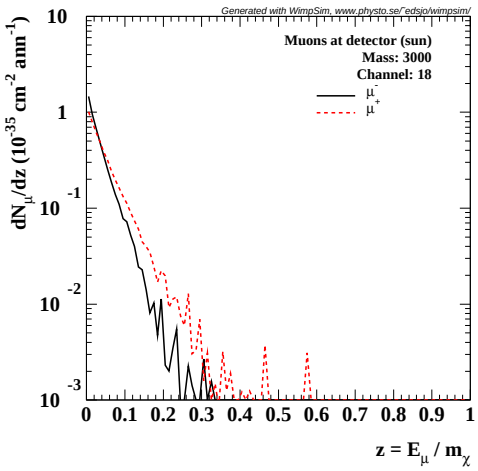
17.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

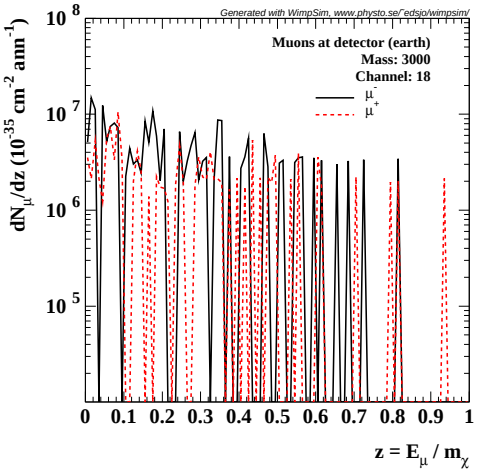




from $\bar{\nu}_\tau$

17.10.7 Muons at detector (Sun/Earth)

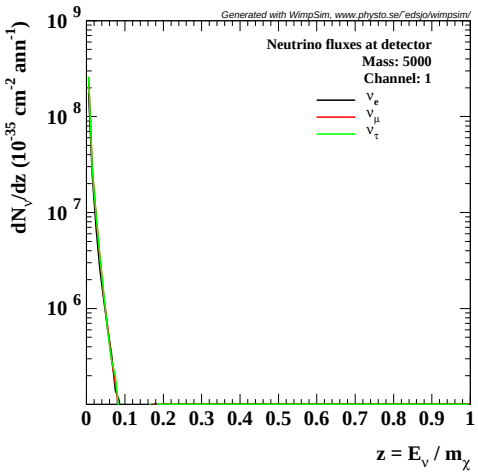


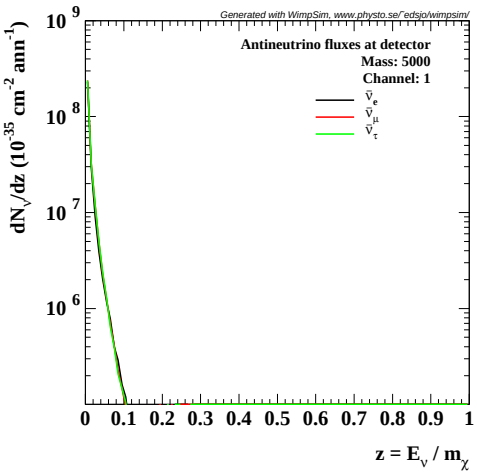


18 Mass 5000

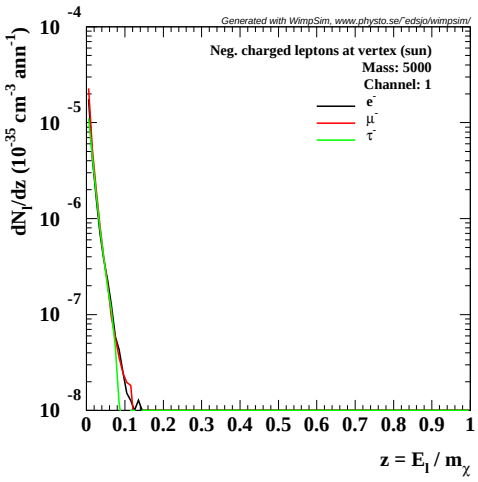
18.1 Channel 1 – $c\bar{c}$

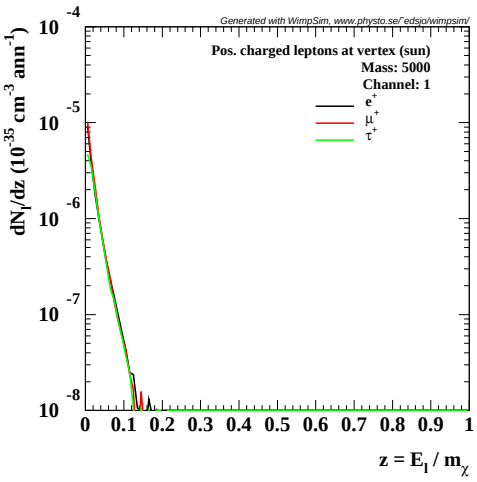
18.1.1 Neutrino fluxes at detector (Sun)



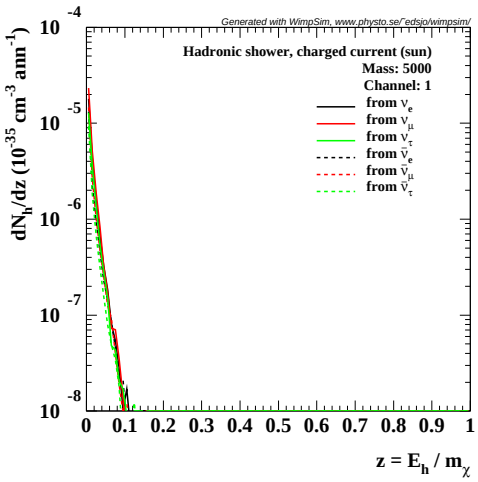


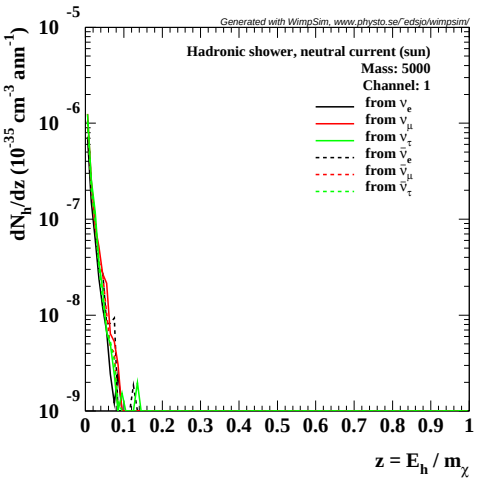
18.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



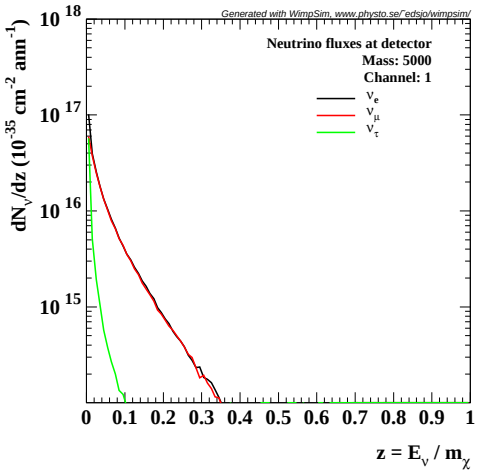


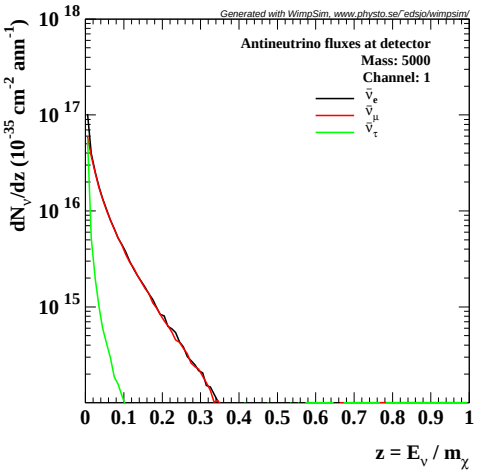
18.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



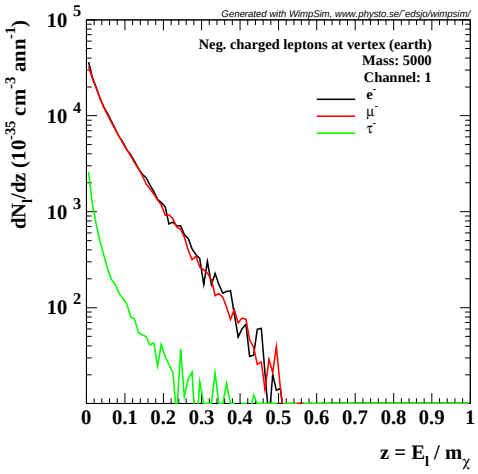


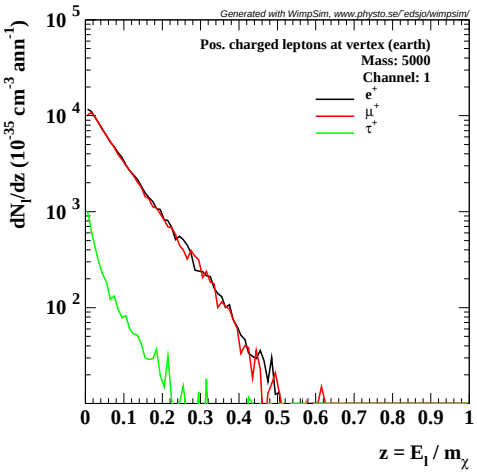
18.1.4 Neutrino fluxes at detector (Earth)



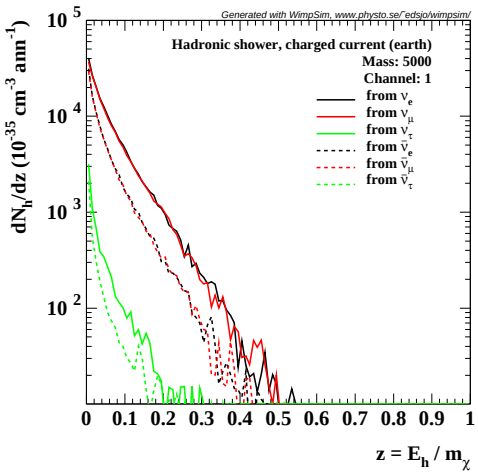


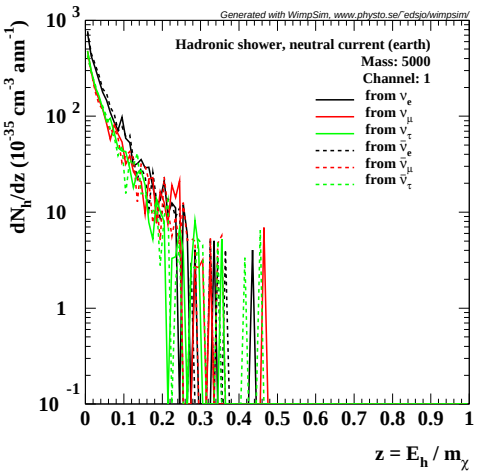
18.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



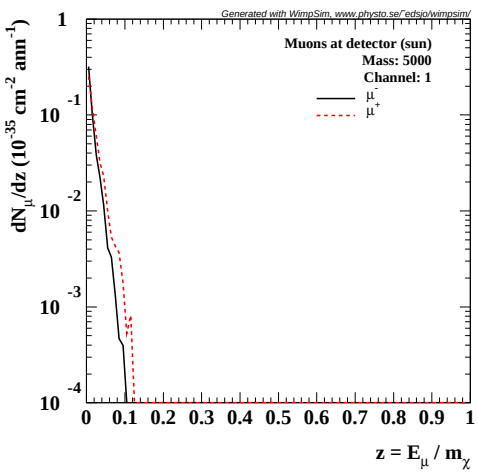


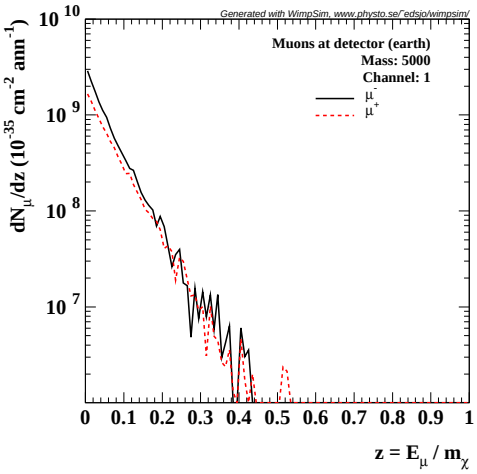
18.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





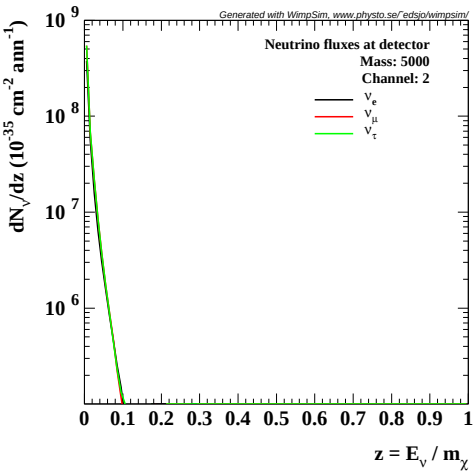
18.1.7 Muons at detector (Sun/Earth)

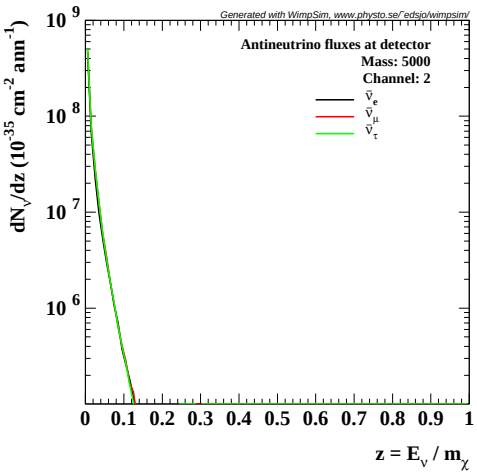




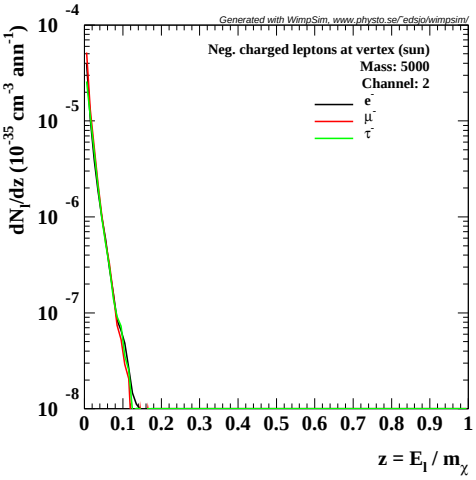
18.2 Channel 2 – $b\bar{b}$

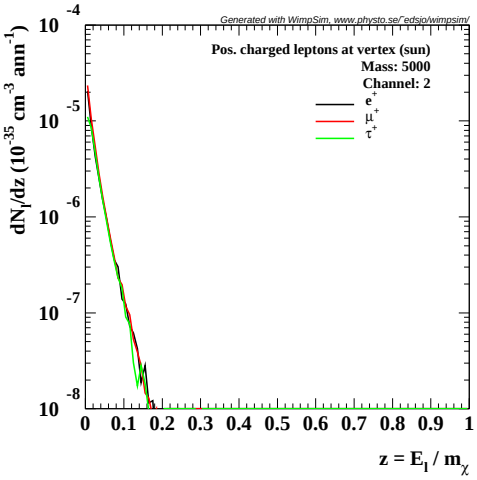
18.2.1 Neutrino fluxes at detector (Sun)



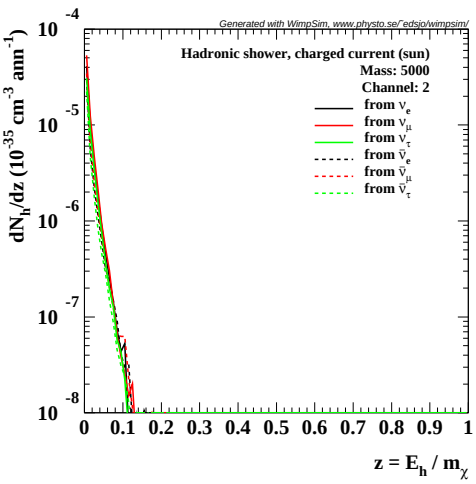


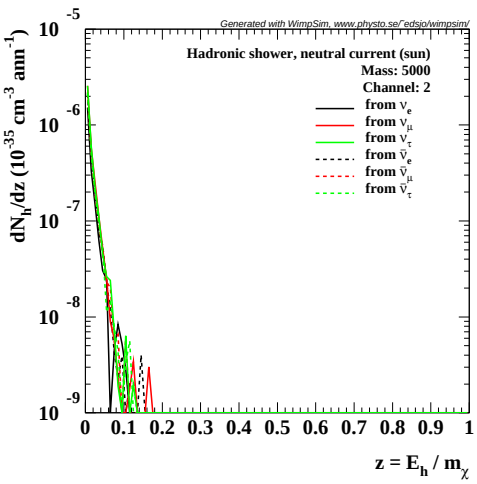
18.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



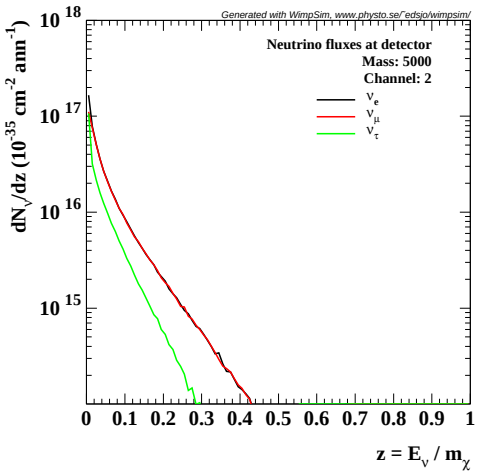


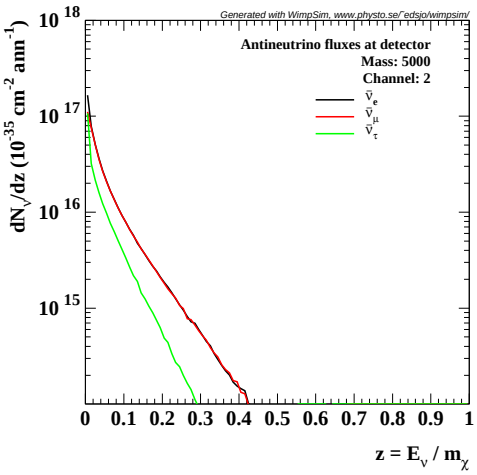
18.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



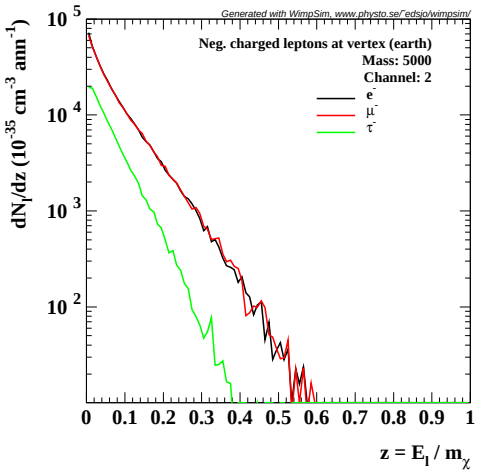


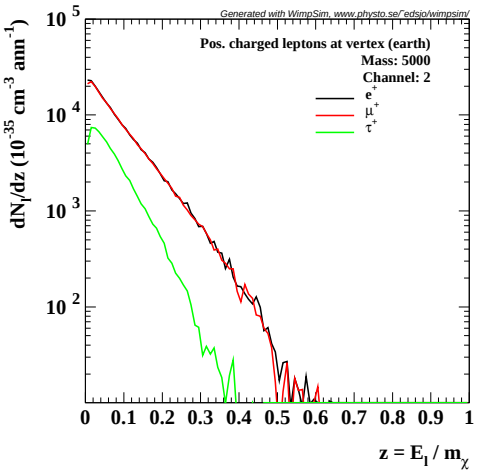
18.2.4 Neutrino fluxes at detector (Earth)



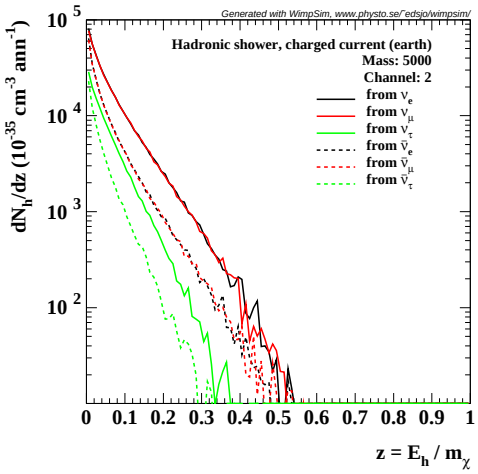


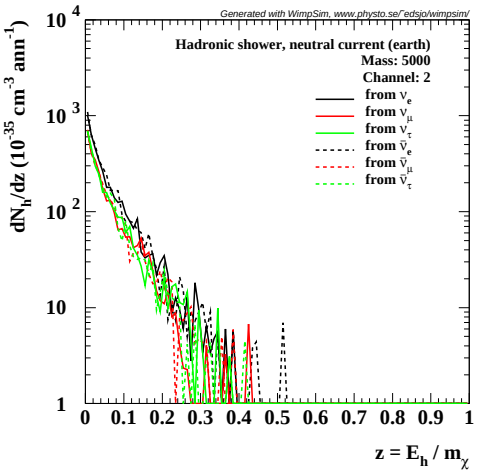
18.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



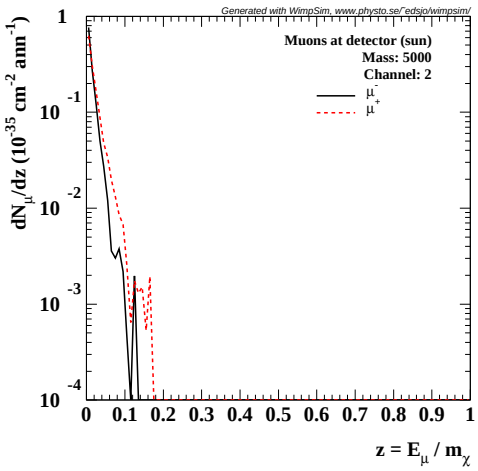


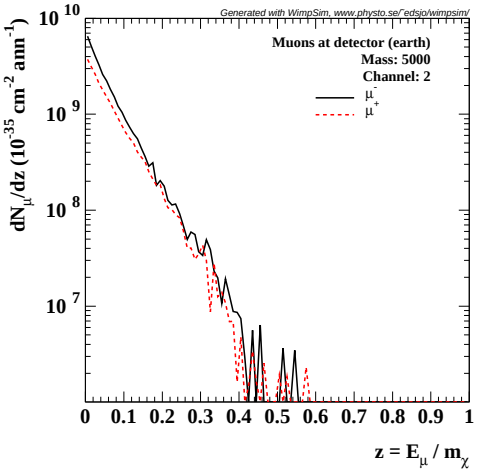
18.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





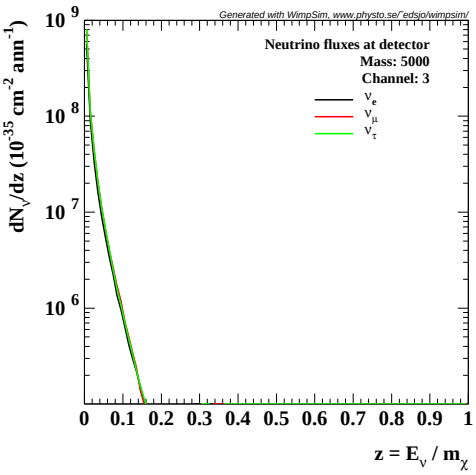
18.2.7 Muons at detector (Sun/Earth)

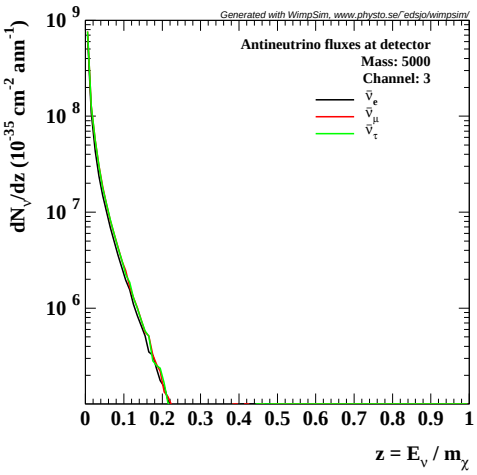




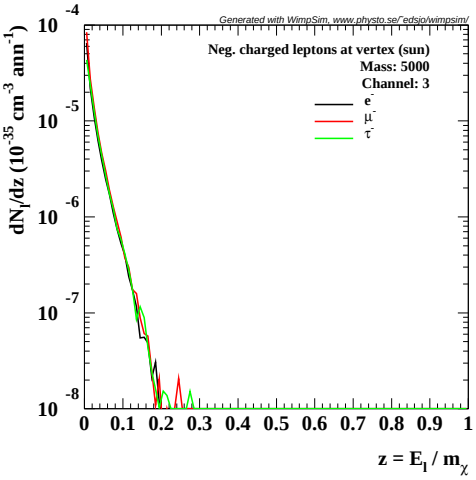
18.3 Channel 3 – $t\bar{t}$

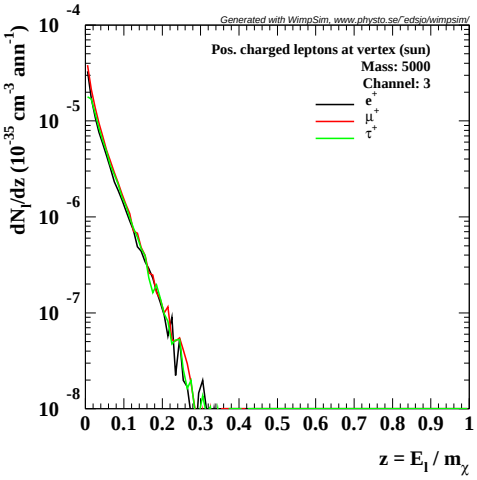
18.3.1 Neutrino fluxes at detector (Sun)



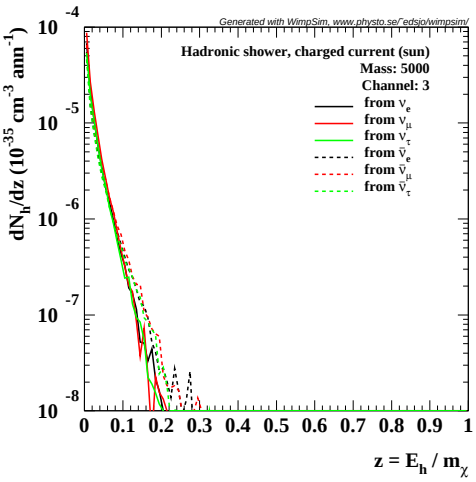


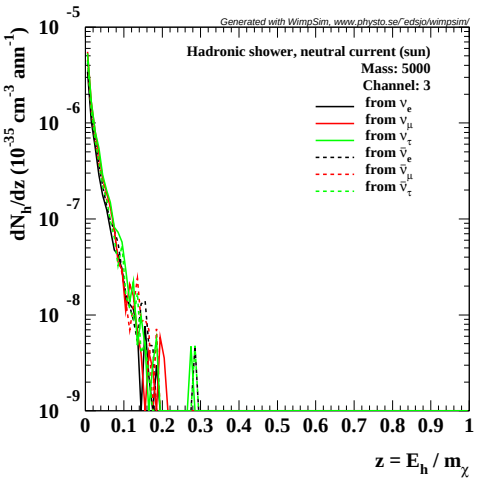
18.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



