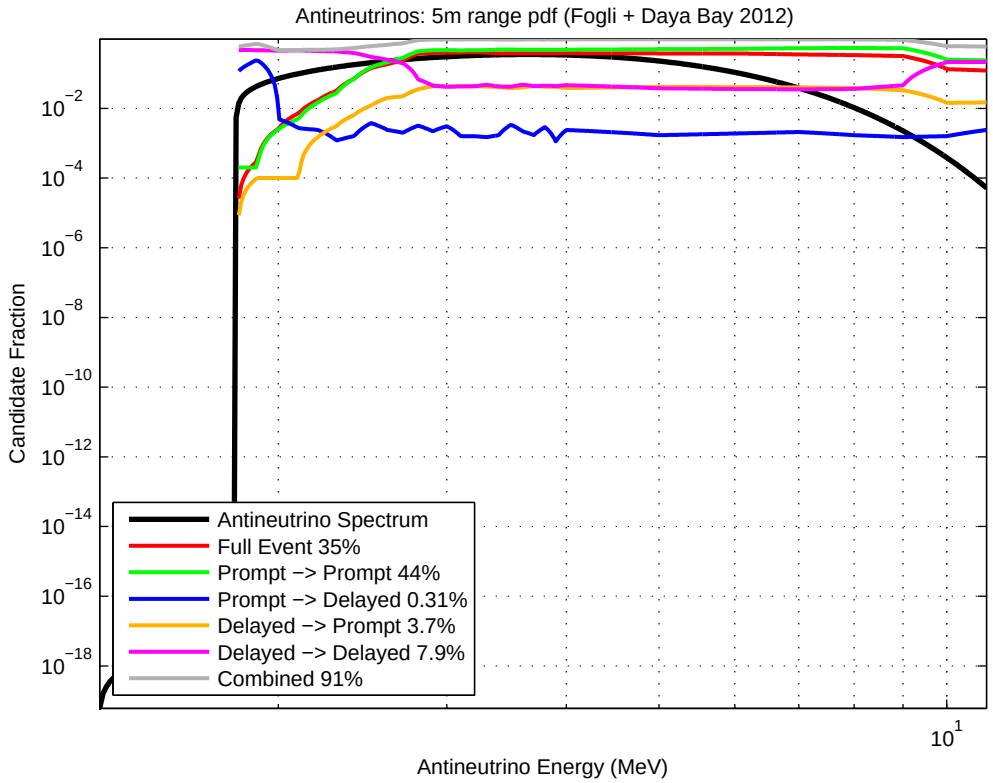
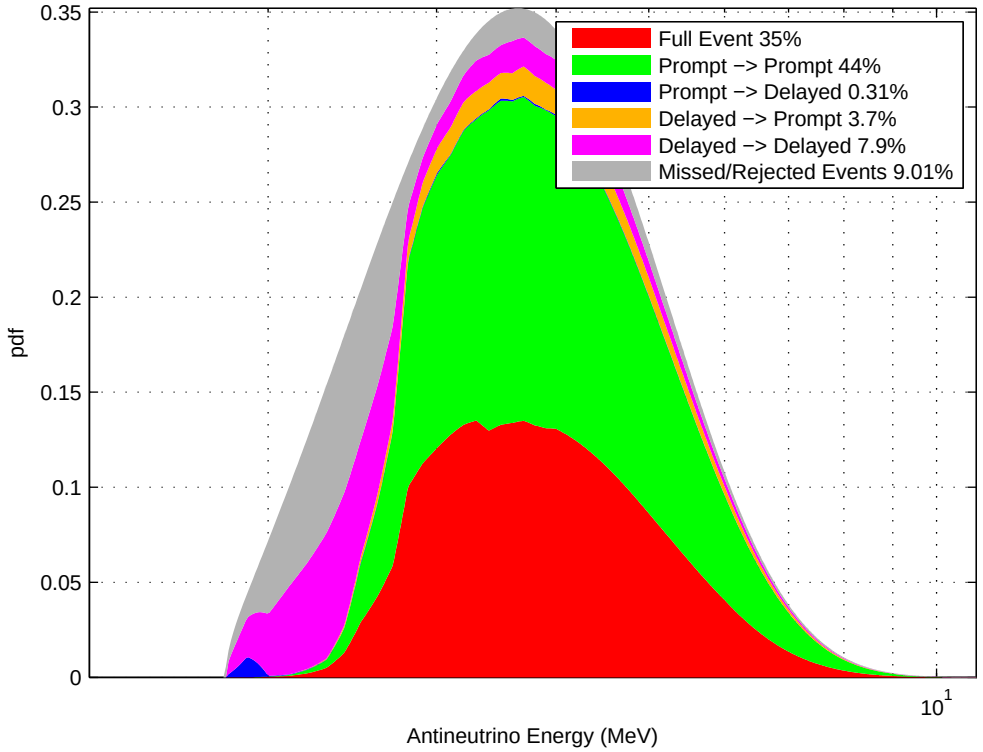
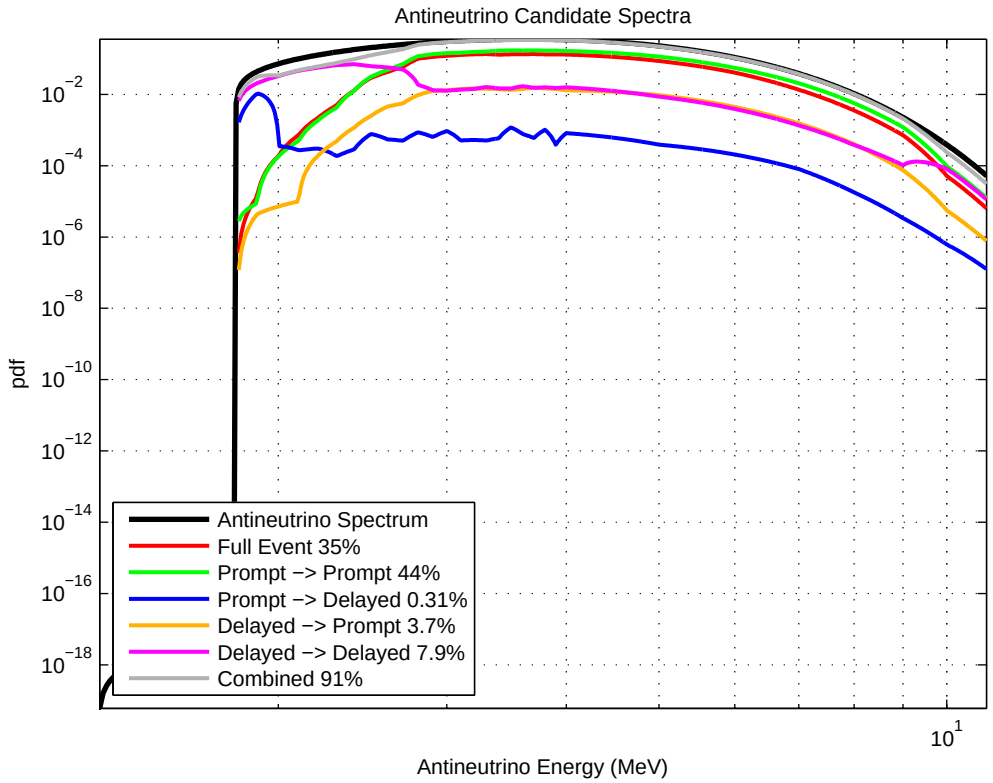
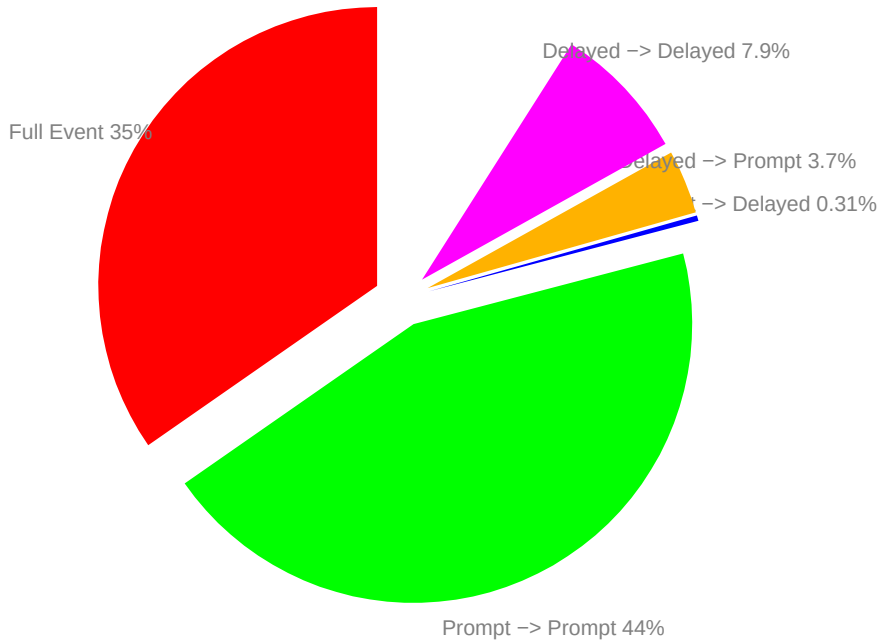