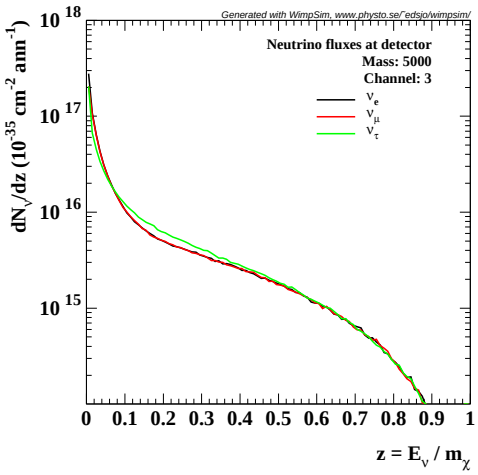


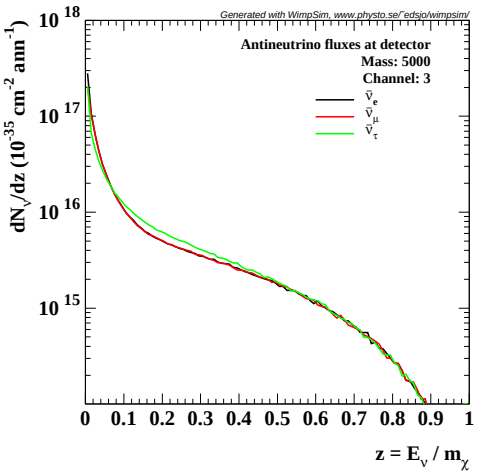
18.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



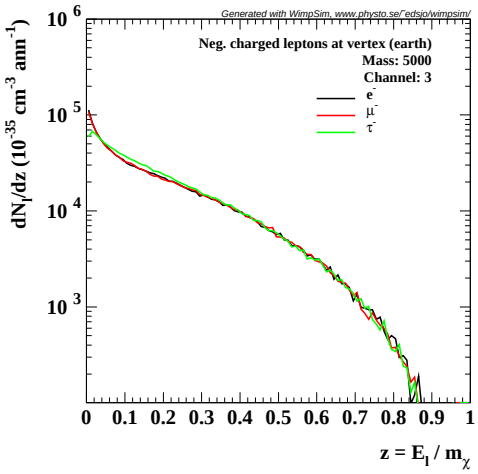


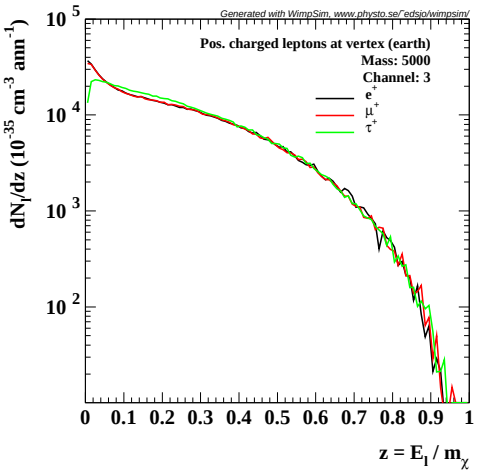
18.3.4 Neutrino fluxes at detector (Earth)



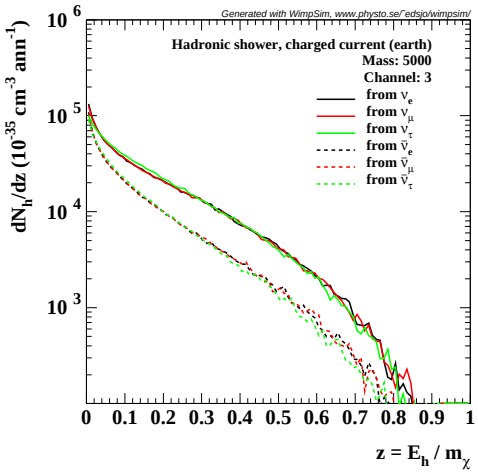


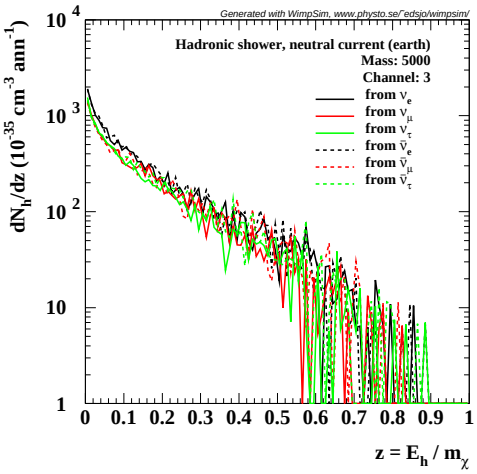
18.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



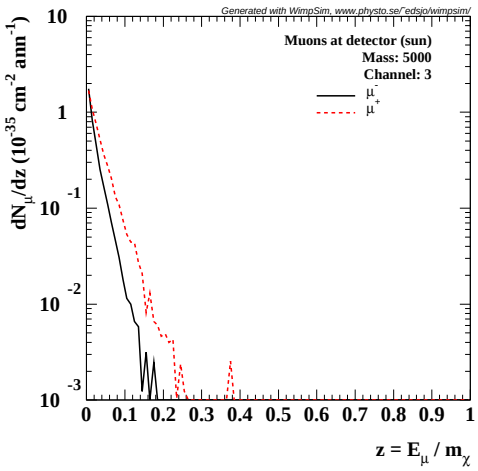


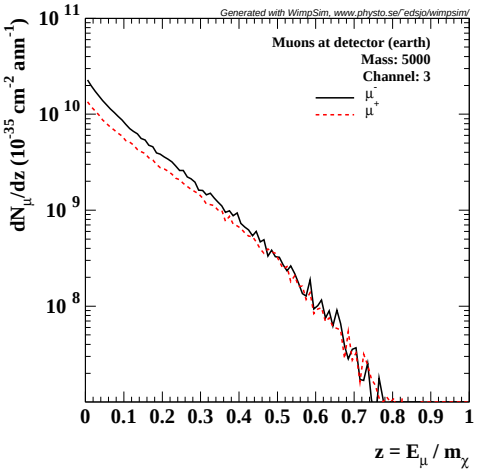
18.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





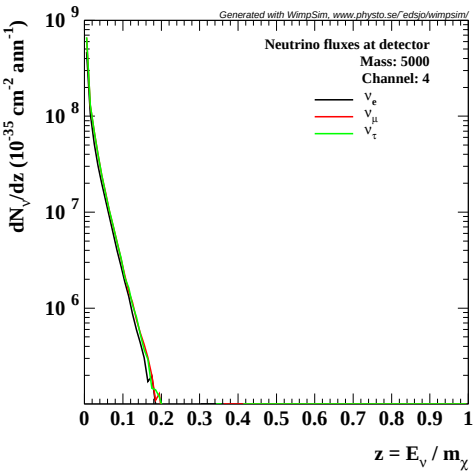
18.3.7 Muons at detector (Sun/Earth)

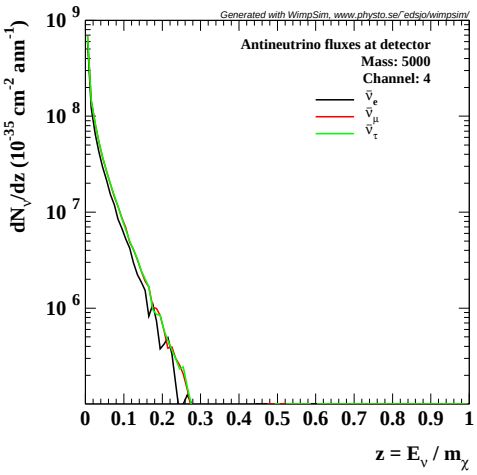




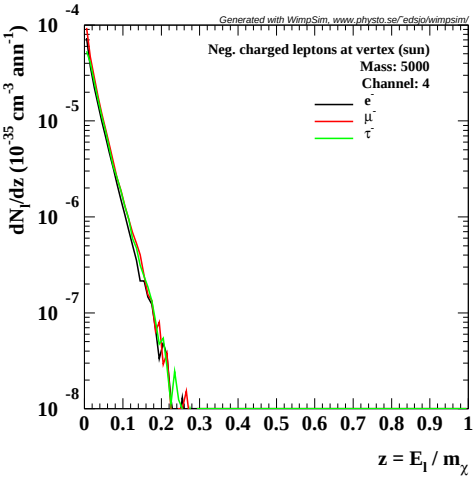
18.4 Channel 4 – $\tau^-\tau^+$

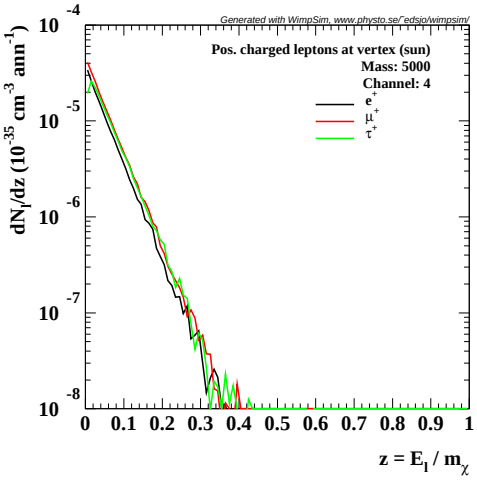
18.4.1 Neutrino fluxes at detector (Sun)



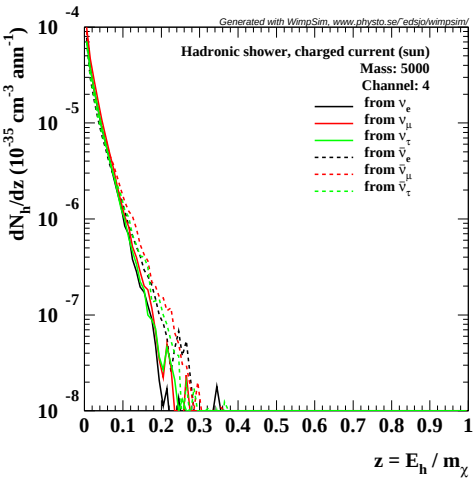


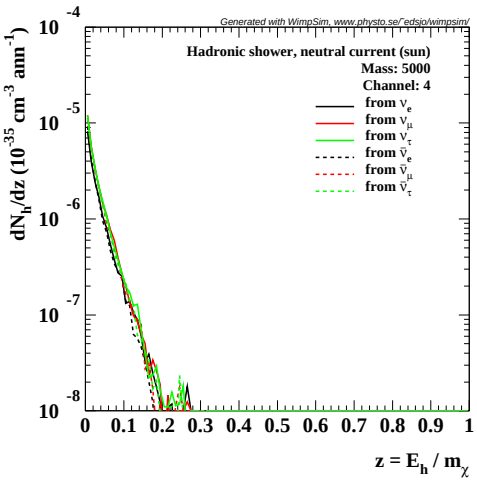
18.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



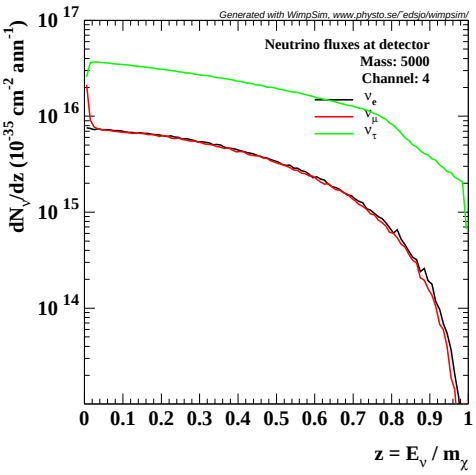


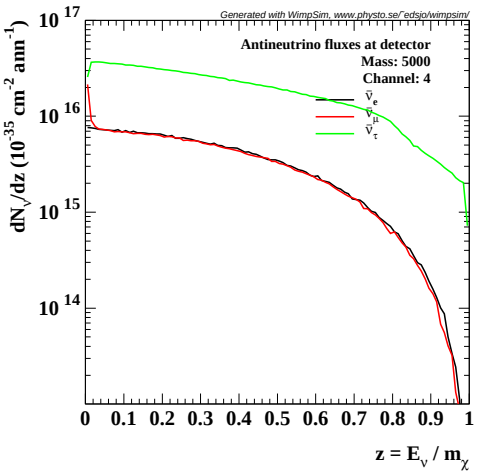
18.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



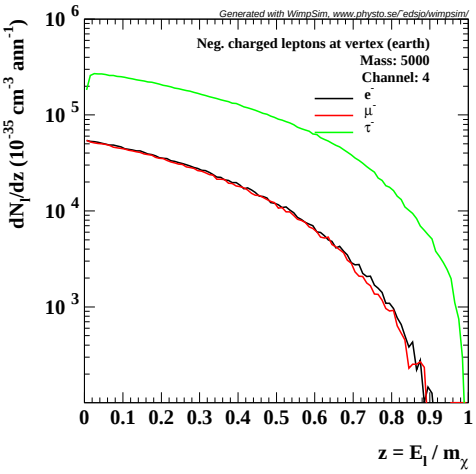


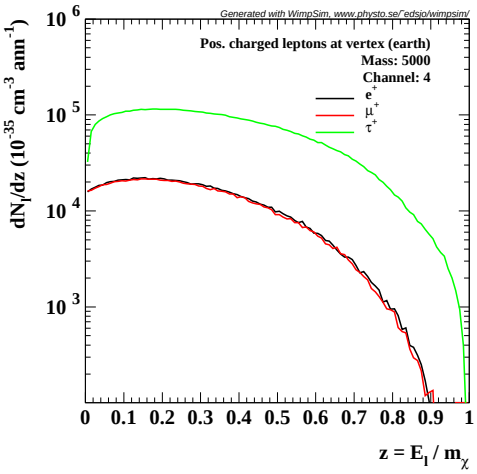
18.4.4 Neutrino fluxes at detector (Earth)



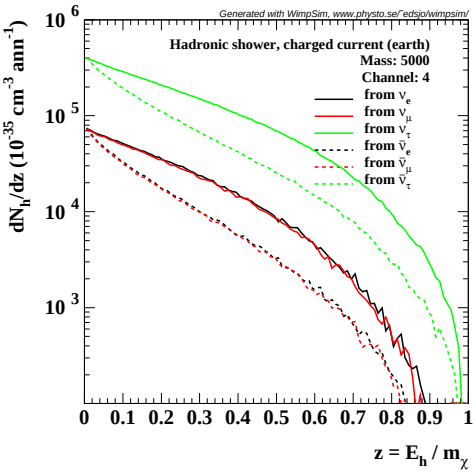


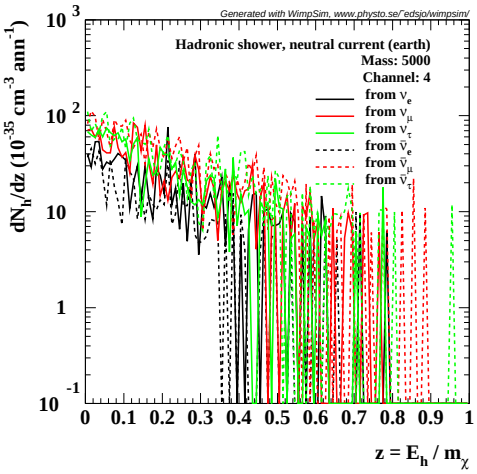
18.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



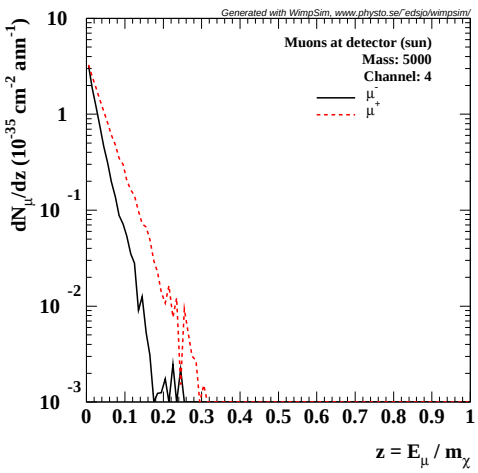


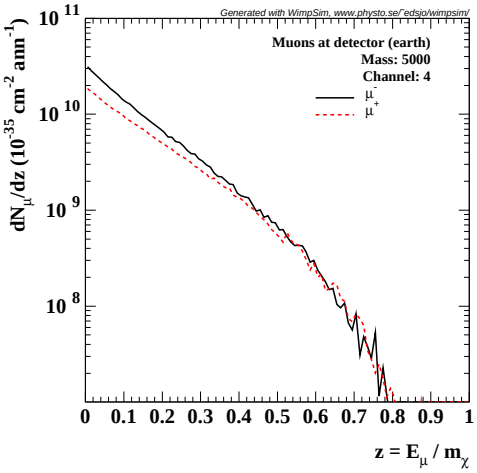
18.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





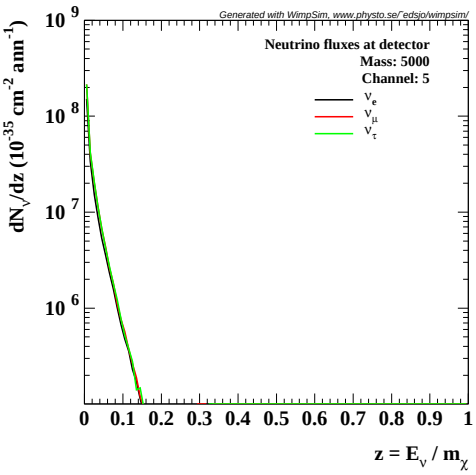
18.4.7 Muons at detector (Sun/Earth)

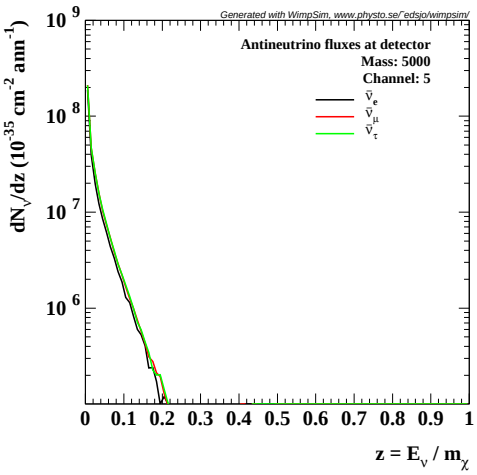




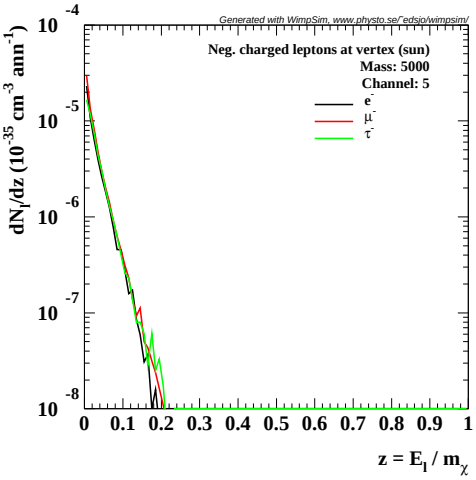
18.5 Channel 5 – W^-W^+

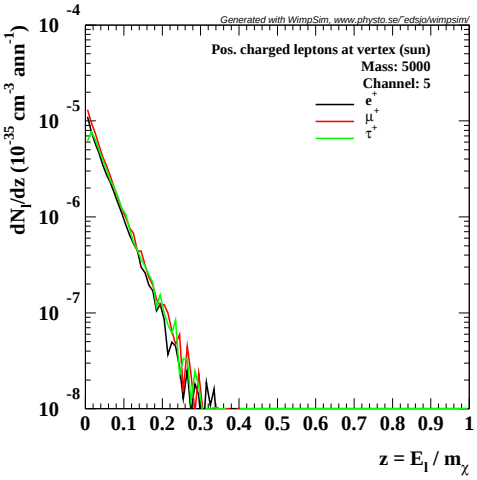
18.5.1 Neutrino fluxes at detector (Sun)



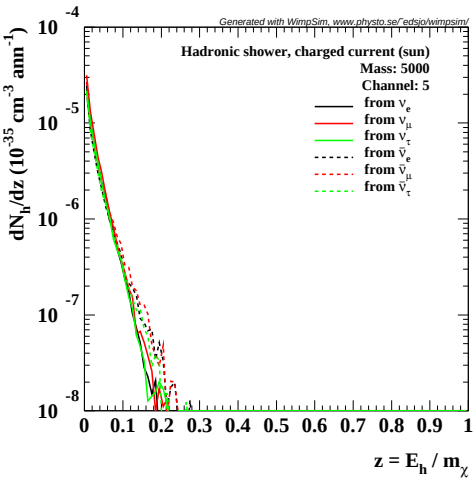


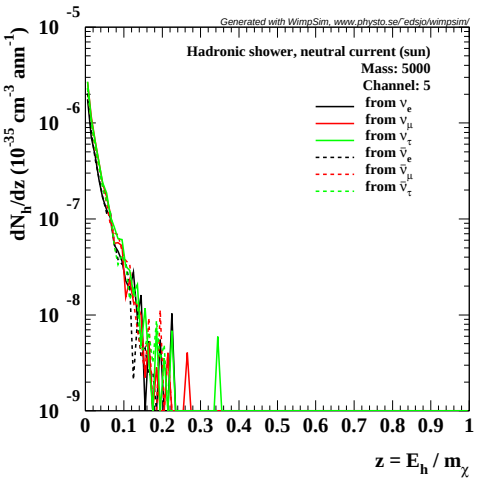
18.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



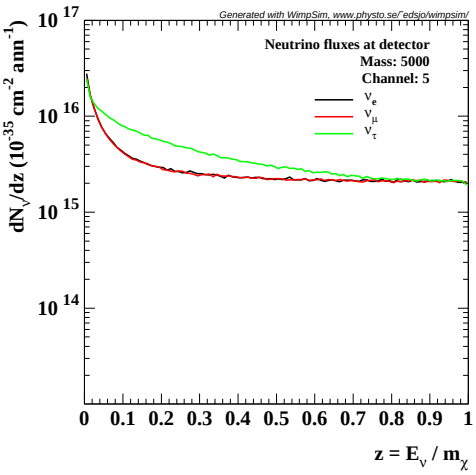


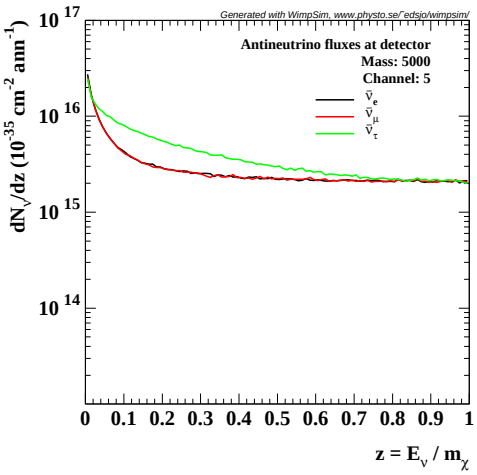
18.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



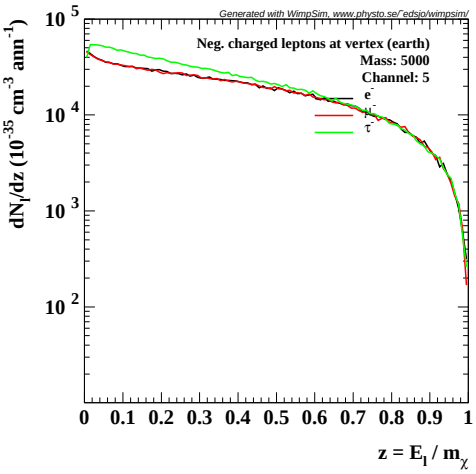


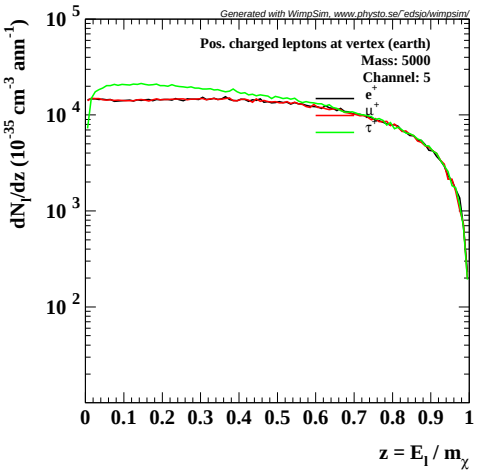
18.5.4 Neutrino fluxes at detector (Earth)



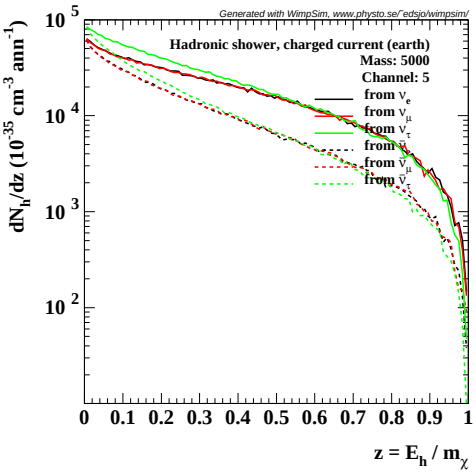


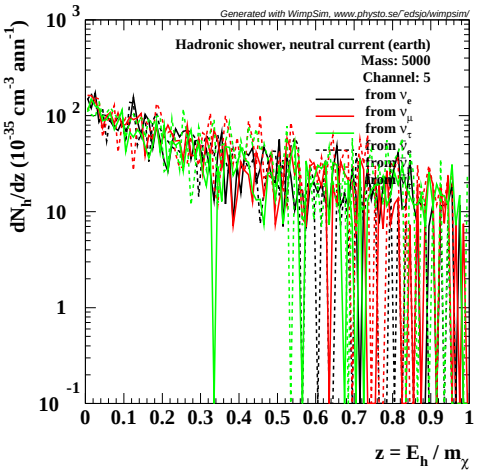
18.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



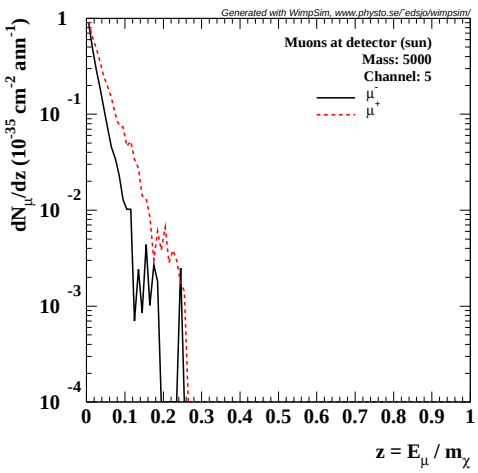


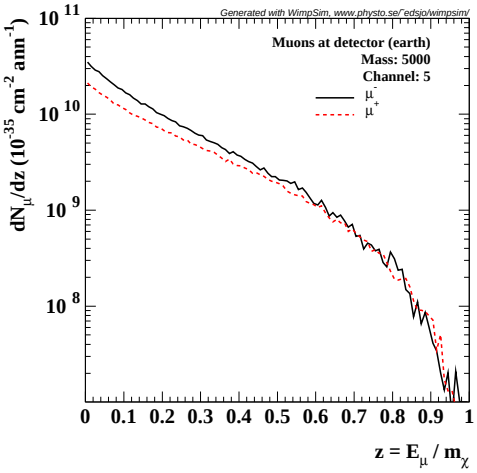
18.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





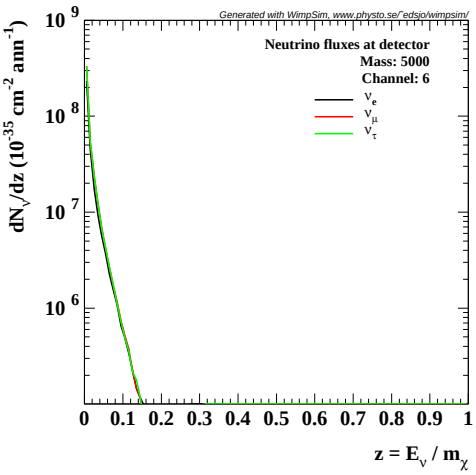
18.5.7 Muons at detector (Sun/Earth)

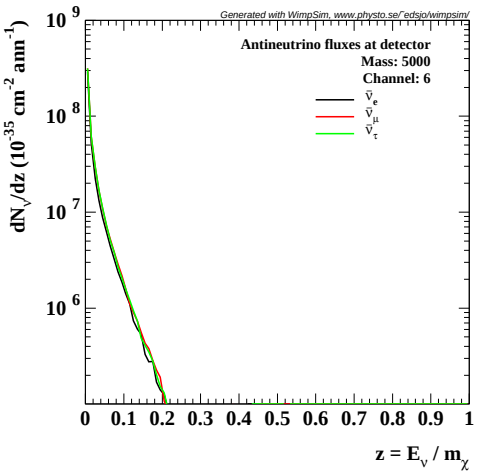




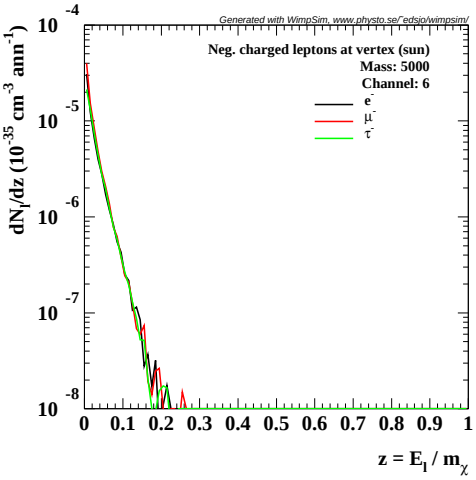
18.6 Channel 6 – $Z^0 Z^0$

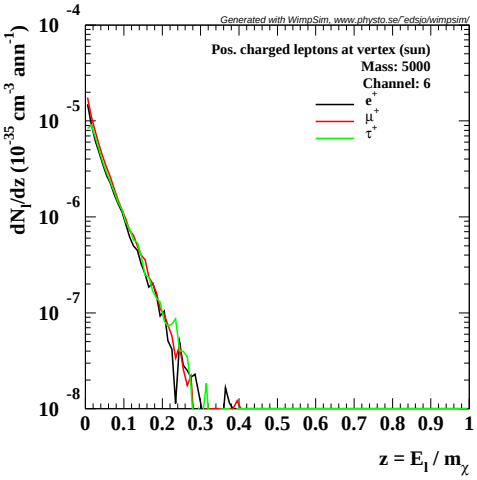
18.6.1 Neutrino fluxes at detector (Sun)



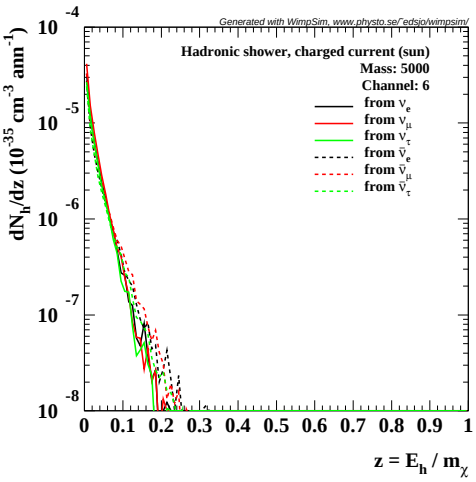


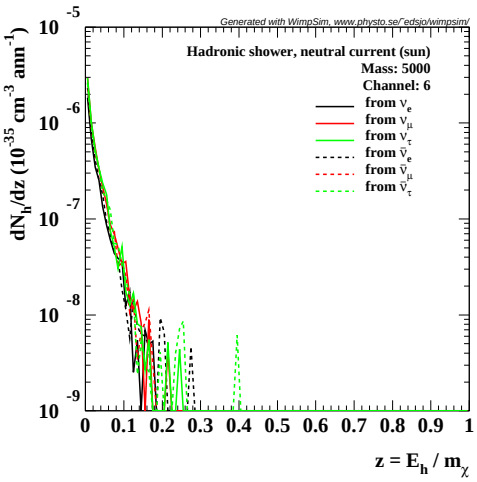
18.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



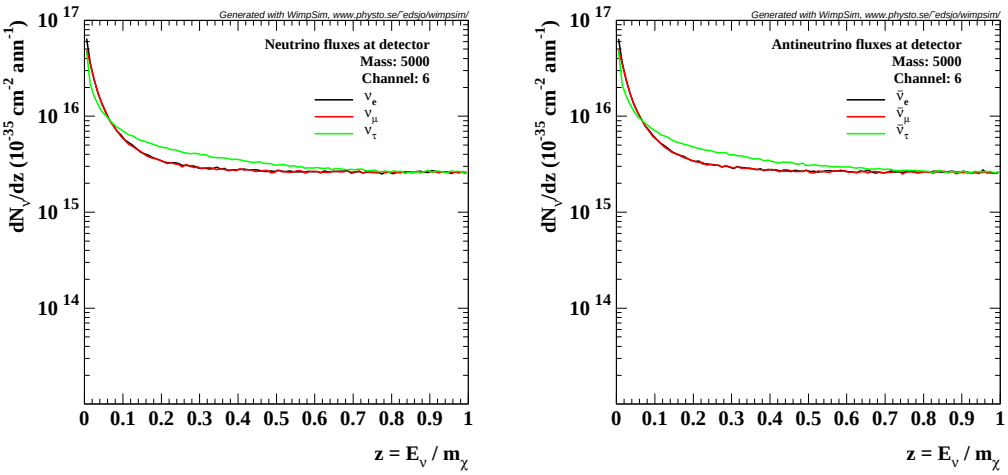


18.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)

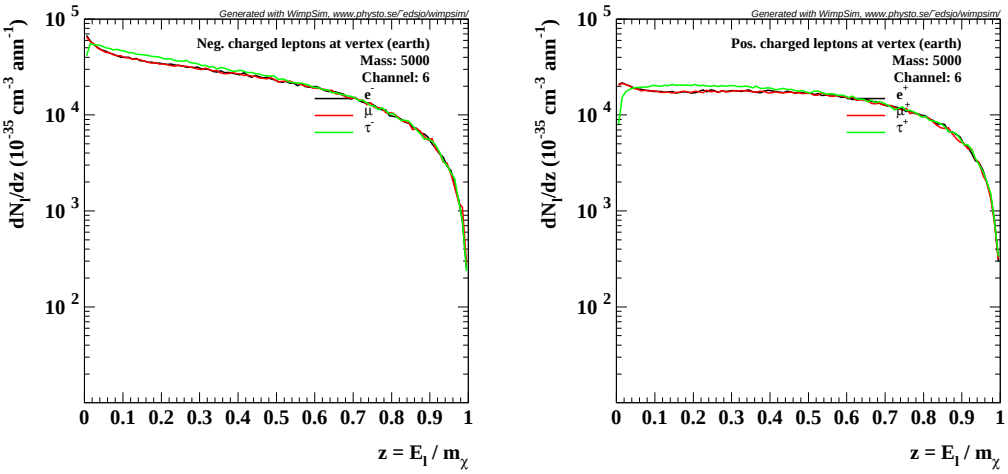




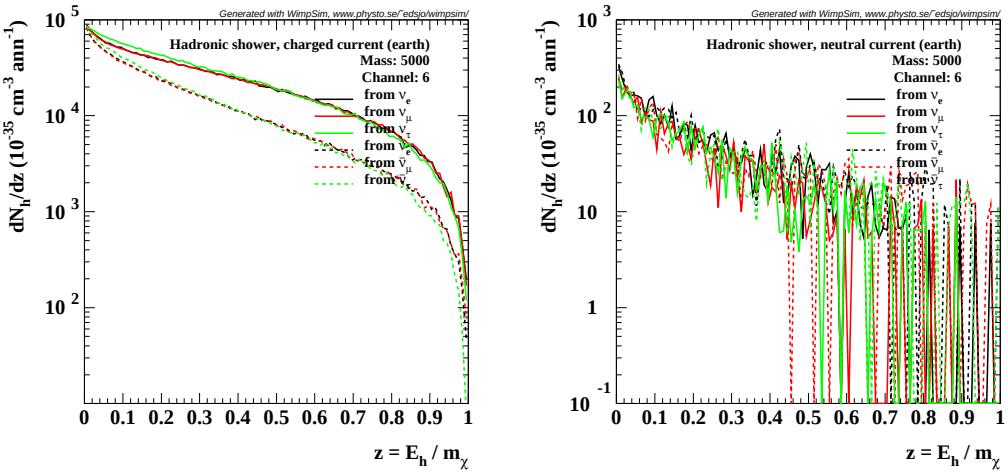
18.6.4 Neutrino fluxes at detector (Earth)



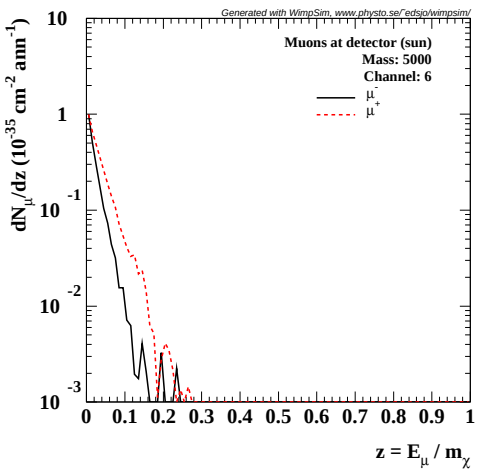
18.6.5 Charged leptons at neutrino-nucleon vertex (Earth)

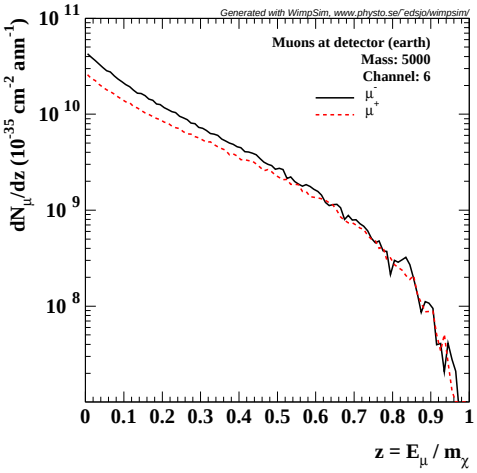


18.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)



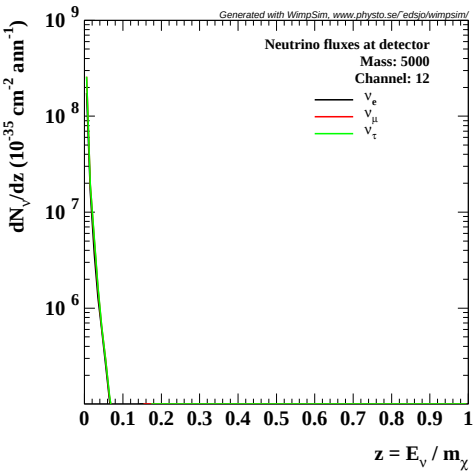
18.6.7 Muons at detector (Sun/Earth)

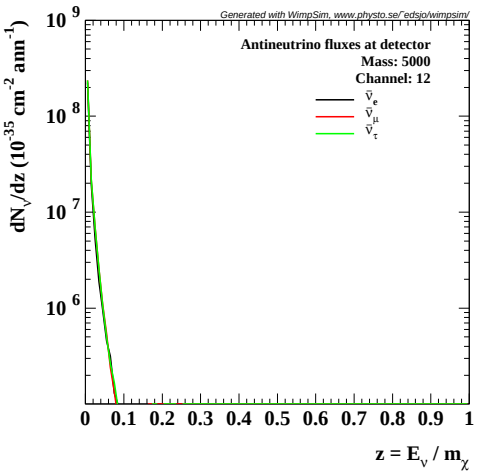




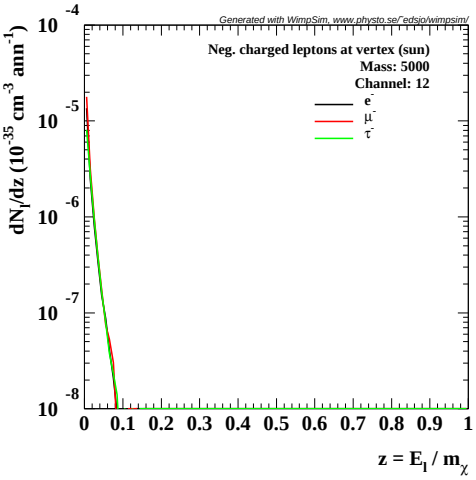
18.7 Channel 12 – gg

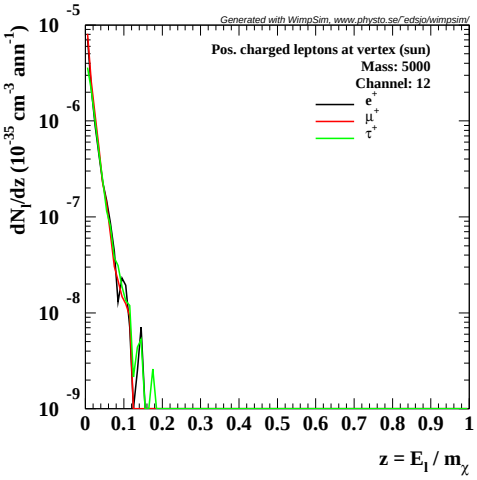
18.7.1 Neutrino fluxes at detector (Sun)



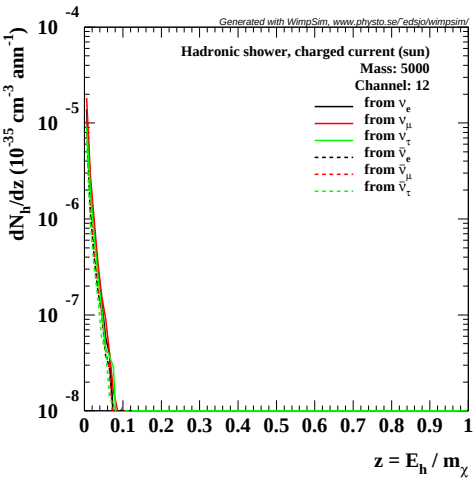


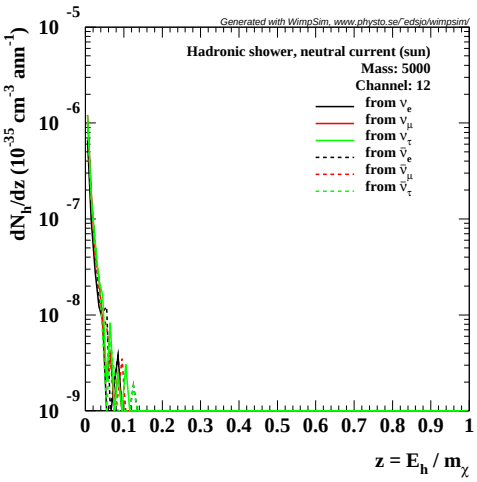
18.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



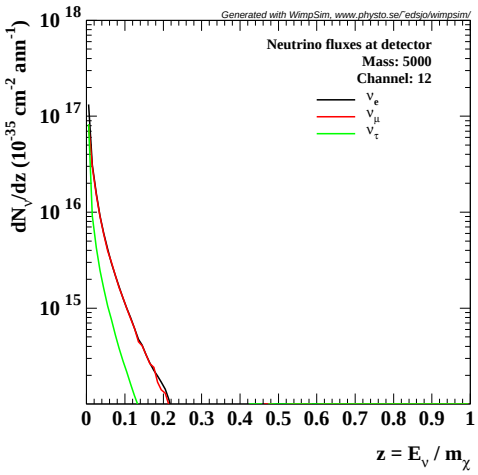


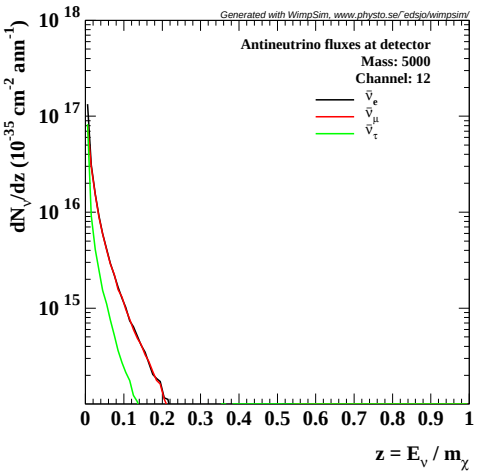
18.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



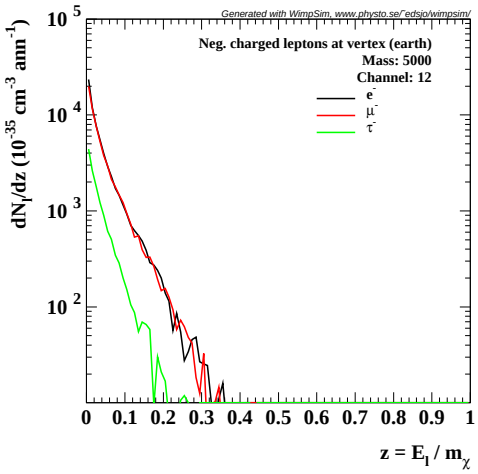


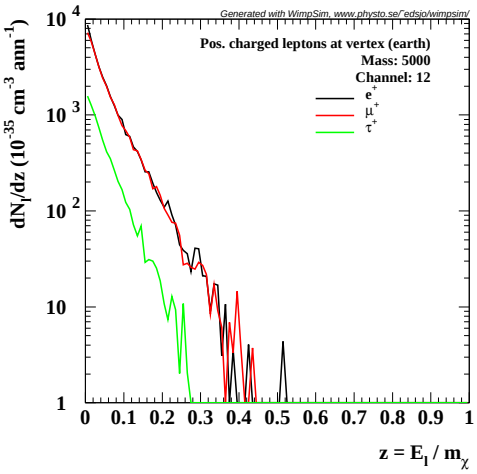
18.7.4 Neutrino fluxes at detector (Earth)



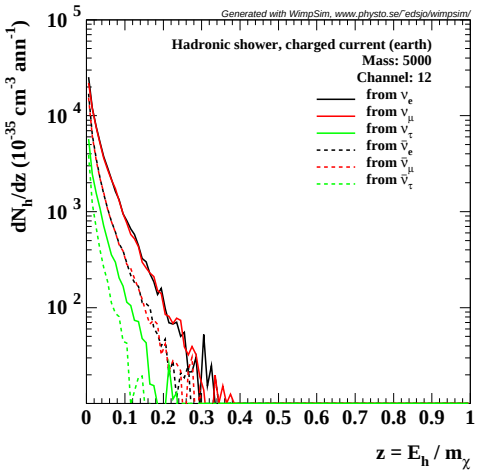


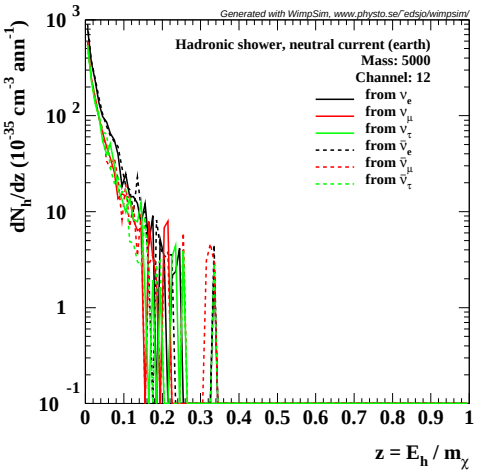
18.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



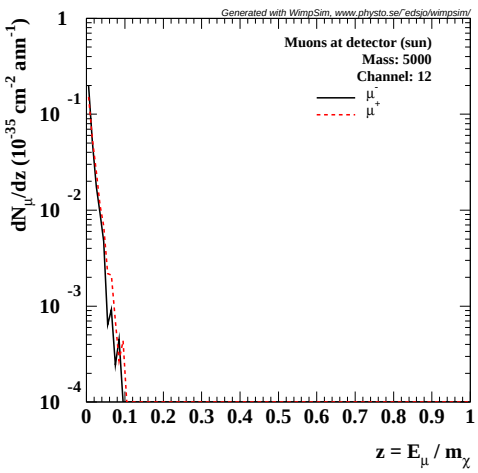


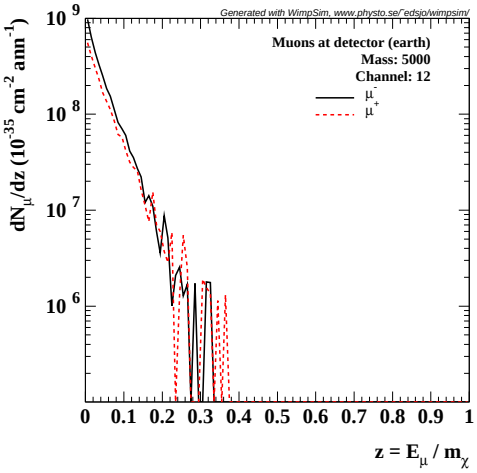
18.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





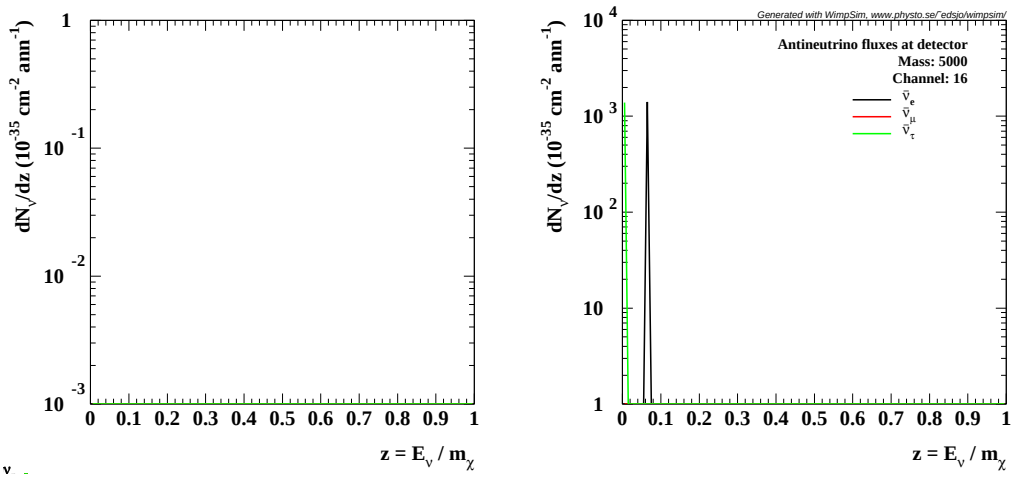
18.7.7 Muons at detector (Sun/Earth)



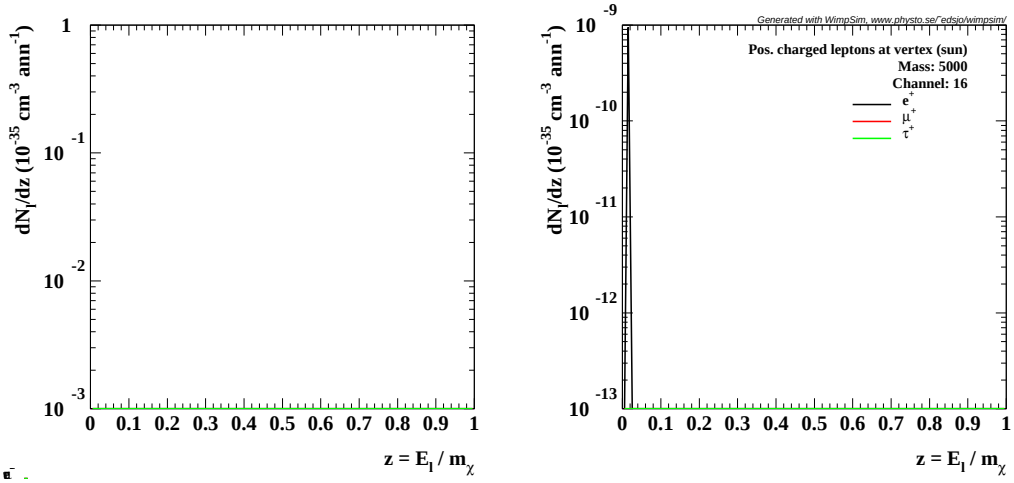


18.8 Channel 16 – $\nu_e\bar{\nu}_e$

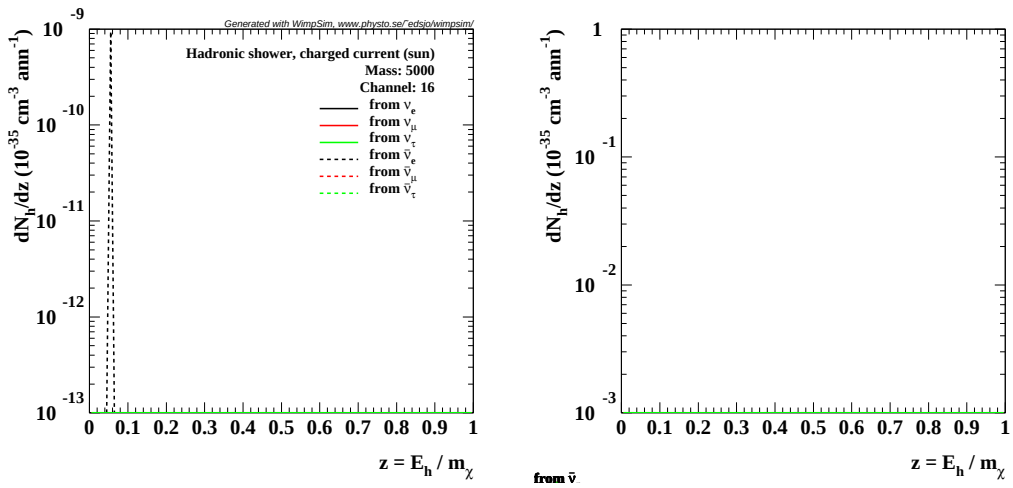
18.8.1 Neutrino fluxes at detector (Sun)



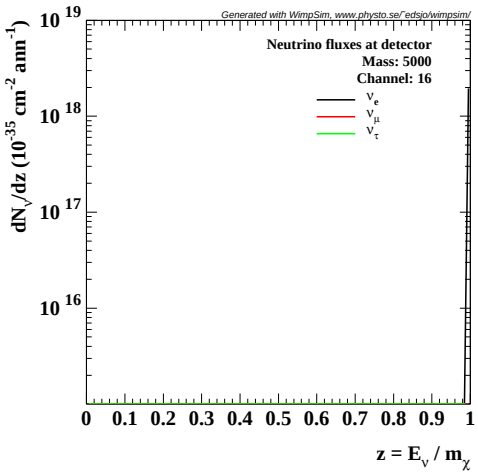
18.8.2 Charged leptons at neutrino-nucleon vertex (Sun)

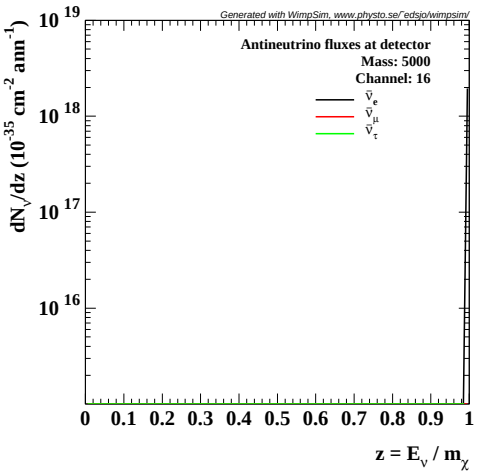


18.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)

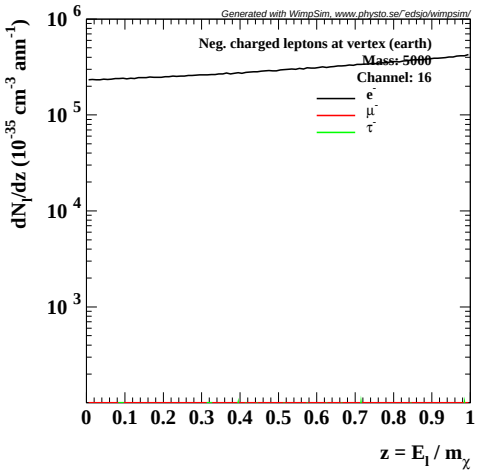


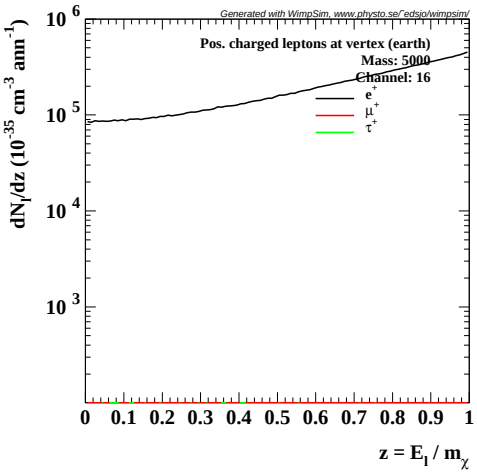
18.8.4 Neutrino fluxes at detector (Earth)



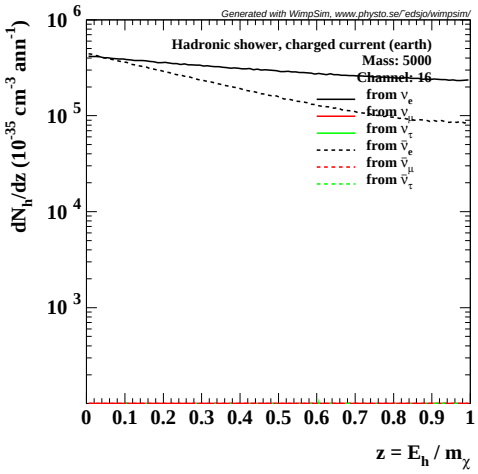


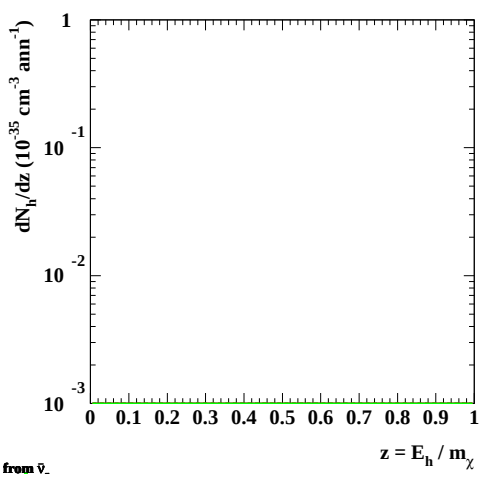
18.8.5 Charged leptons at neutrino-nucleon vertex (Earth)



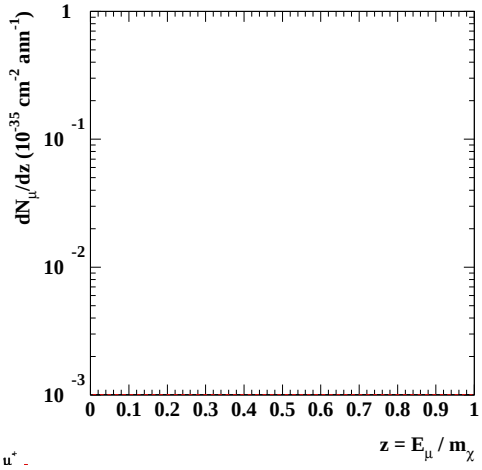


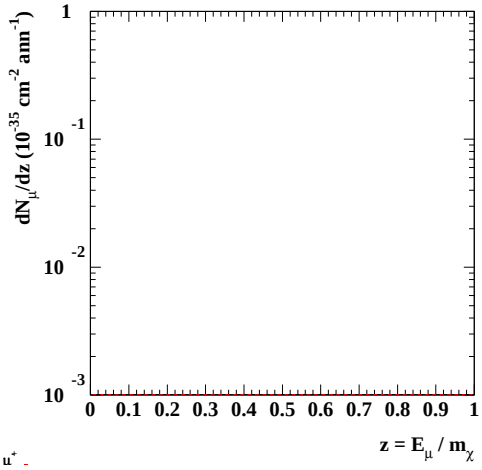
18.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)





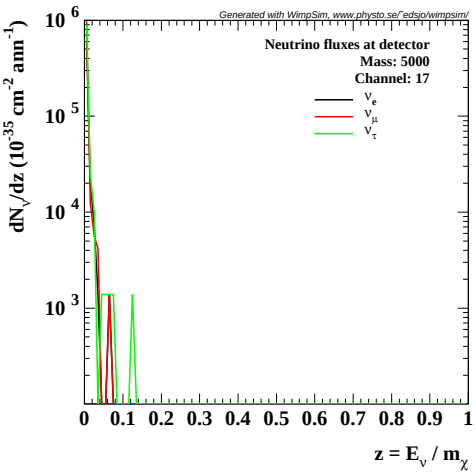
18.8.7 Muons at detector (Sun/Earth)

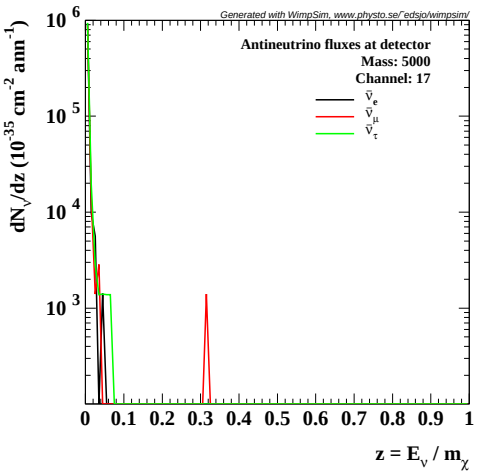




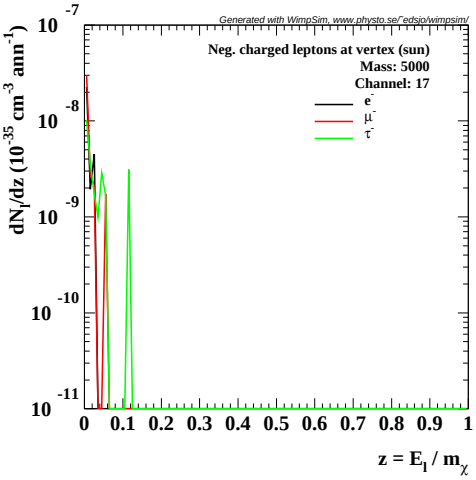
18.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

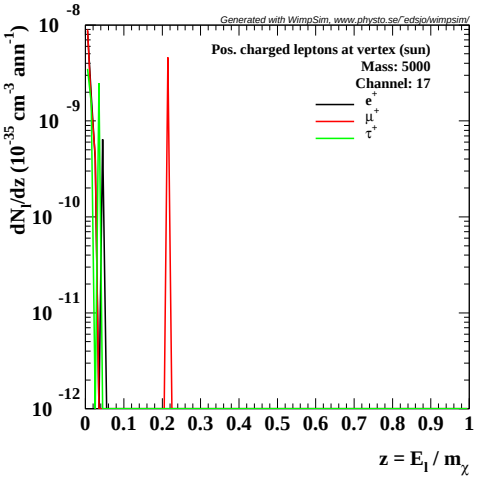
18.9.1 Neutrino fluxes at detector (Sun)



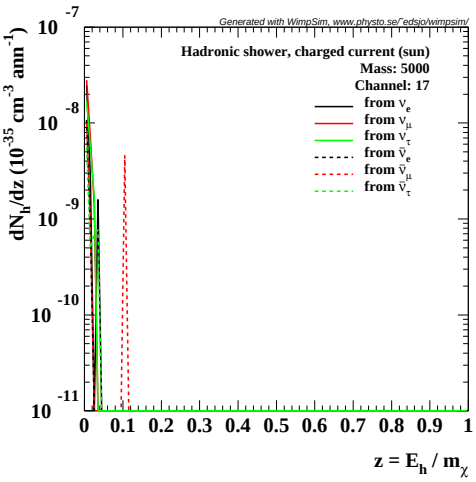


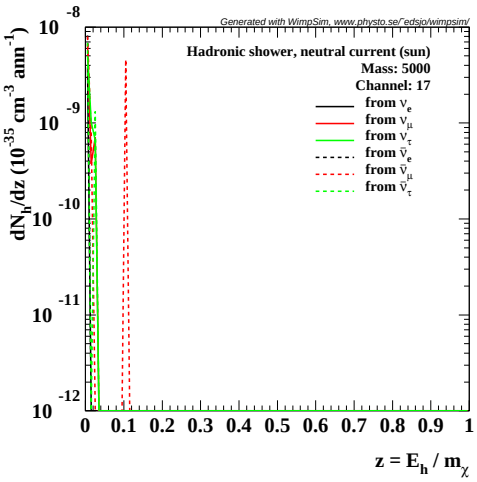
18.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



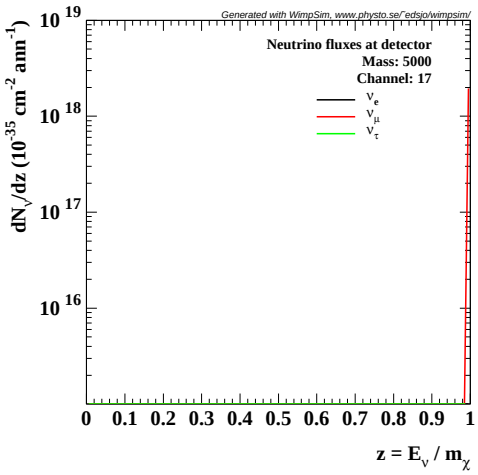


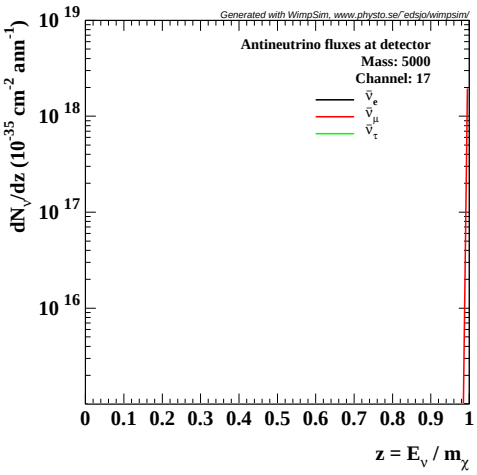
18.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



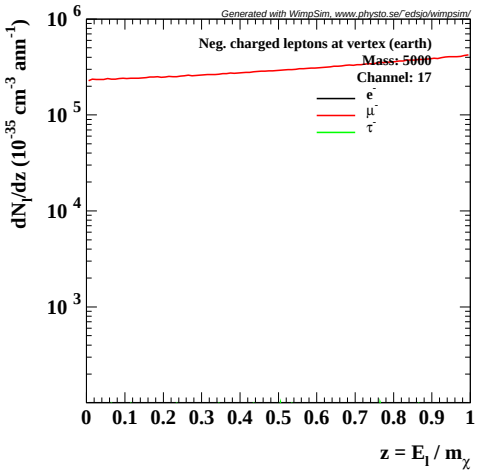


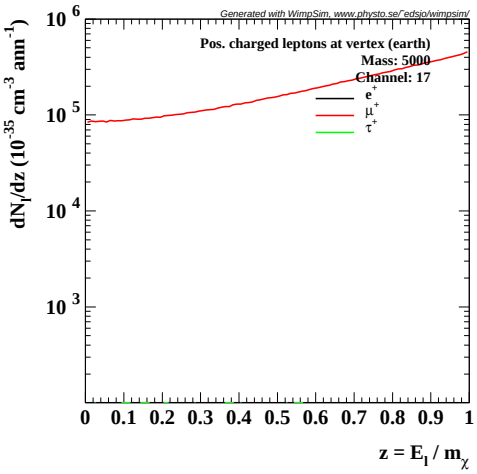
18.9.4 Neutrino fluxes at detector (Earth)



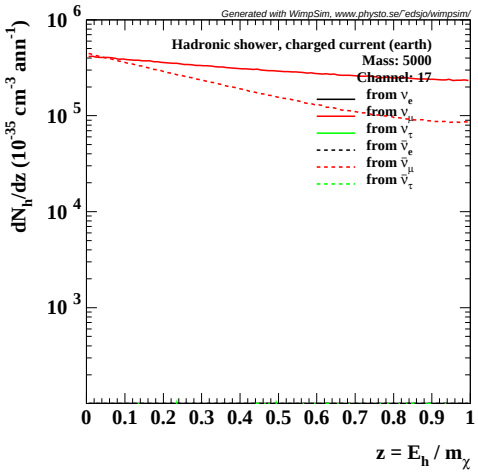


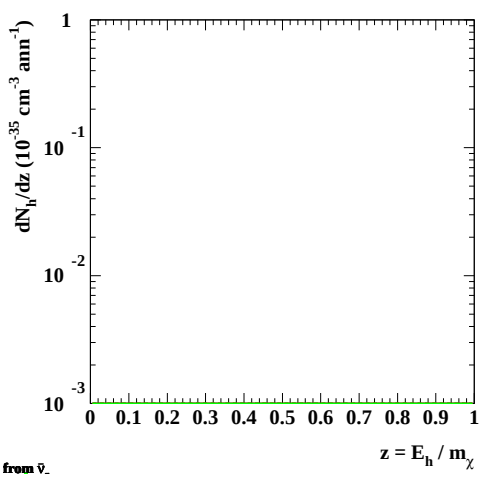
18.9.5 Charged leptons at neutrino-nucleon vertex (Earth)



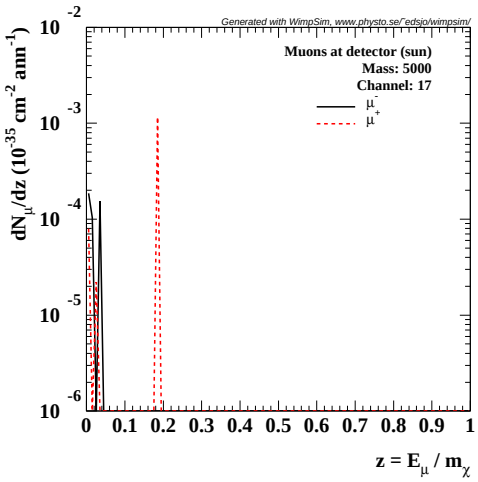


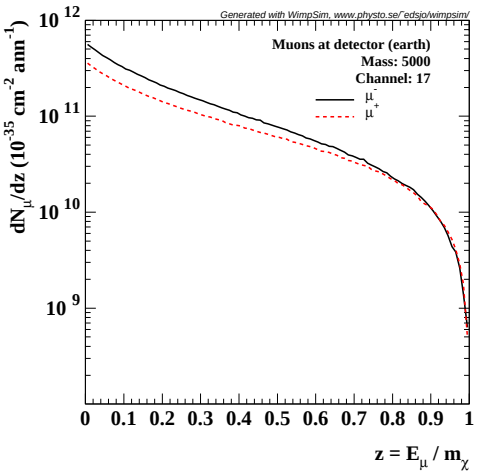
18.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)





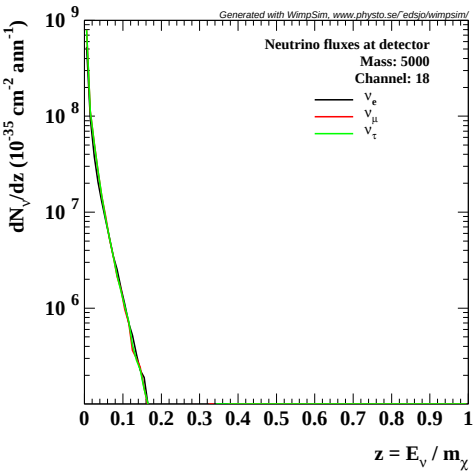
18.9.7 Muons at detector (Sun/Earth)

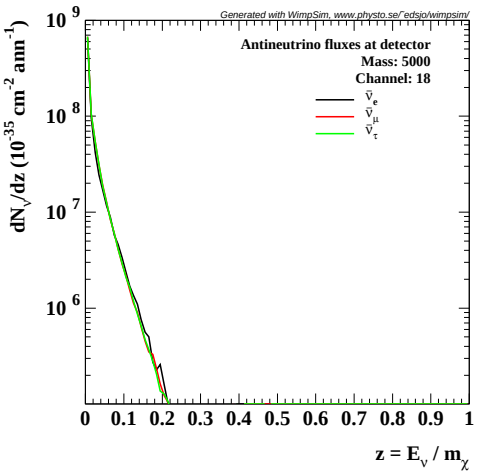




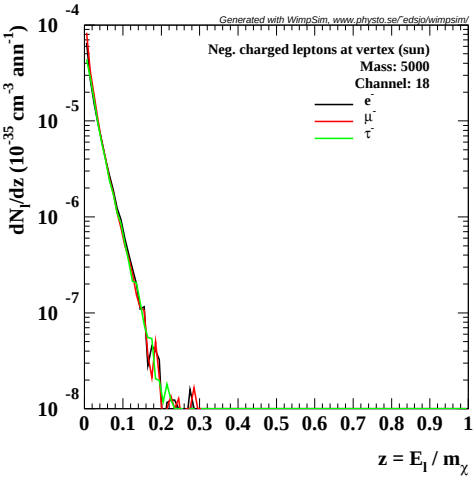
18.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

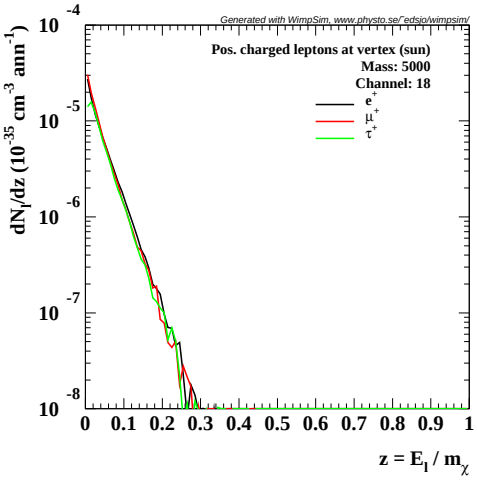
18.10.1 Neutrino fluxes at detector (Sun)



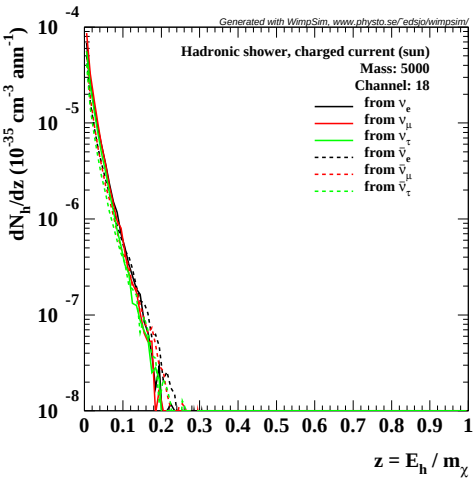


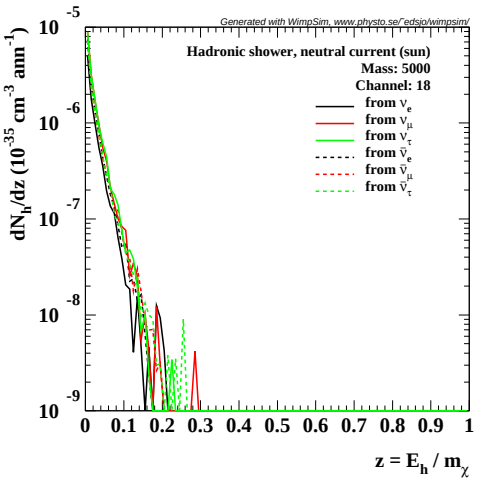
18.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



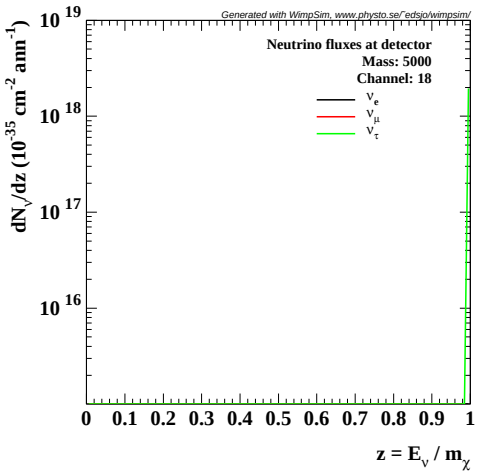


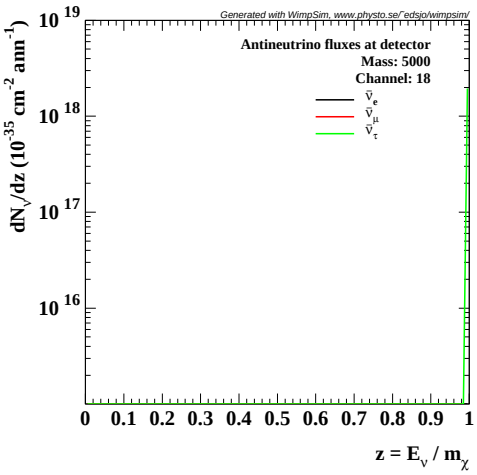
18.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



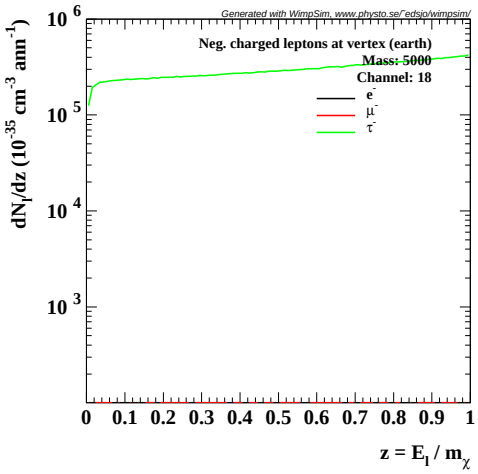


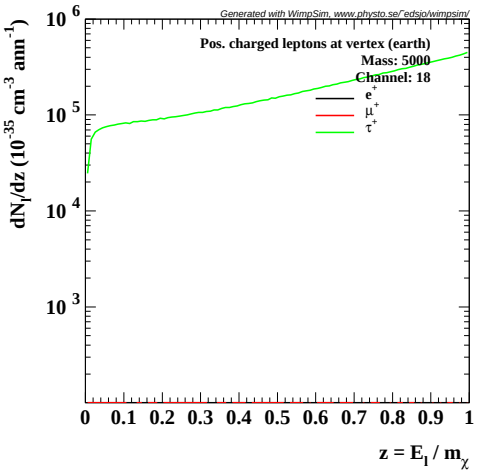
18.10.4 Neutrino fluxes at detector (Earth)



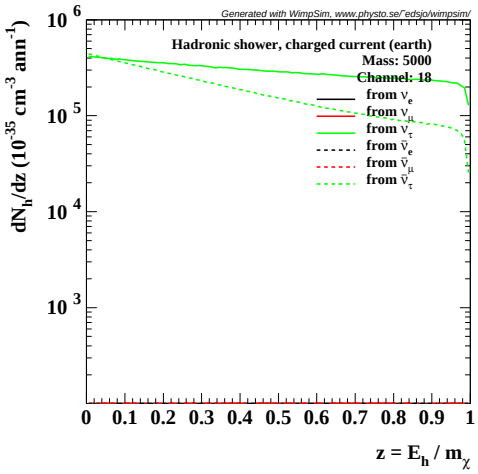


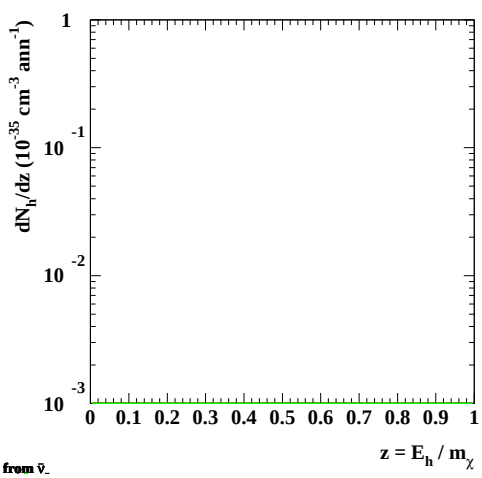
18.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





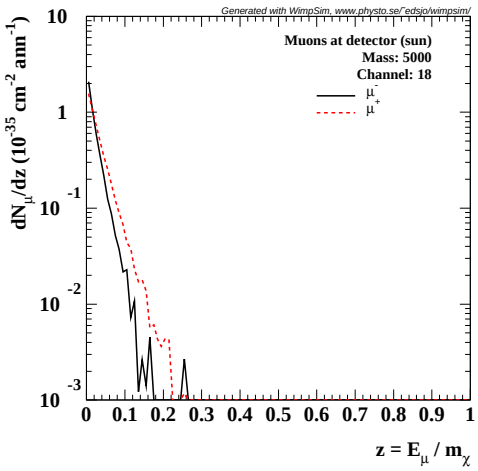
18.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)

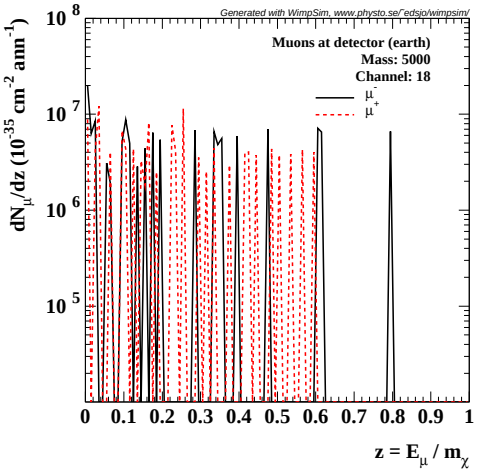




from $\bar{\nu}_\tau$

18.10.7 Muons at detector (Sun/Earth)

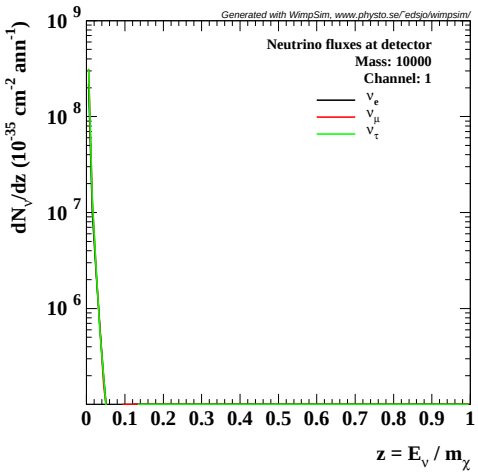


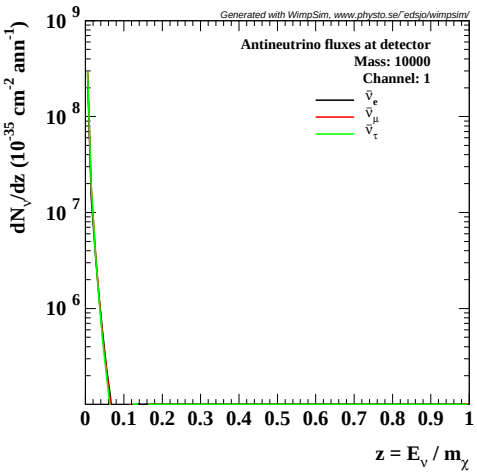


19 Mass 10000

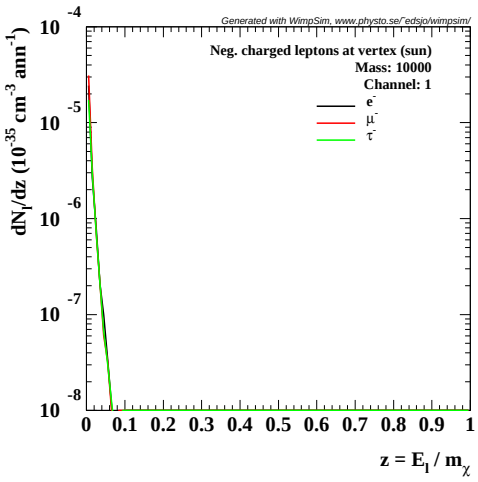
19.1 Channel 1 – $c\bar{c}$

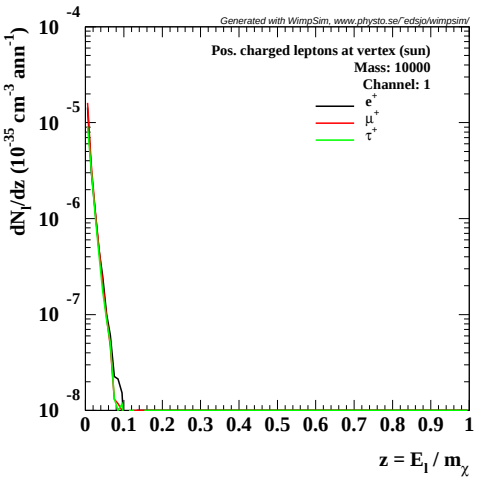
19.1.1 Neutrino fluxes at detector (Sun)



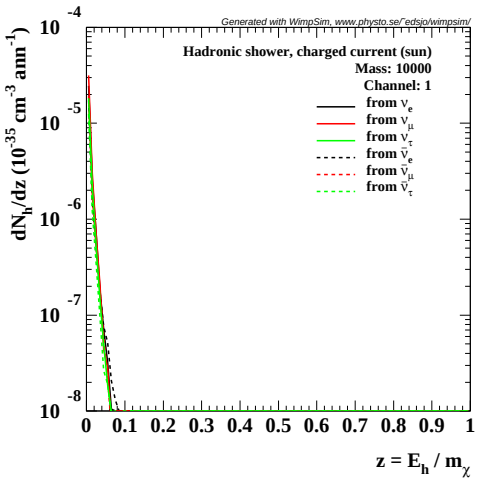


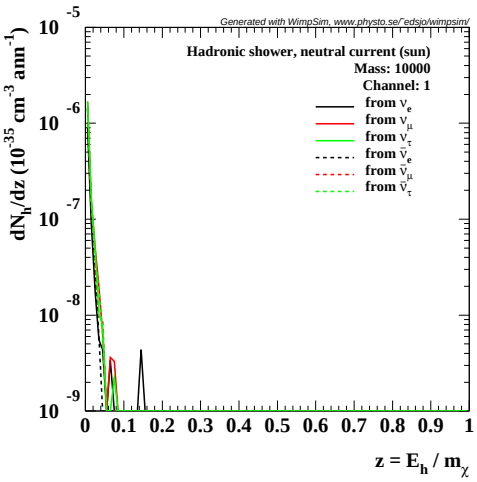
19.1.2 Charged leptons at neutrino-nucleon vertex (Sun)



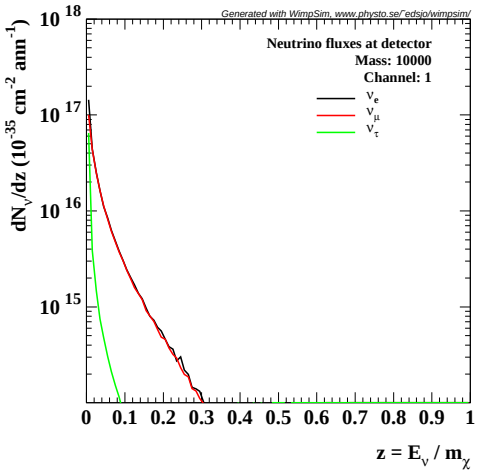


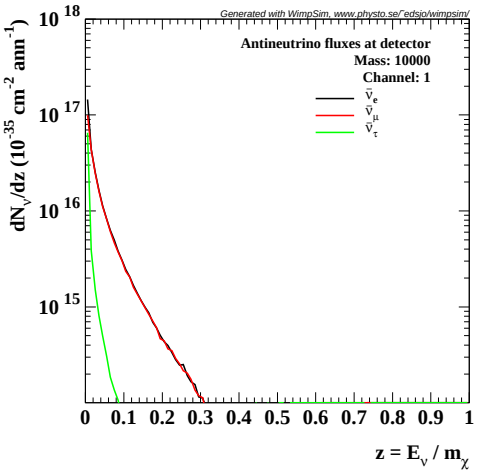
19.1.3 Hadronic shower at neutrino-nucleon vertex (Sun)



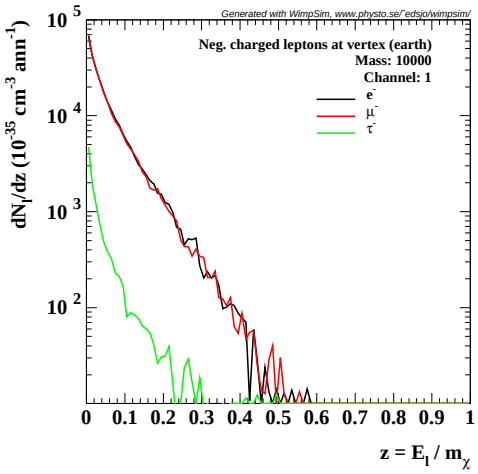


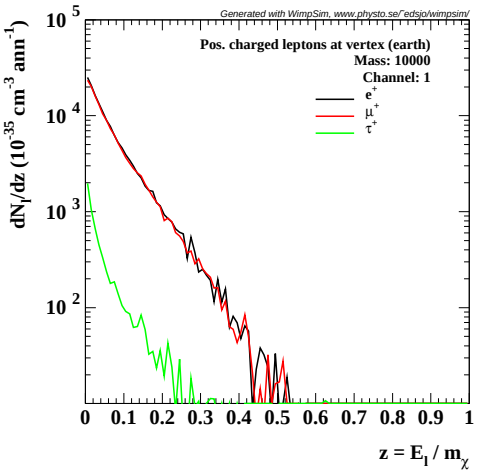
19.1.4 Neutrino fluxes at detector (Earth)



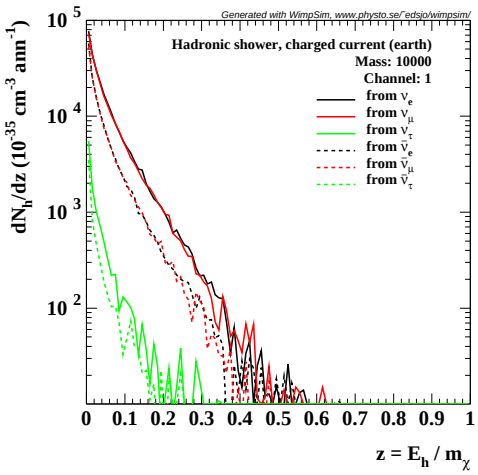


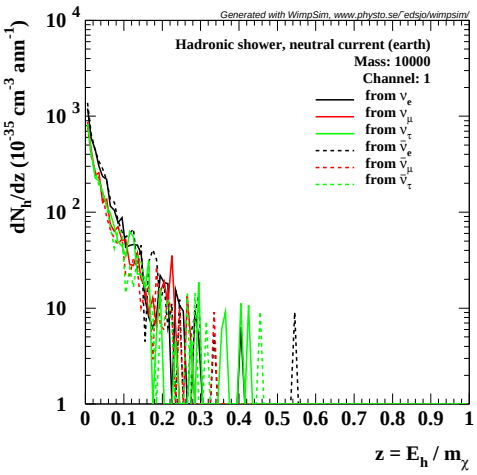
19.1.5 Charged leptons at neutrino-nucleon vertex (Earth)



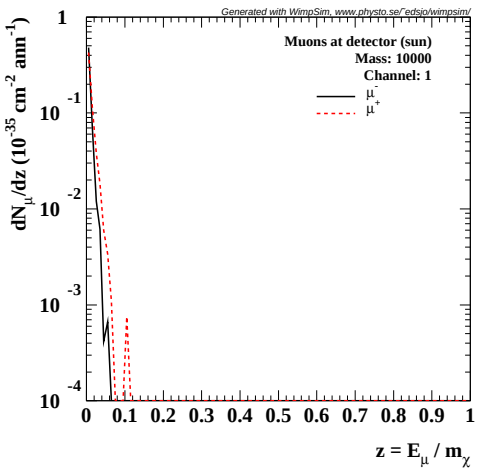


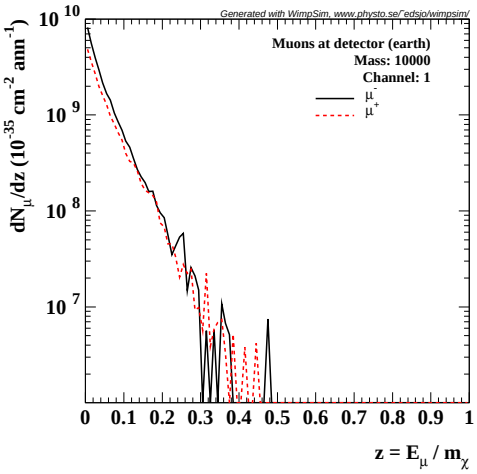
19.1.6 Hadronic shower at neutrino-nucleon vertex (Earth)





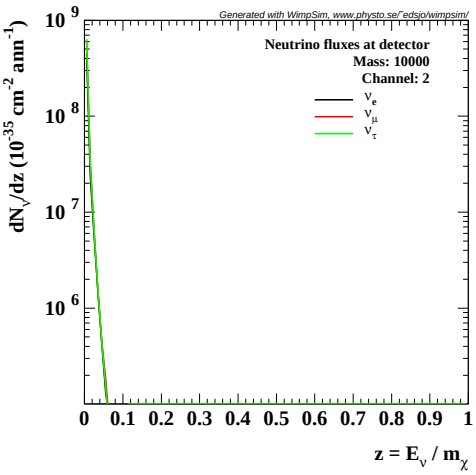
19.1.7 Muons at detector (Sun/Earth)

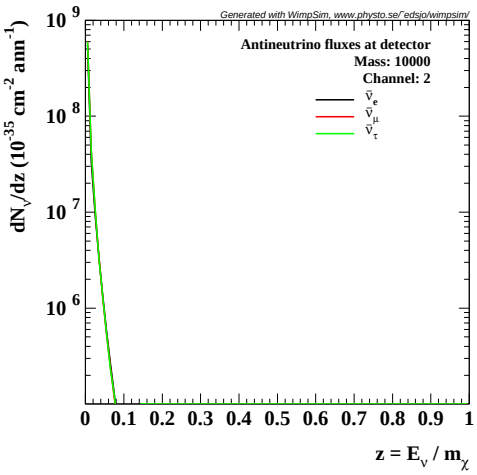




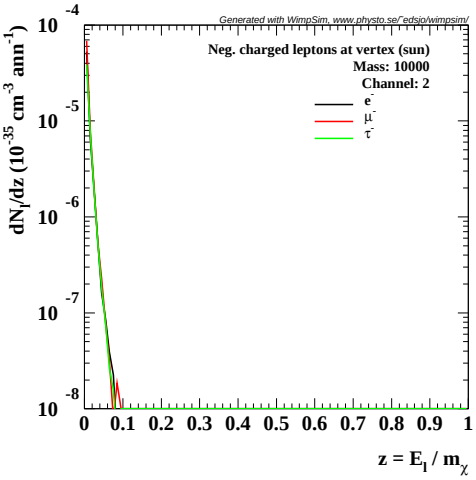
19.2 Channel 2 – $b\bar{b}$

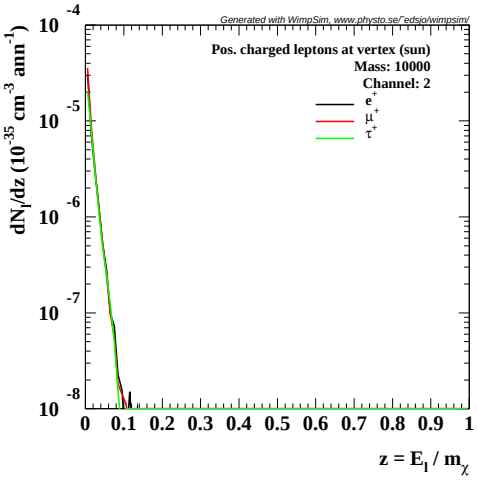
19.2.1 Neutrino fluxes at detector (Sun)



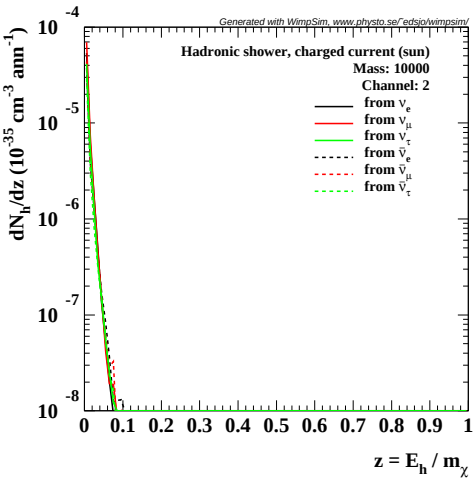


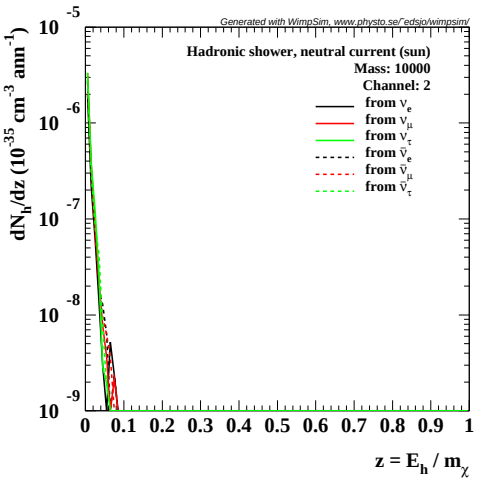
19.2.2 Charged leptons at neutrino-nucleon vertex (Sun)



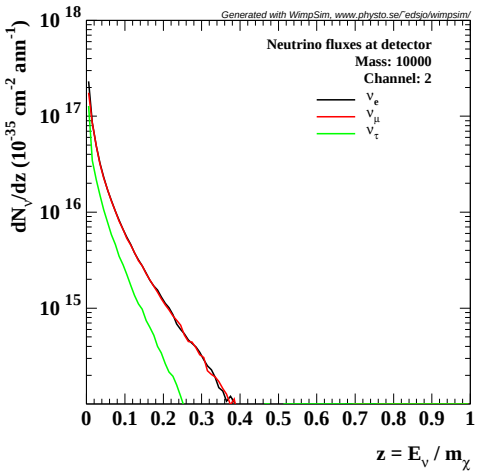


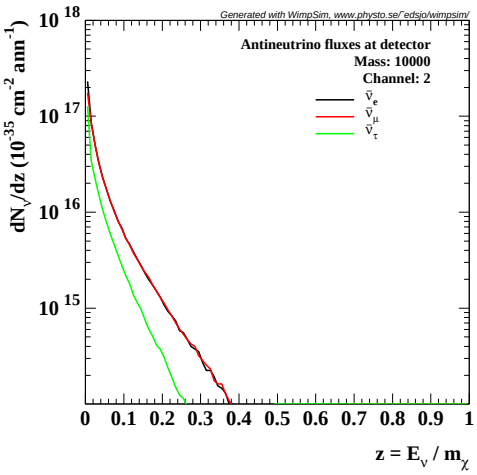
19.2.3 Hadronic shower at neutrino-nucleon vertex (Sun)



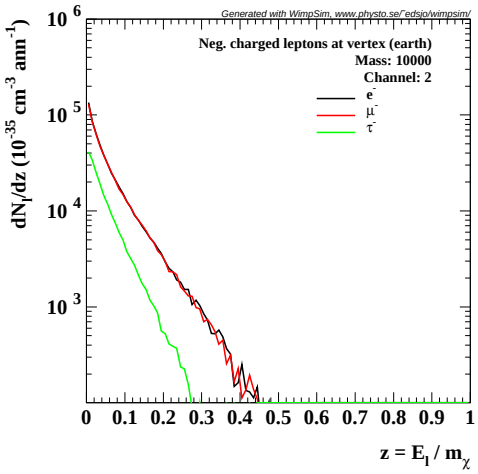


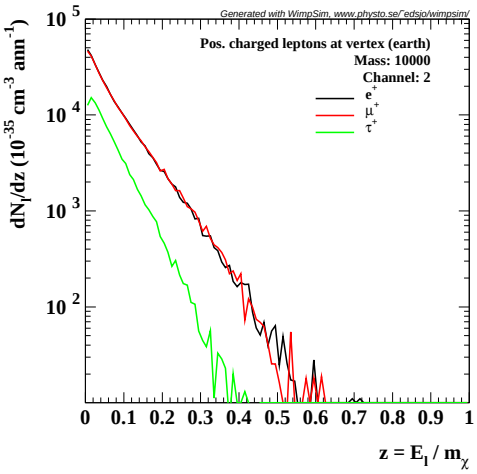
19.2.4 Neutrino fluxes at detector (Earth)



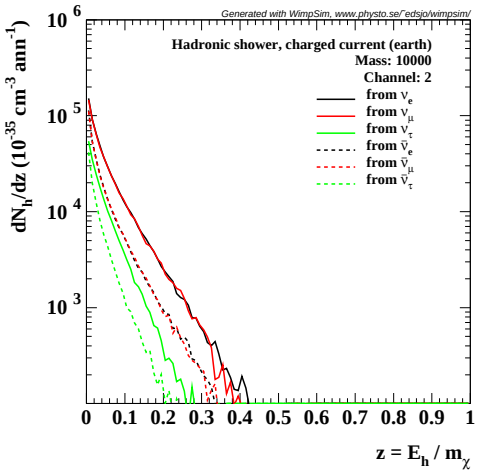


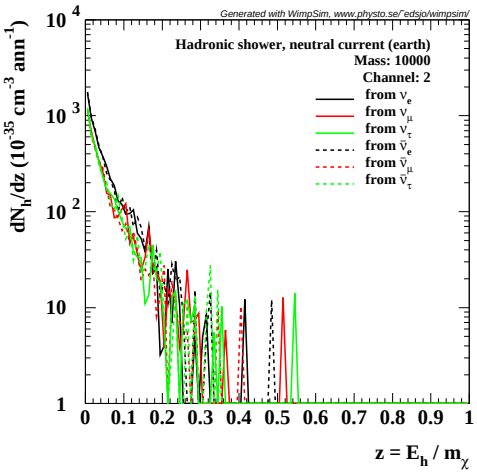
19.2.5 Charged leptons at neutrino-nucleon vertex (Earth)



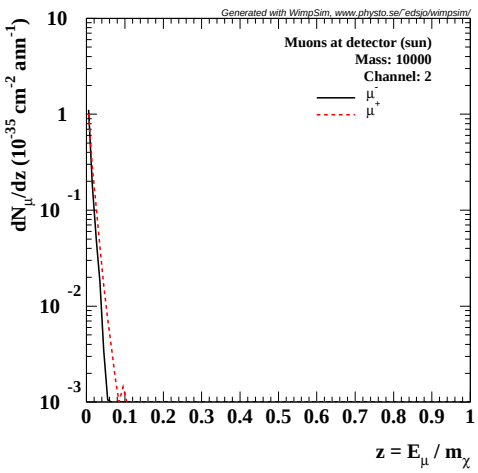


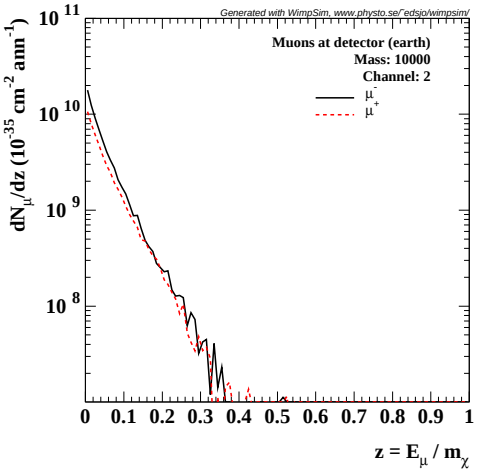
19.2.6 Hadronic shower at neutrino-nucleon vertex (Earth)





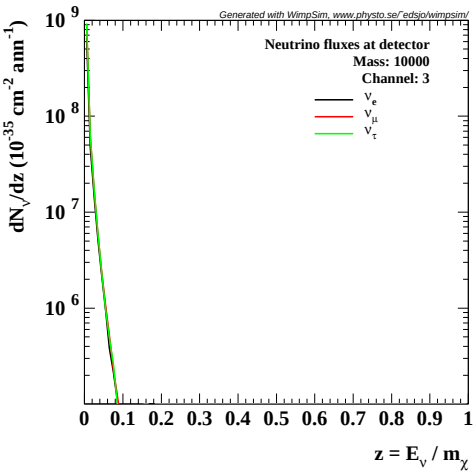
19.2.7 Muons at detector (Sun/Earth)

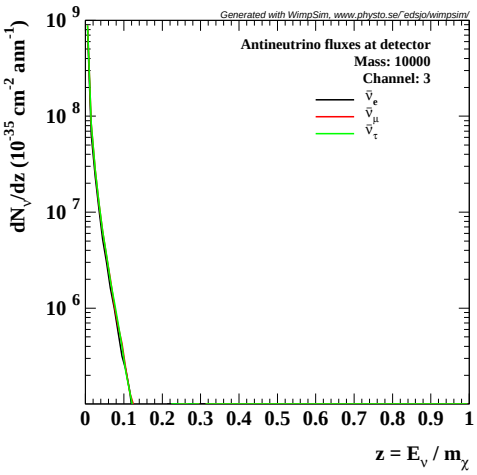




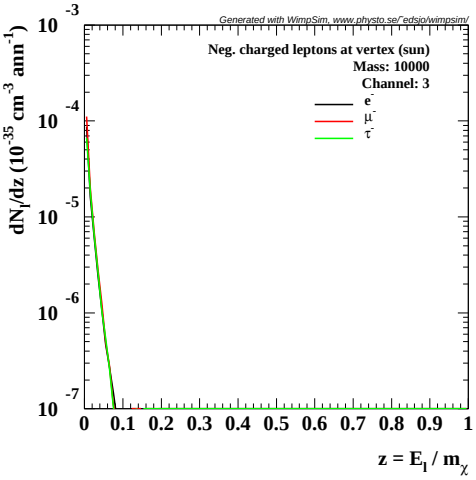
19.3 Channel 3 – $t\bar{t}$

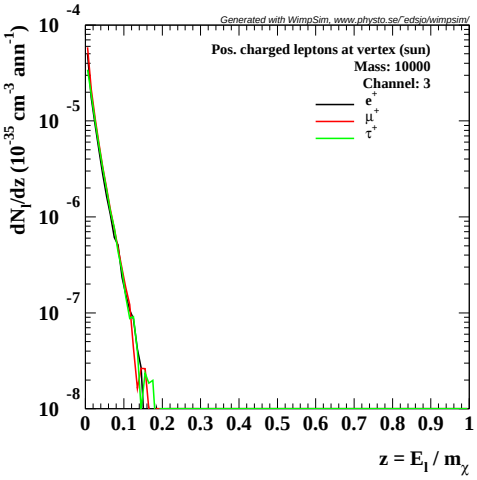
19.3.1 Neutrino fluxes at detector (Sun)



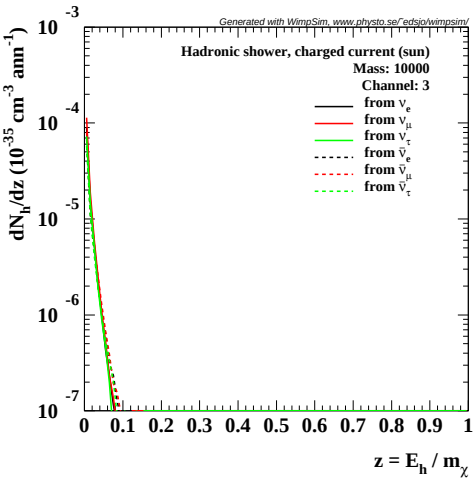


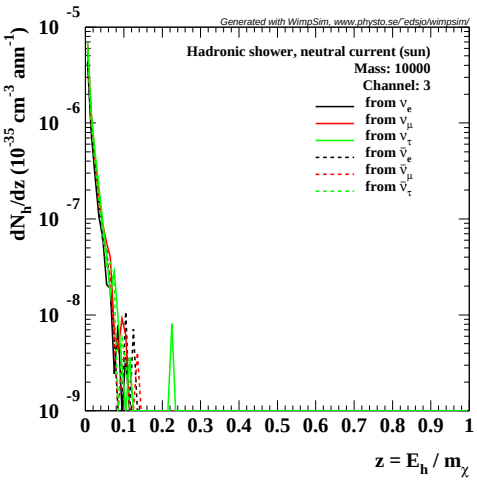
19.3.2 Charged leptons at neutrino-nucleon vertex (Sun)



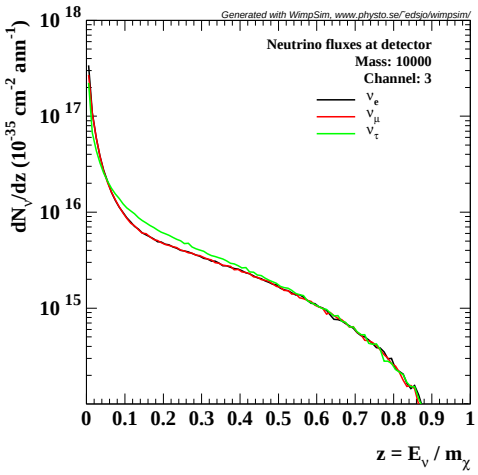


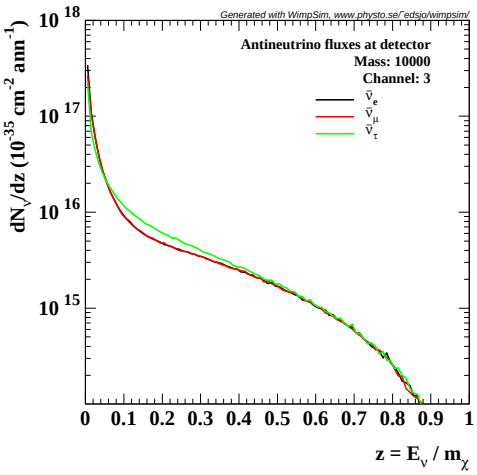
19.3.3 Hadronic shower at neutrino-nucleon vertex (Sun)



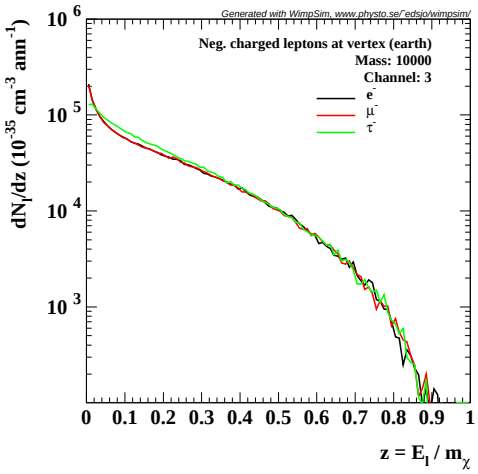


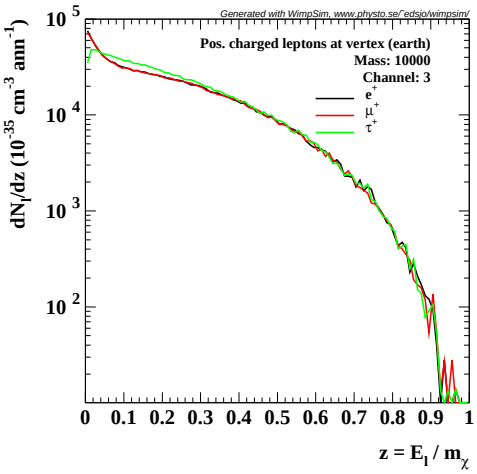
19.3.4 Neutrino fluxes at detector (Earth)



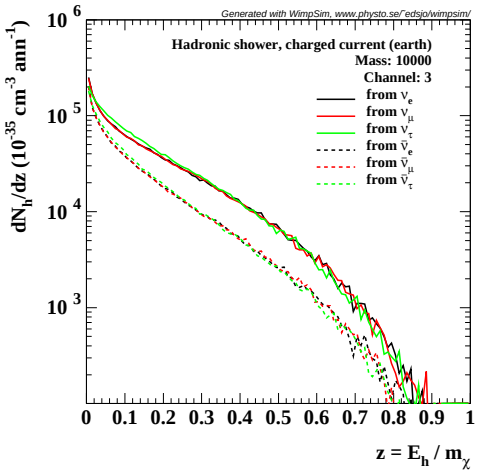


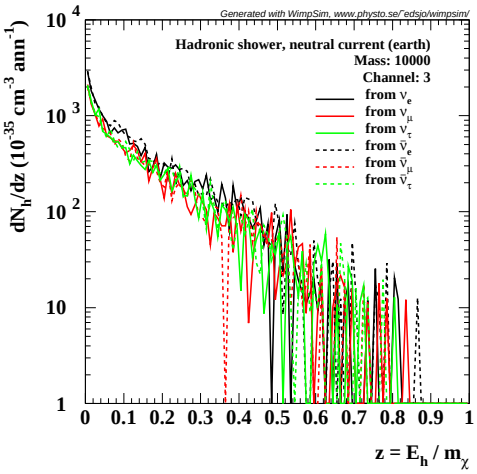
19.3.5 Charged leptons at neutrino-nucleon vertex (Earth)



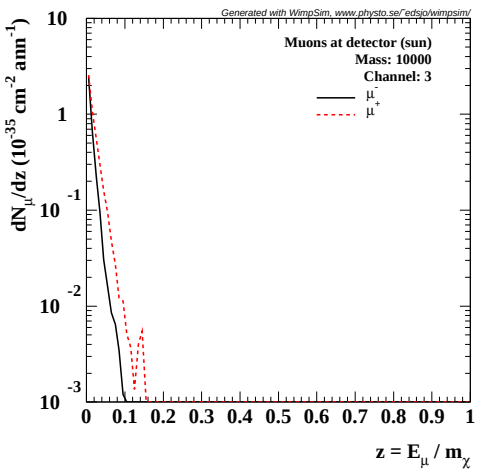


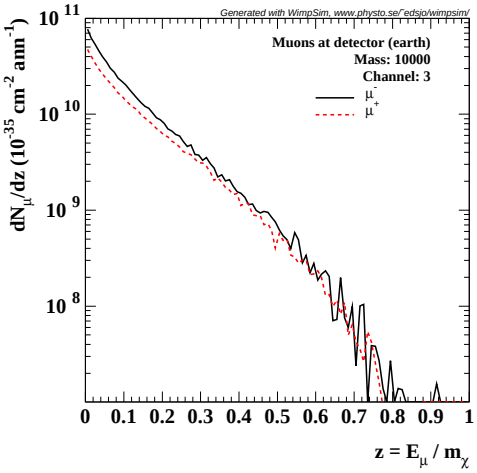
19.3.6 Hadronic shower at neutrino-nucleon vertex (Earth)





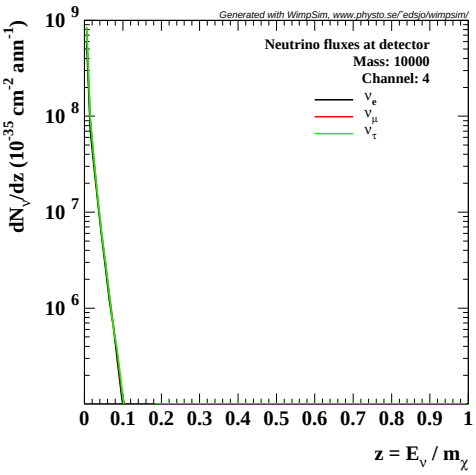
19.3.7 Muons at detector (Sun/Earth)

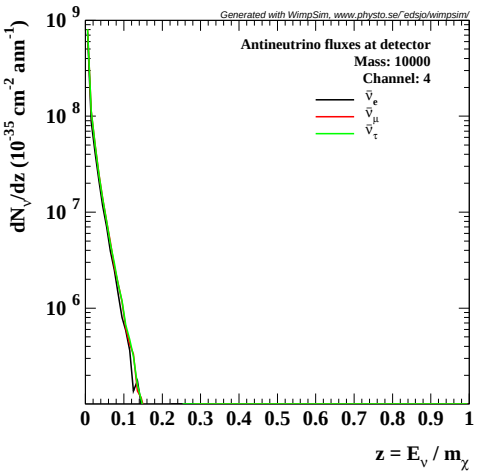




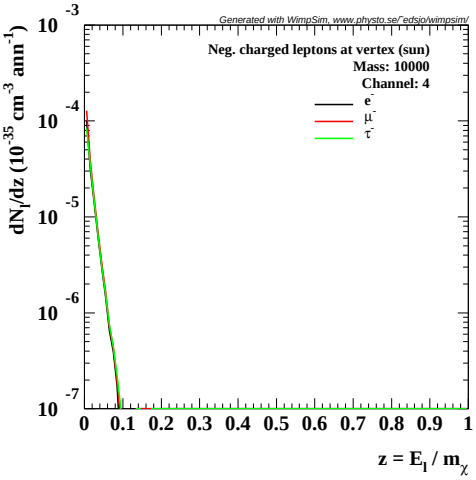
19.4 Channel 4 – $\tau^-\tau^+$

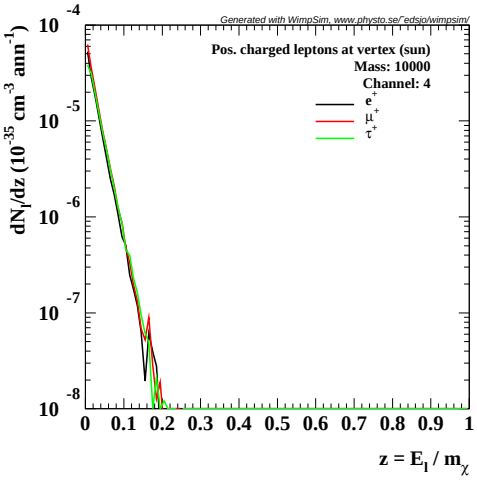
19.4.1 Neutrino fluxes at detector (Sun)



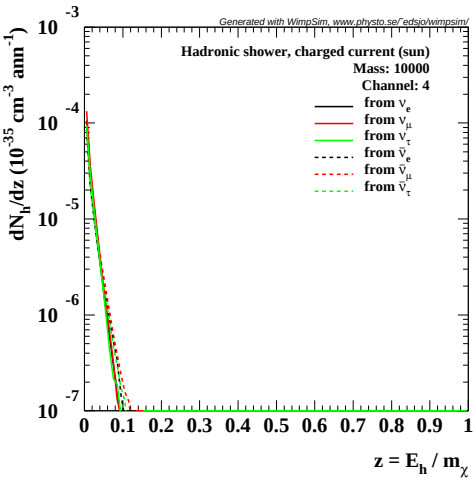


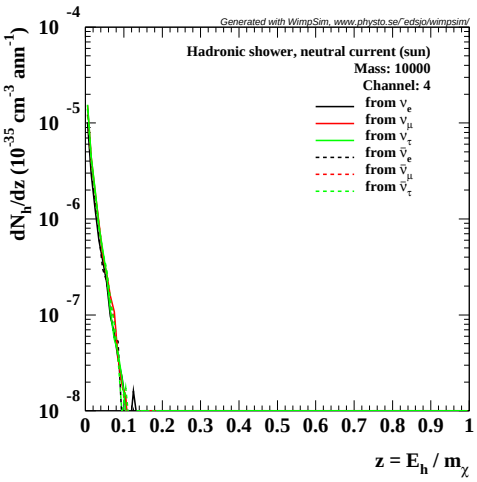
19.4.2 Charged leptons at neutrino-nucleon vertex (Sun)



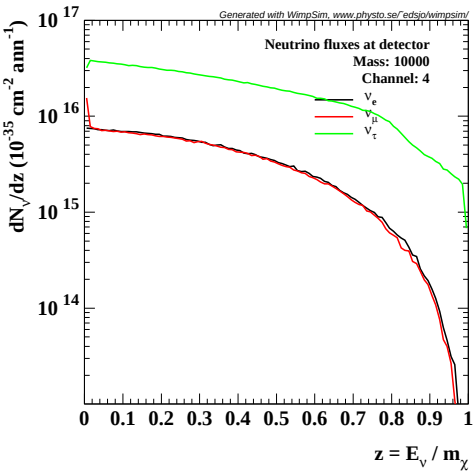


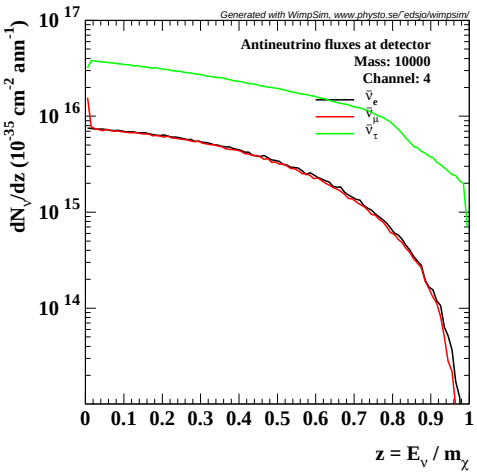
19.4.3 Hadronic shower at neutrino-nucleon vertex (Sun)



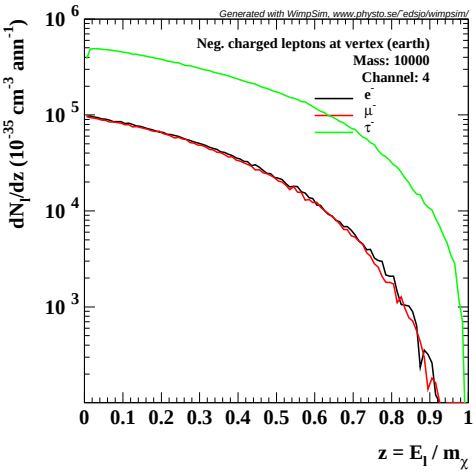


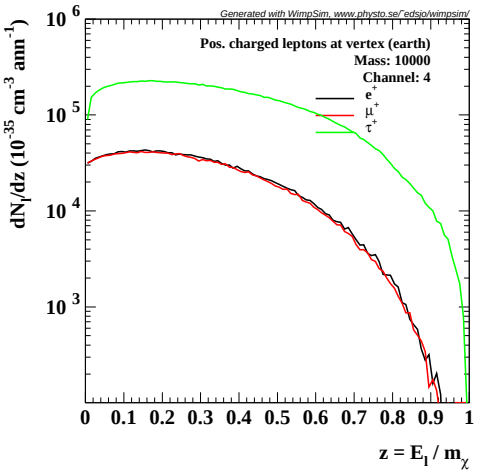
19.4.4 Neutrino fluxes at detector (Earth)



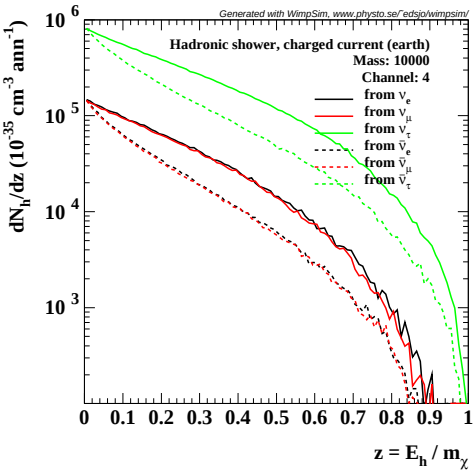


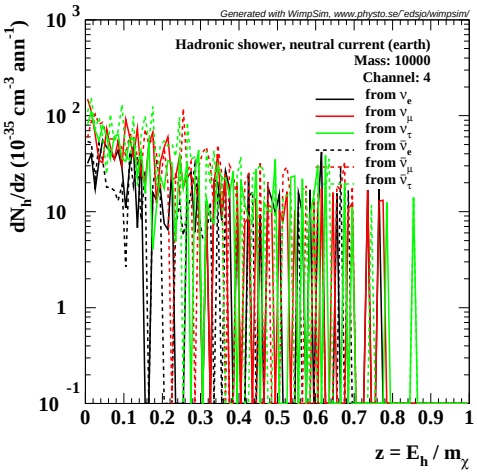
19.4.5 Charged leptons at neutrino-nucleon vertex (Earth)



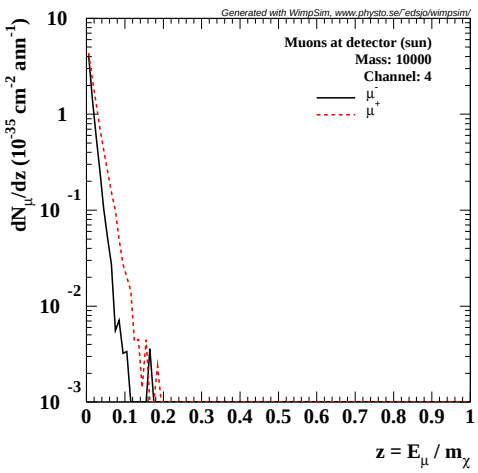


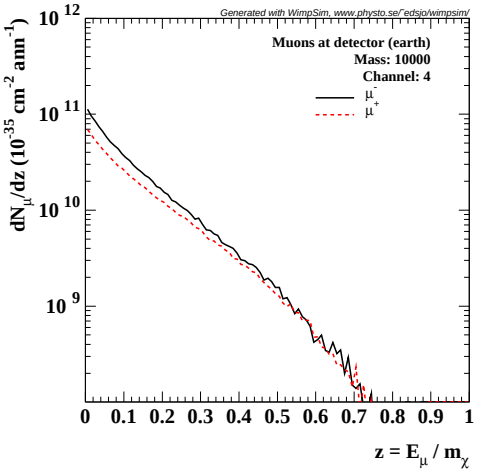
19.4.6 Hadronic shower at neutrino-nucleon vertex (Earth)





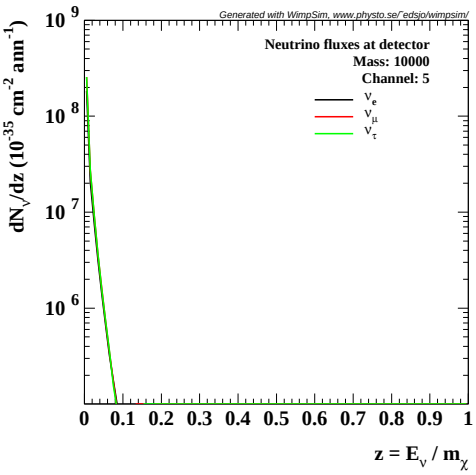
19.4.7 Muons at detector (Sun/Earth)

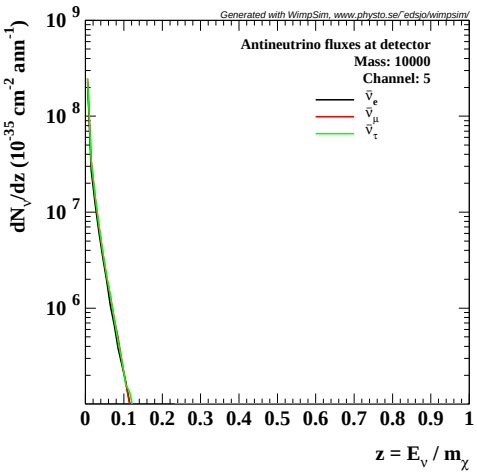




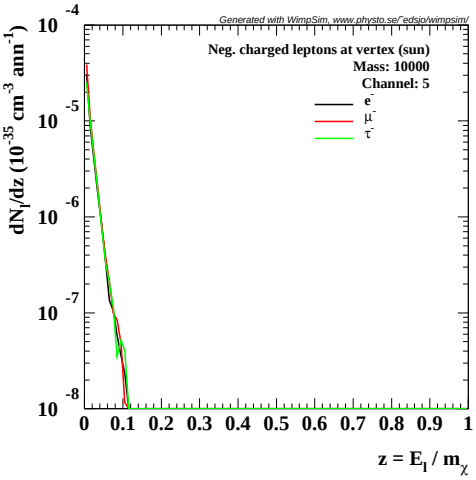
19.5 Channel 5 – W^-W^+

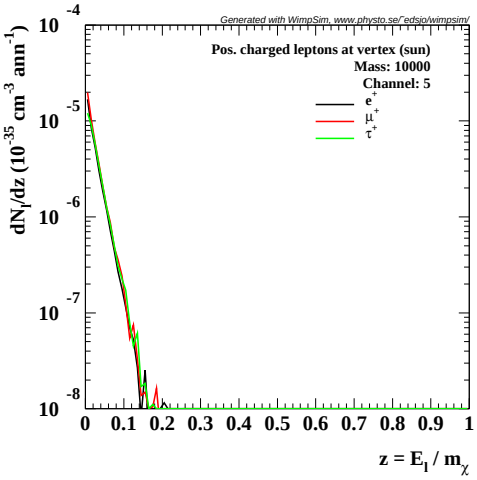
19.5.1 Neutrino fluxes at detector (Sun)



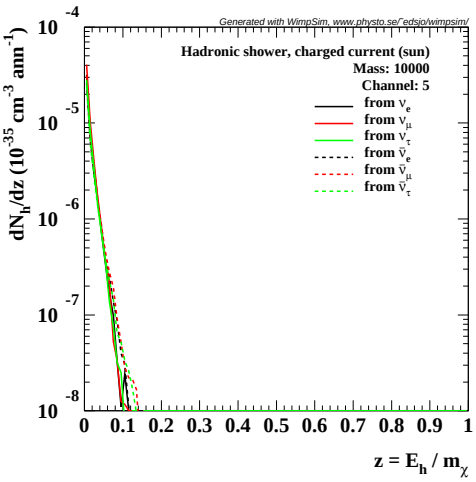


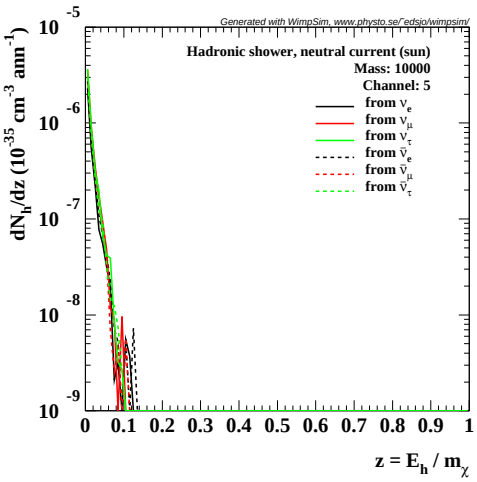
19.5.2 Charged leptons at neutrino-nucleon vertex (Sun)



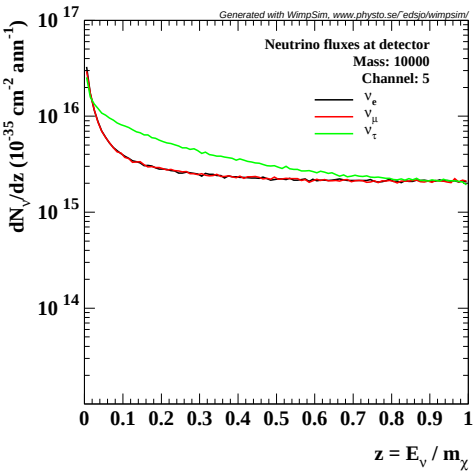


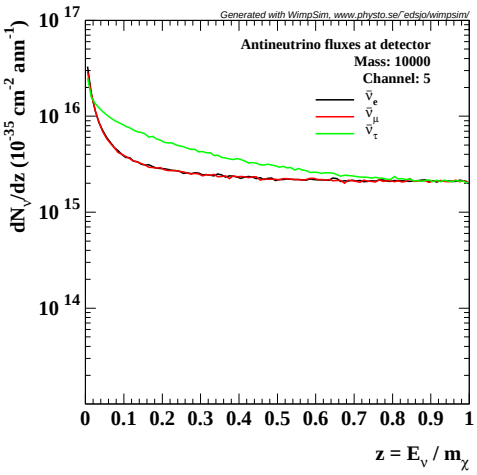
19.5.3 Hadronic shower at neutrino-nucleon vertex (Sun)



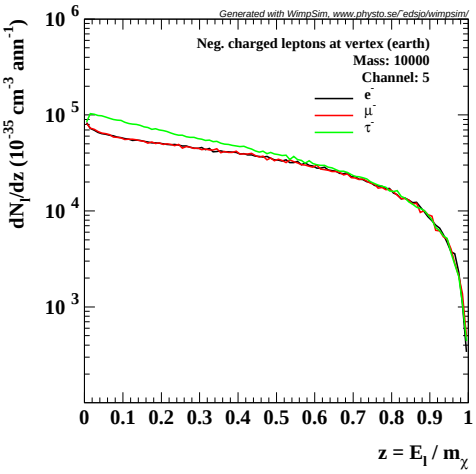


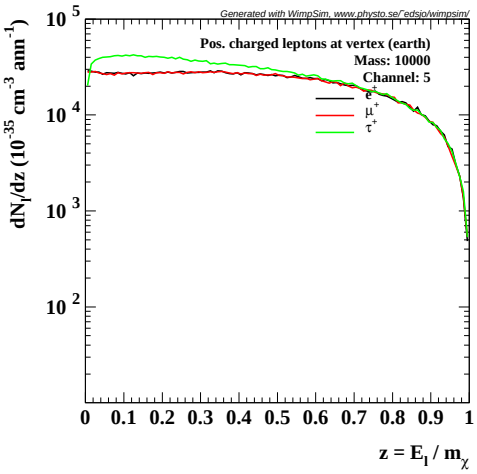
19.5.4 Neutrino fluxes at detector (Earth)



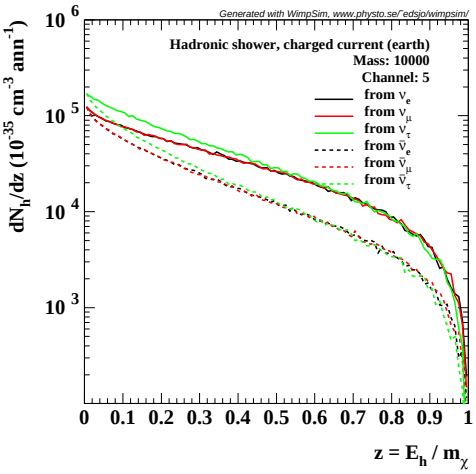


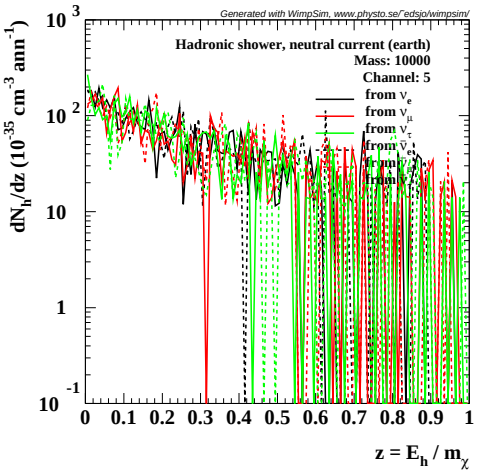
19.5.5 Charged leptons at neutrino-nucleon vertex (Earth)



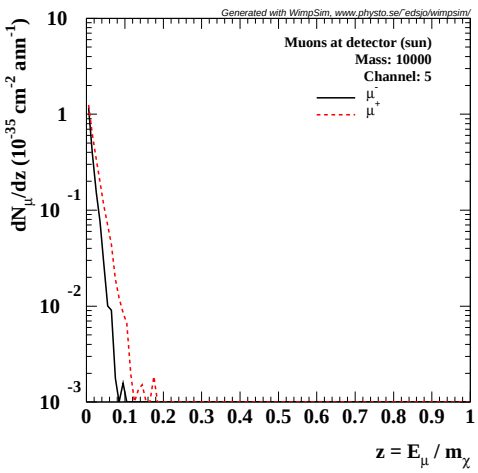


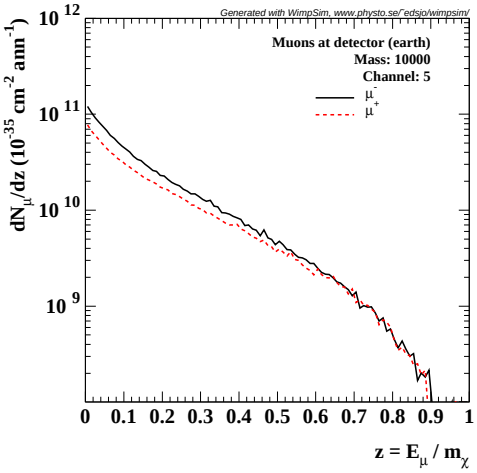
19.5.6 Hadronic shower at neutrino-nucleon vertex (Earth)





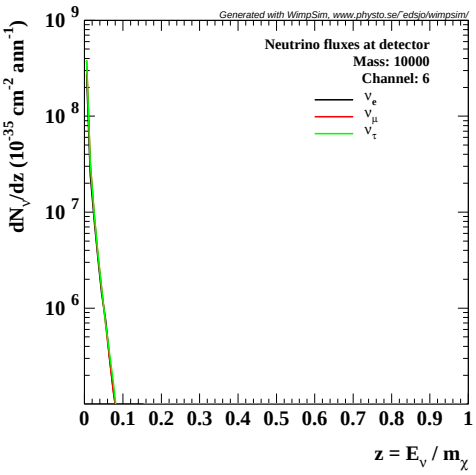
19.5.7 Muons at detector (Sun/Earth)

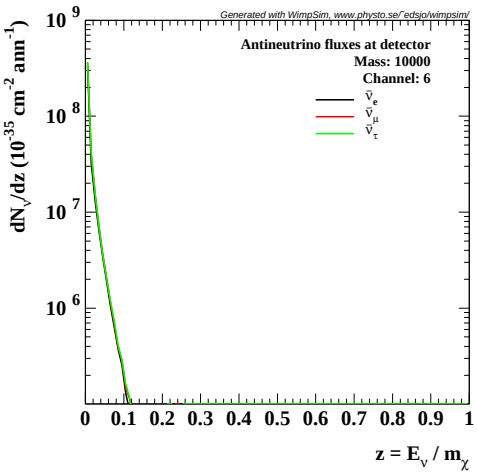




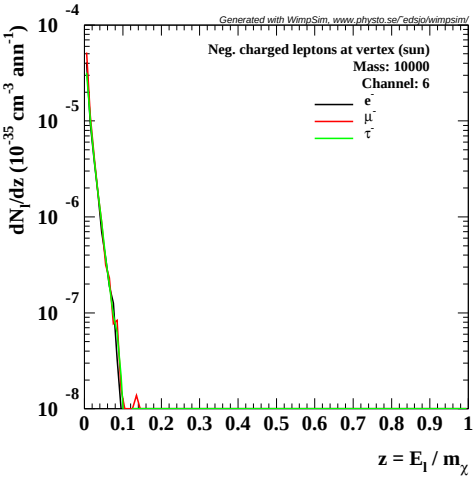
19.6 Channel 6 – $Z^0 Z^0$

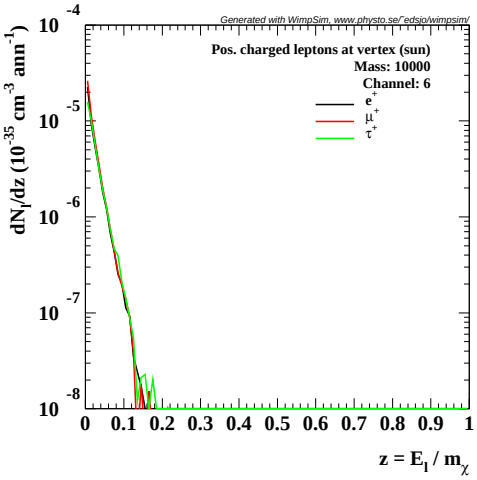
19.6.1 Neutrino fluxes at detector (Sun)



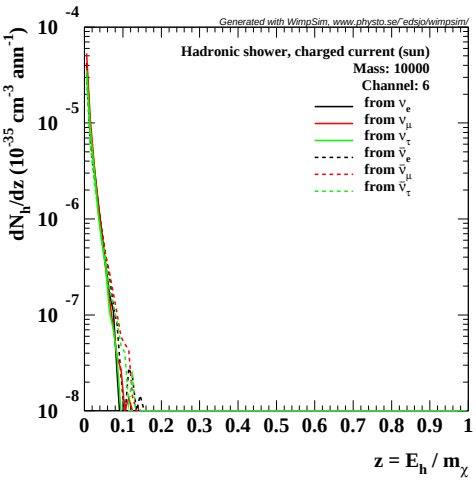


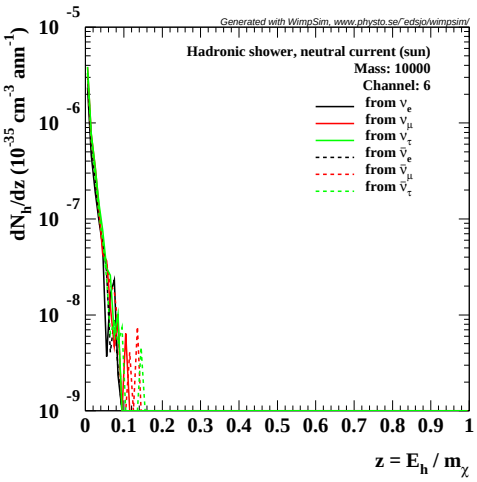
19.6.2 Charged leptons at neutrino-nucleon vertex (Sun)



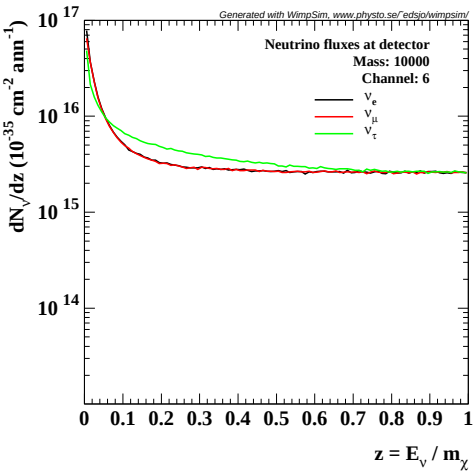


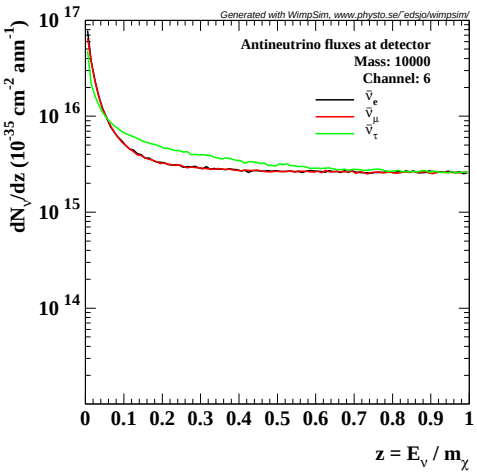
19.6.3 Hadronic shower at neutrino-nucleon vertex (Sun)



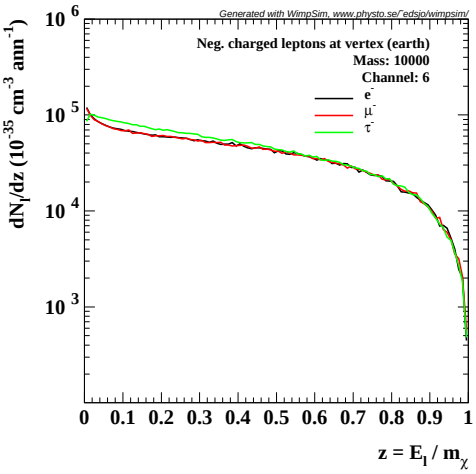


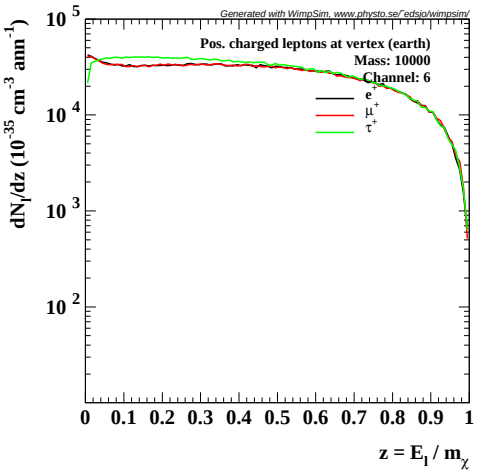
19.6.4 Neutrino fluxes at detector (Earth)



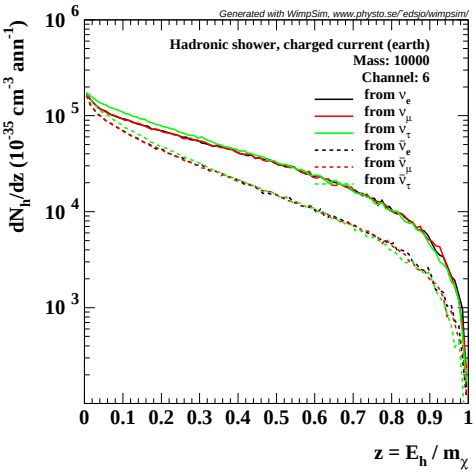


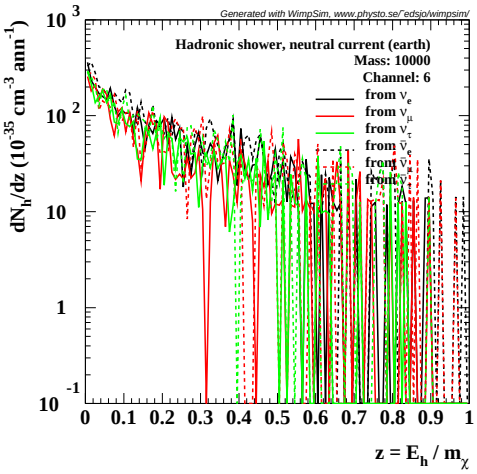
19.6.5 Charged leptons at neutrino-nucleon vertex (Earth)



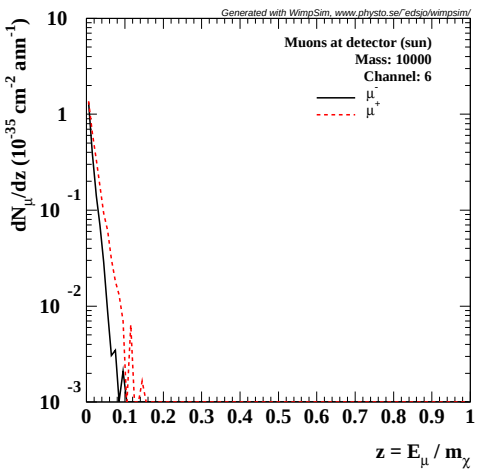


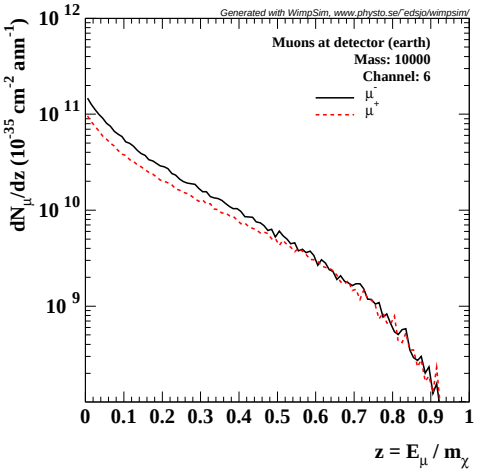
19.6.6 Hadronic shower at neutrino-nucleon vertex (Earth)





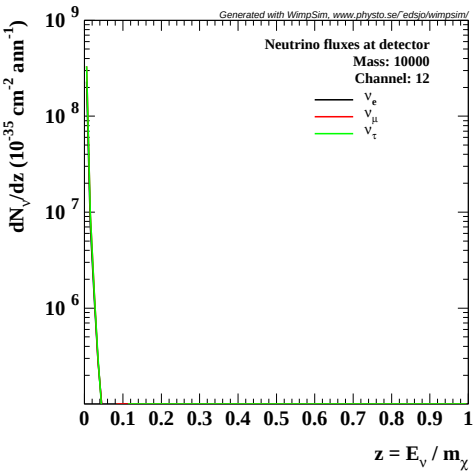
19.6.7 Muons at detector (Sun/Earth)

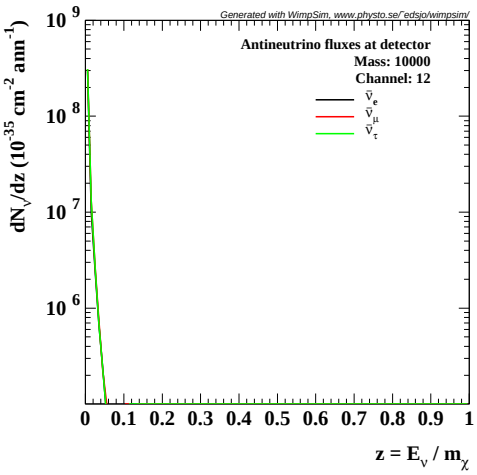




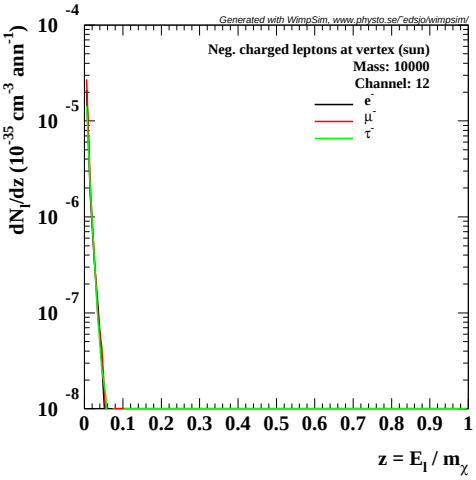
19.7 Channel 12 – gg

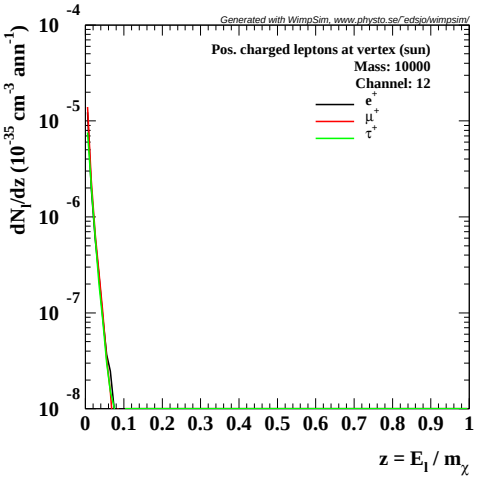
19.7.1 Neutrino fluxes at detector (Sun)



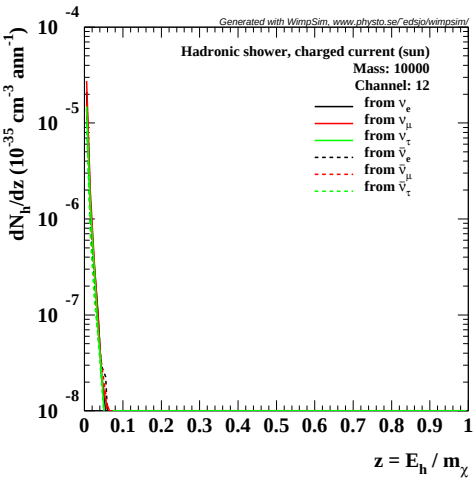


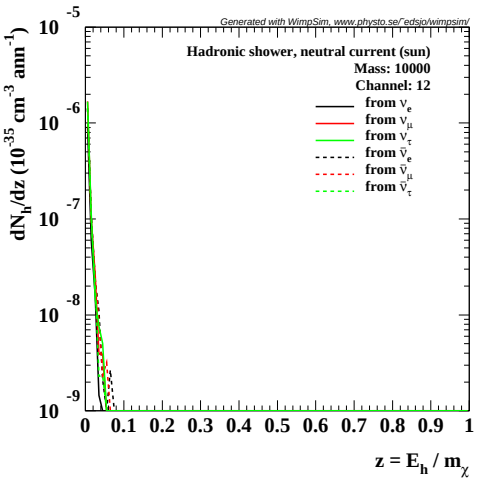
19.7.2 Charged leptons at neutrino-nucleon vertex (Sun)



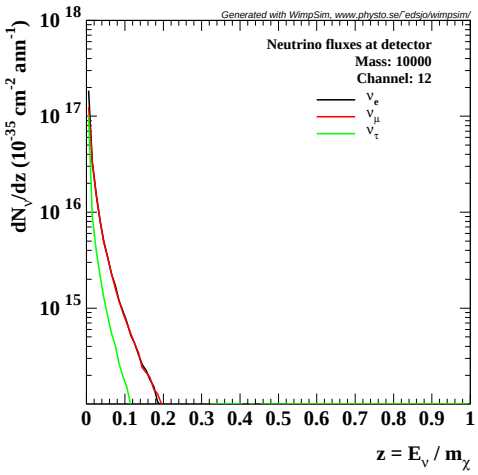


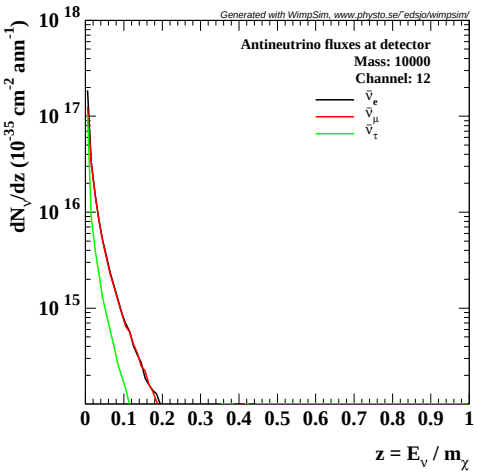
19.7.3 Hadronic shower at neutrino-nucleon vertex (Sun)



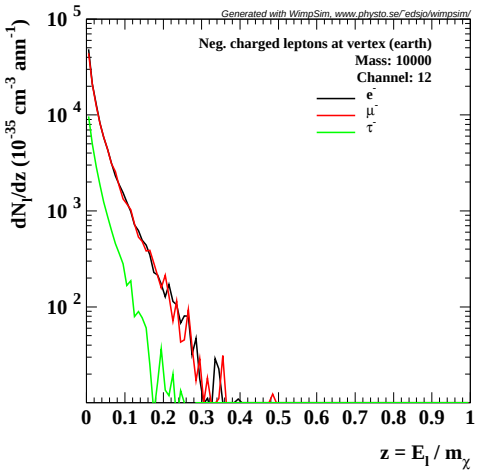


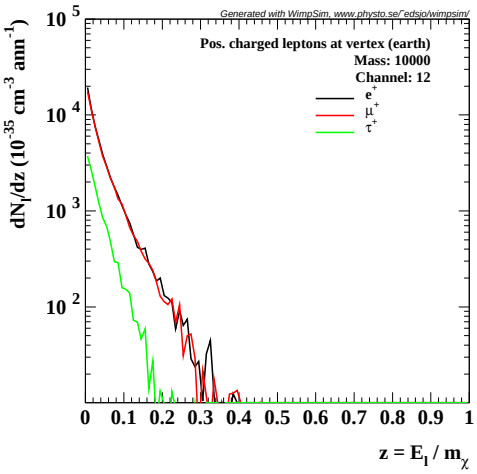
19.7.4 Neutrino fluxes at detector (Earth)



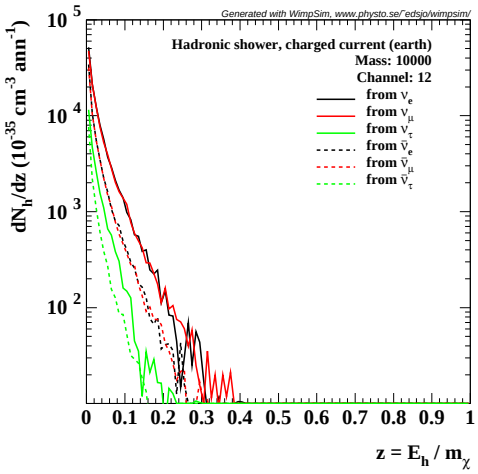


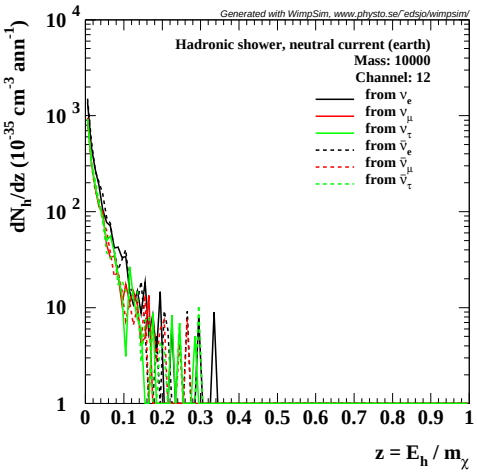
19.7.5 Charged leptons at neutrino-nucleon vertex (Earth)



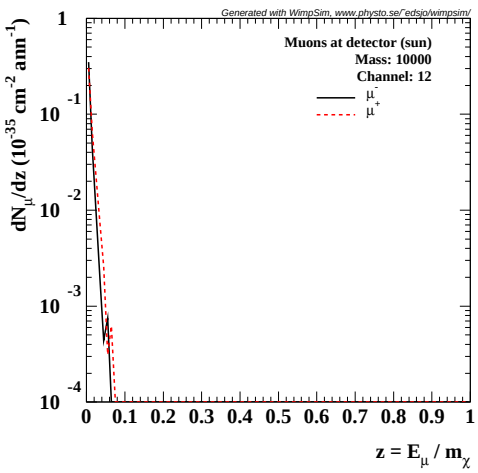


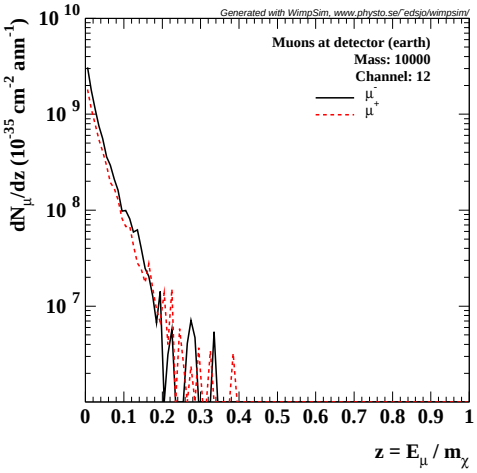
19.7.6 Hadronic shower at neutrino-nucleon vertex (Earth)





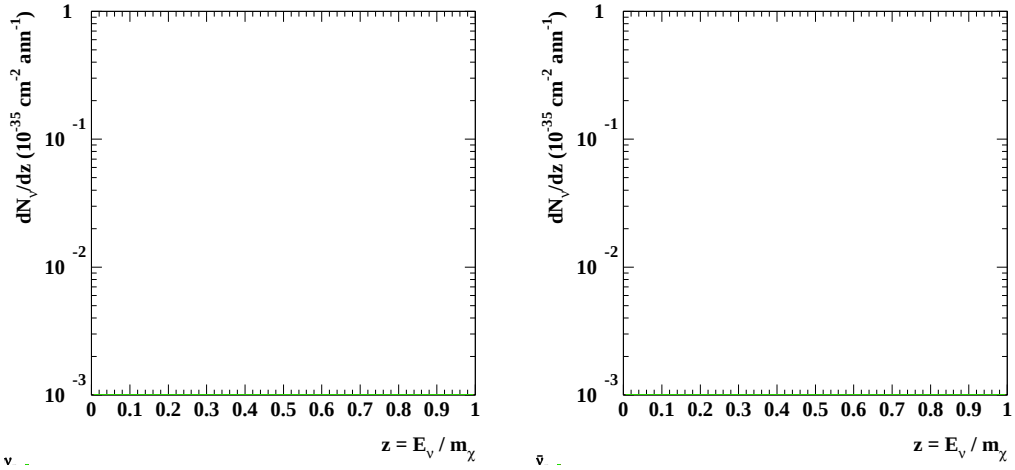
19.7.7 Muons at detector (Sun/Earth)



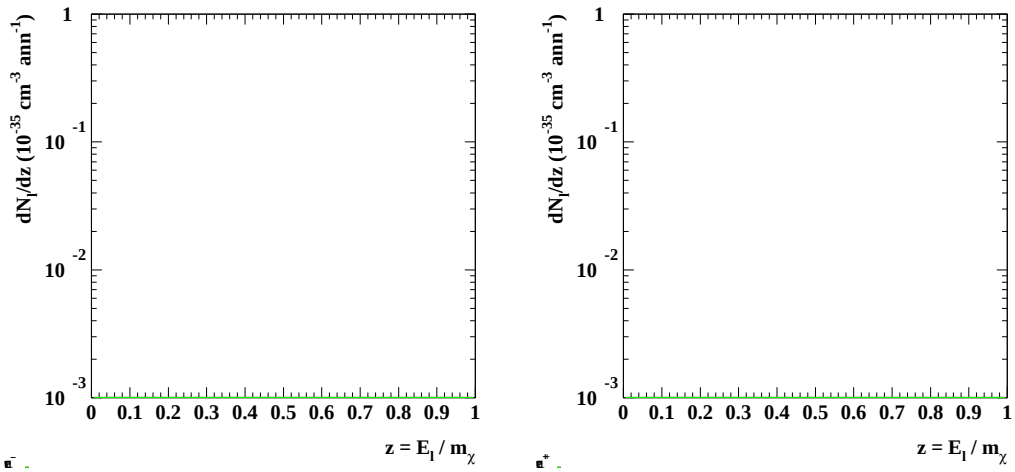


19.8 Channel 16 – $\nu_e \bar{\nu}_e$

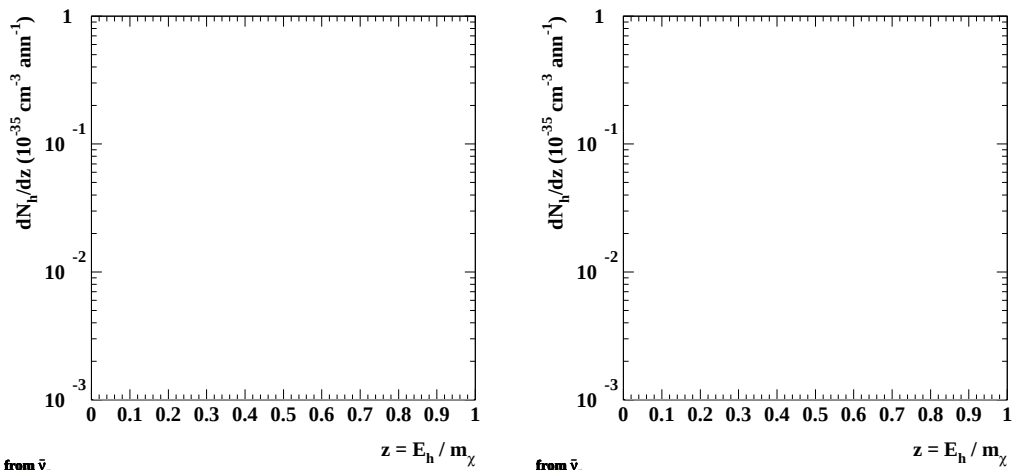
19.8.1 Neutrino fluxes at detector (Sun)



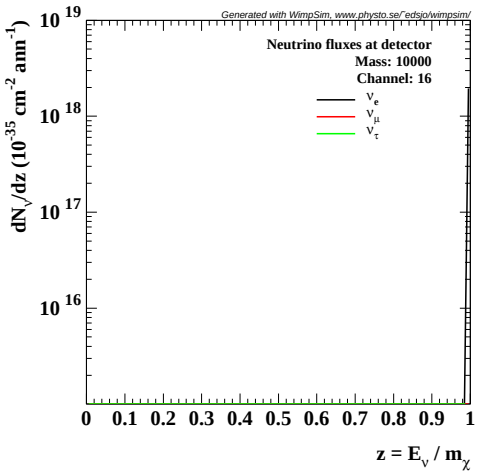
19.8.2 Charged leptons at neutrino-nucleon vertex (Sun)

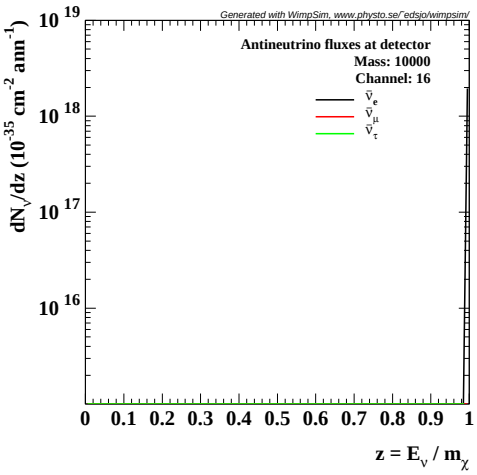


19.8.3 Hadronic shower at neutrino-nucleon vertex (Sun)

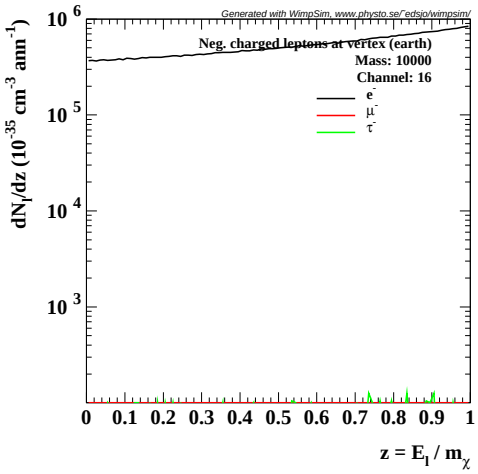


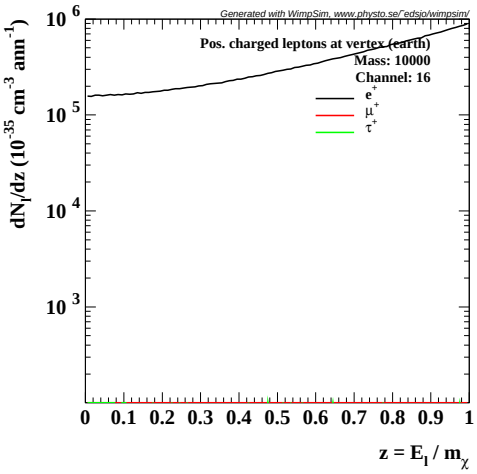
19.8.4 Neutrino fluxes at detector (Earth)



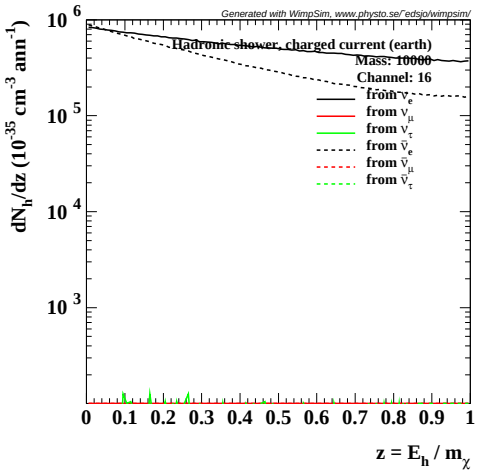


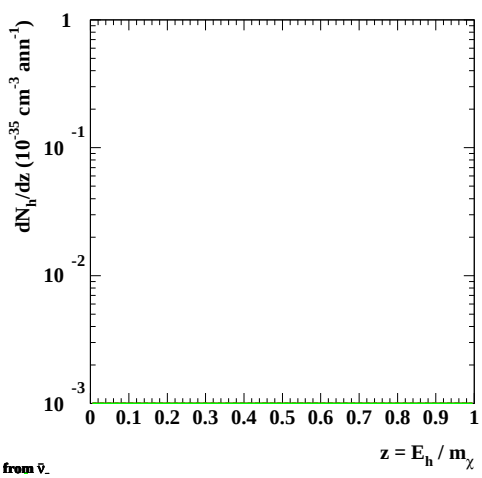
19.8.5 Charged leptons at neutrino-nucleon vertex (Earth)





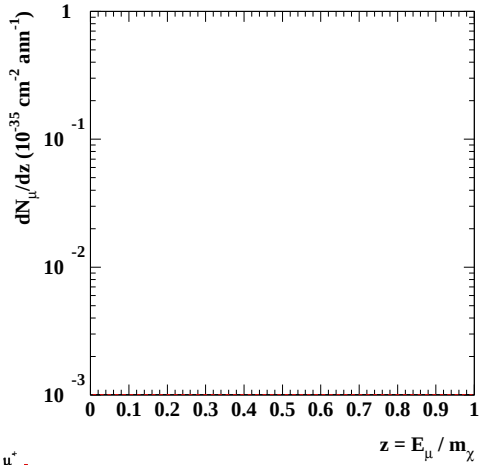
19.8.6 Hadronic shower at neutrino-nucleon vertex (Earth)

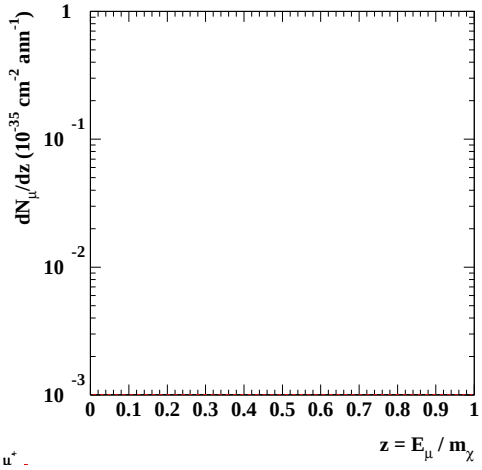




from $\bar{\nu}_\tau$

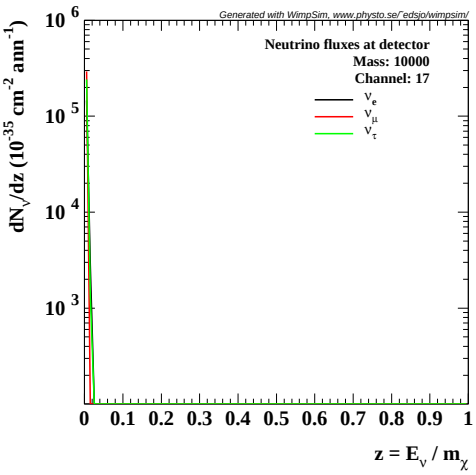
19.8.7 Muons at detector (Sun/Earth)

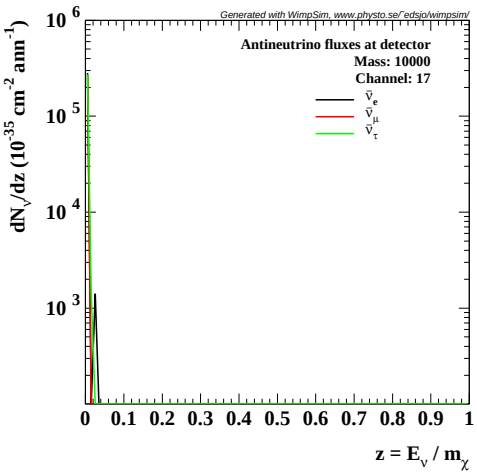




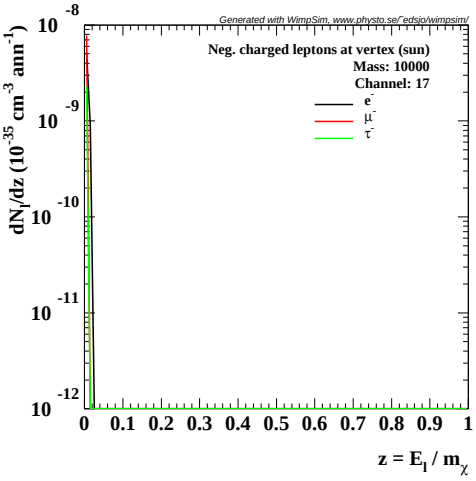
19.9 Channel 17 – $\nu_\mu \bar{\nu}_\mu$

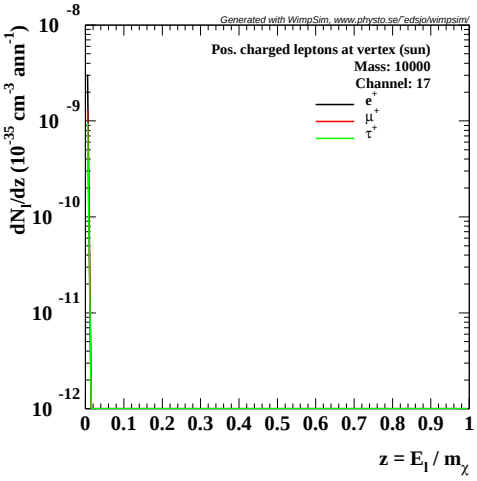
19.9.1 Neutrino fluxes at detector (Sun)



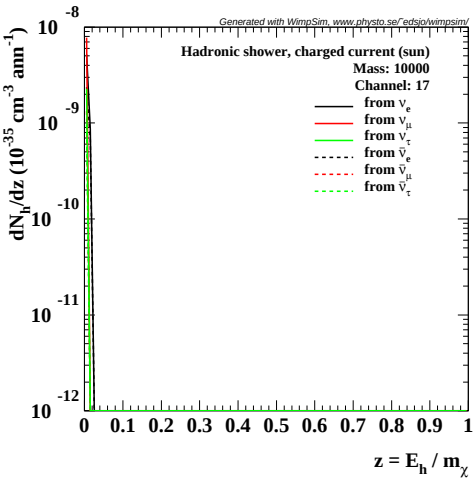


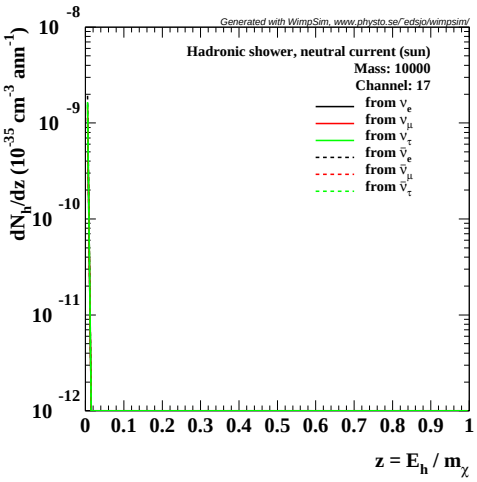
19.9.2 Charged leptons at neutrino-nucleon vertex (Sun)



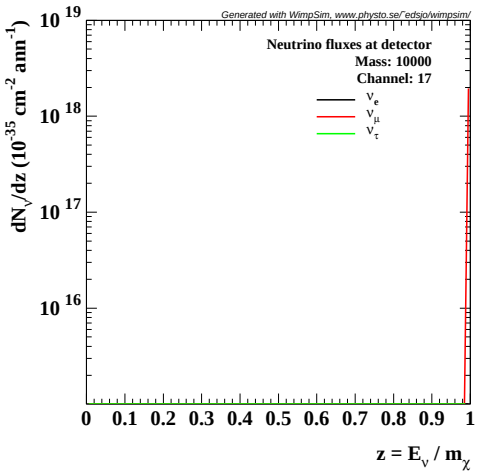


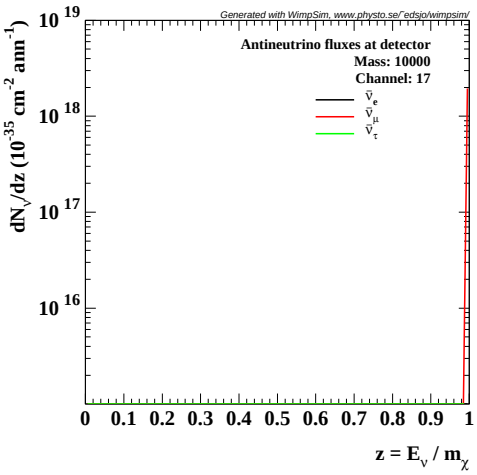
19.9.3 Hadronic shower at neutrino-nucleon vertex (Sun)



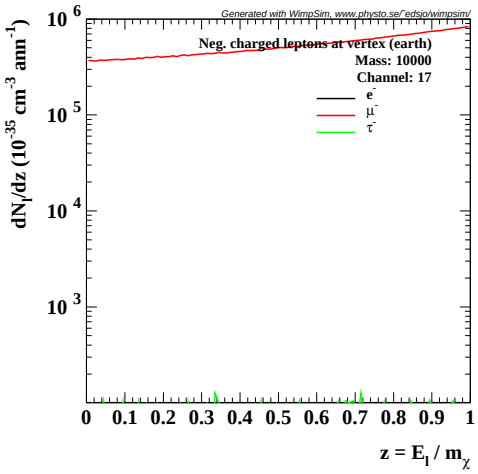


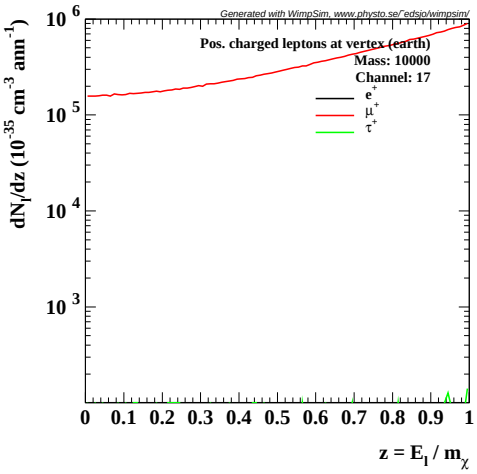
19.9.4 Neutrino fluxes at detector (Earth)



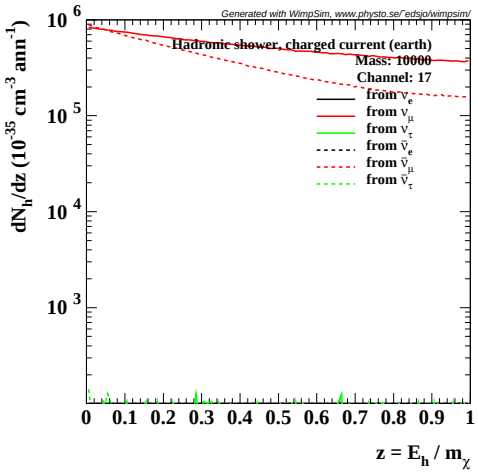


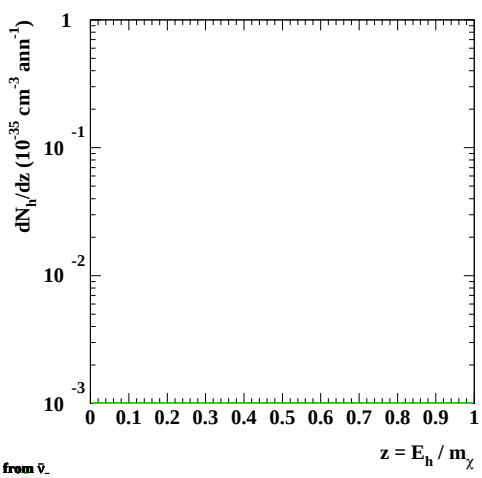
19.9.5 Charged leptons at neutrino-nucleon vertex (Earth)





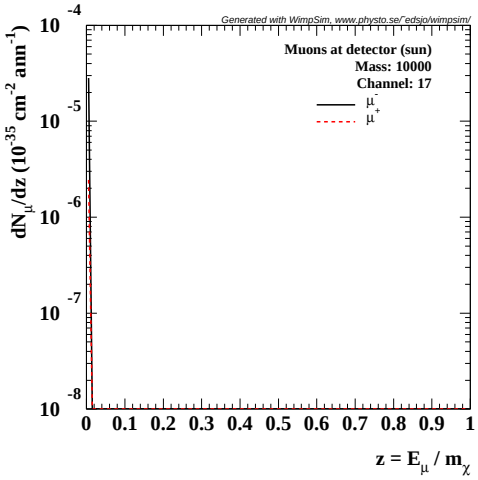
19.9.6 Hadronic shower at neutrino-nucleon vertex (Earth)

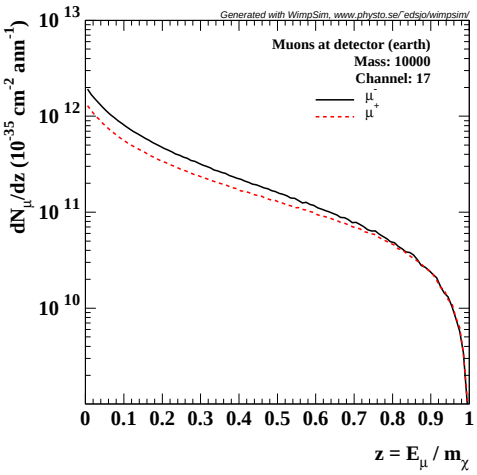




from $\bar{\nu}_\tau$

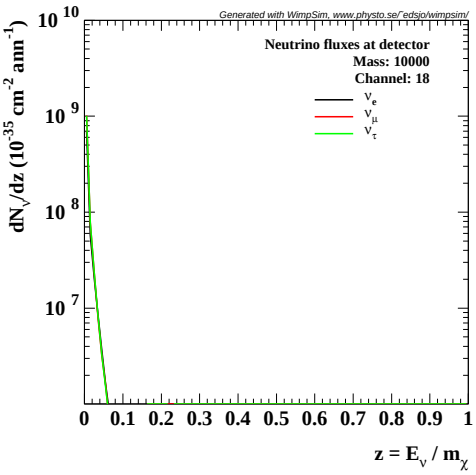
19.9.7 Muons at detector (Sun/Earth)

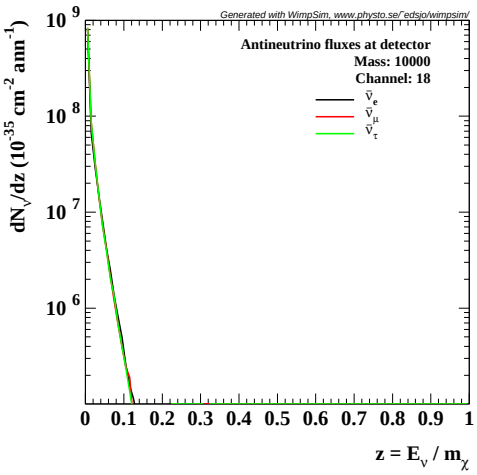




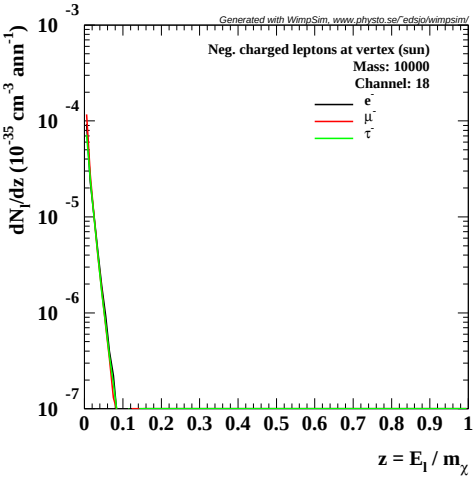
19.10 Channel 18 – $\nu_\tau \bar{\nu}_\tau$

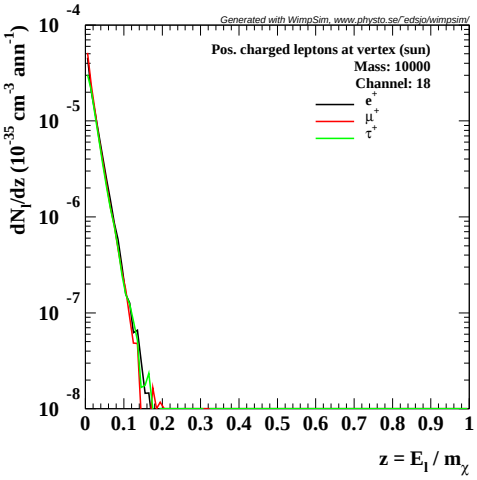
19.10.1 Neutrino fluxes at detector (Sun)



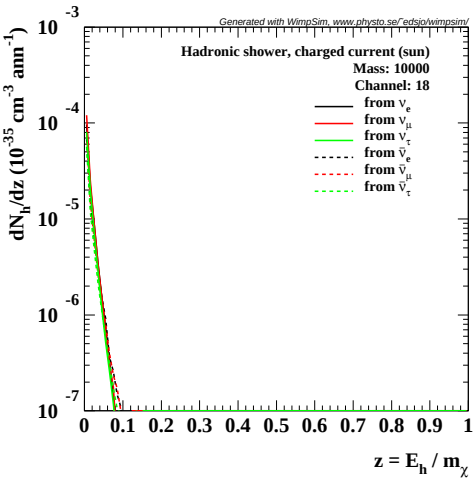


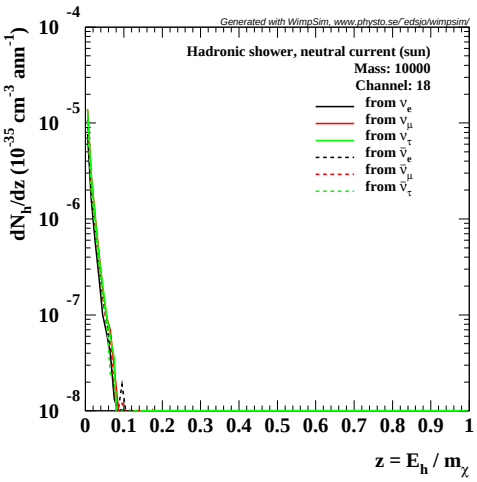
19.10.2 Charged leptons at neutrino-nucleon vertex (Sun)



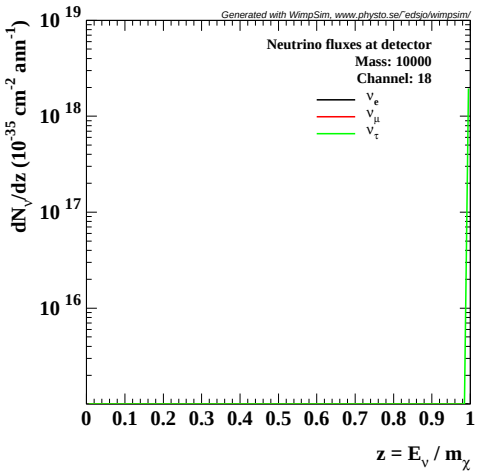


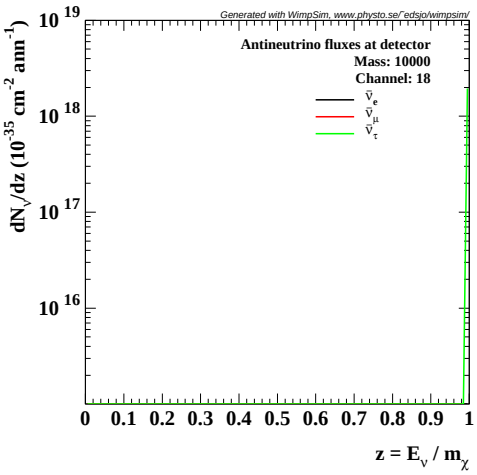
19.10.3 Hadronic shower at neutrino-nucleon vertex (Sun)



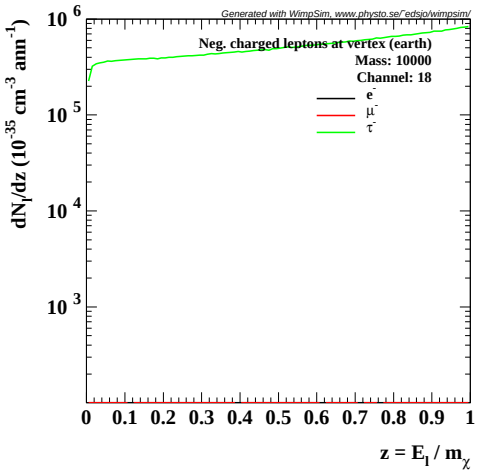


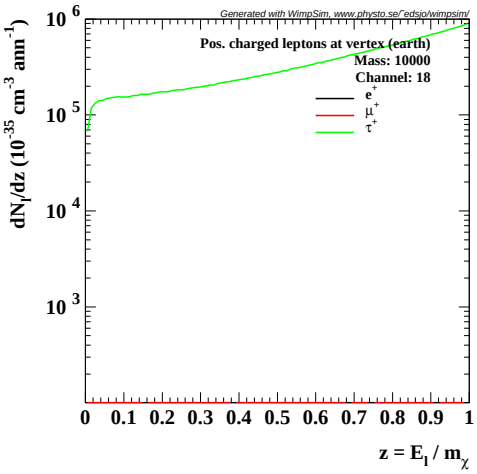
19.10.4 Neutrino fluxes at detector (Earth)



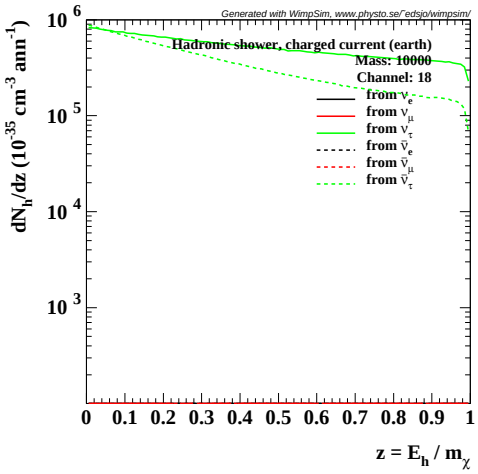


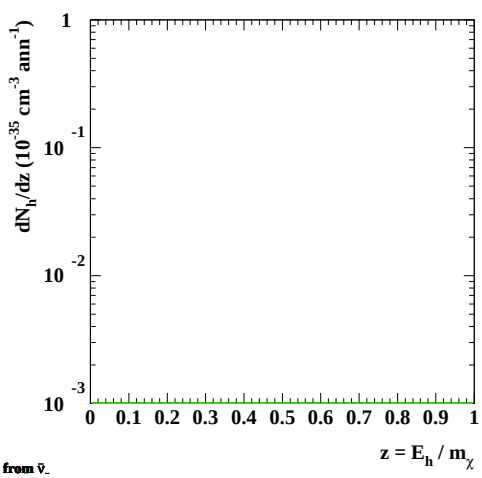
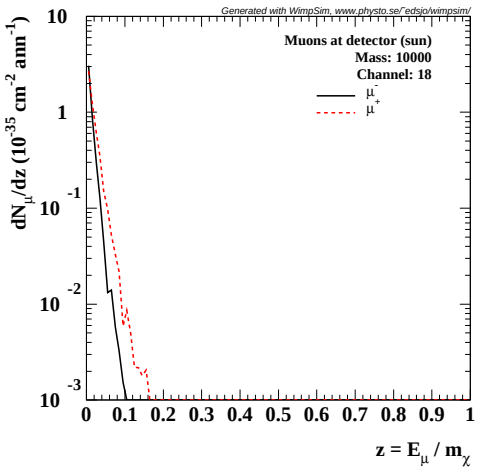
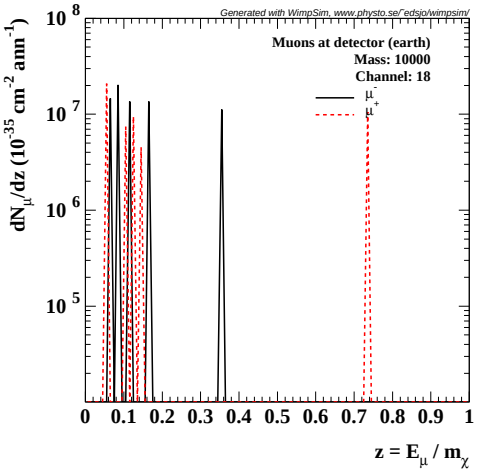
19.10.5 Charged leptons at neutrino-nucleon vertex (Earth)





19.10.6 Hadronic shower at neutrino-nucleon vertex (Earth)





19.10.7 Muons at detector (Sun/Earth)