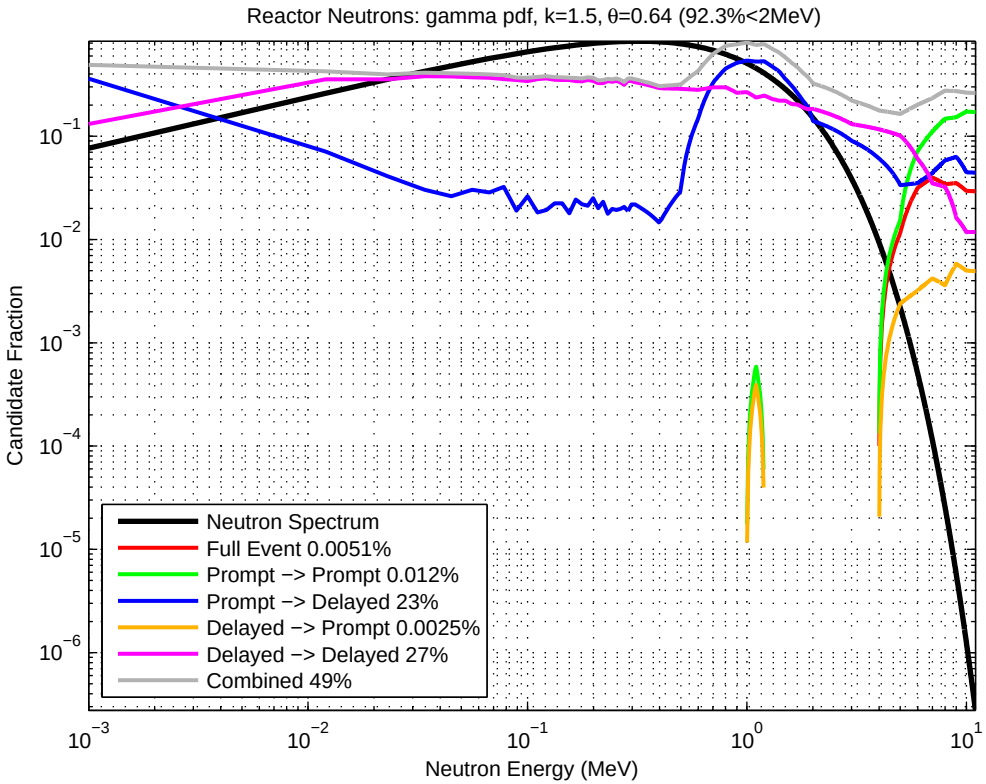
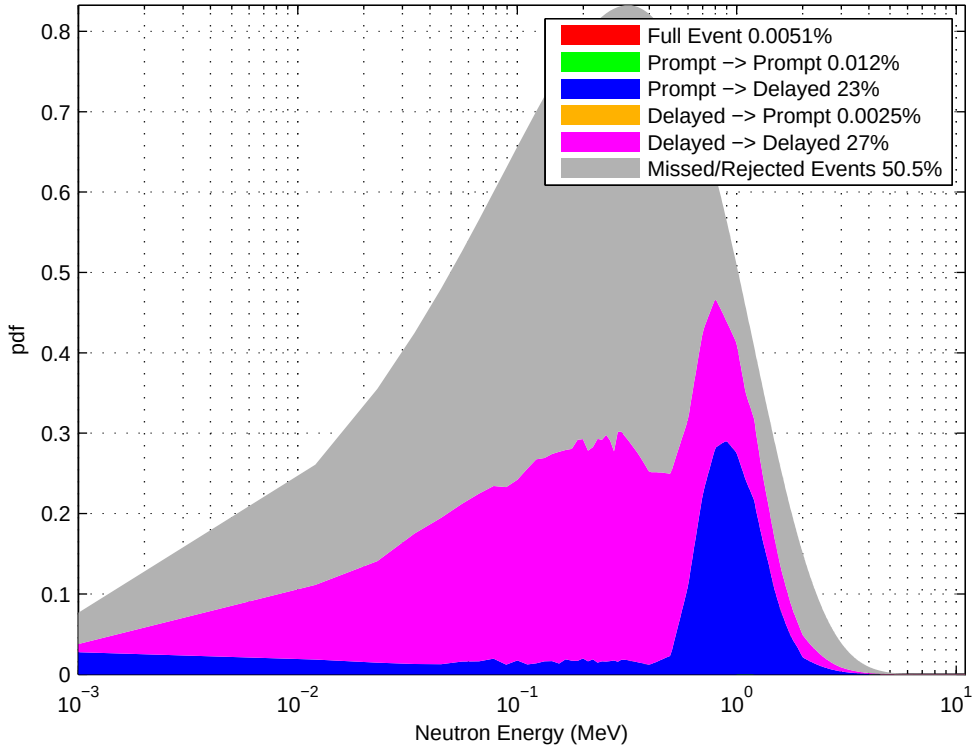

Antineutrinos: 5m range pdf (Fogli + Daya Bay 2012)
Candidate Fraction
Antineutrino Energy (MeV)
Antineutrino Spectrum
Full Event 35%
Prompt −> Prompt 44%
Prompt −> Delayed 0.31%
Delayed −> Prompt 3.7%
Delayed −> Delayed 7.9%
Combined 91%

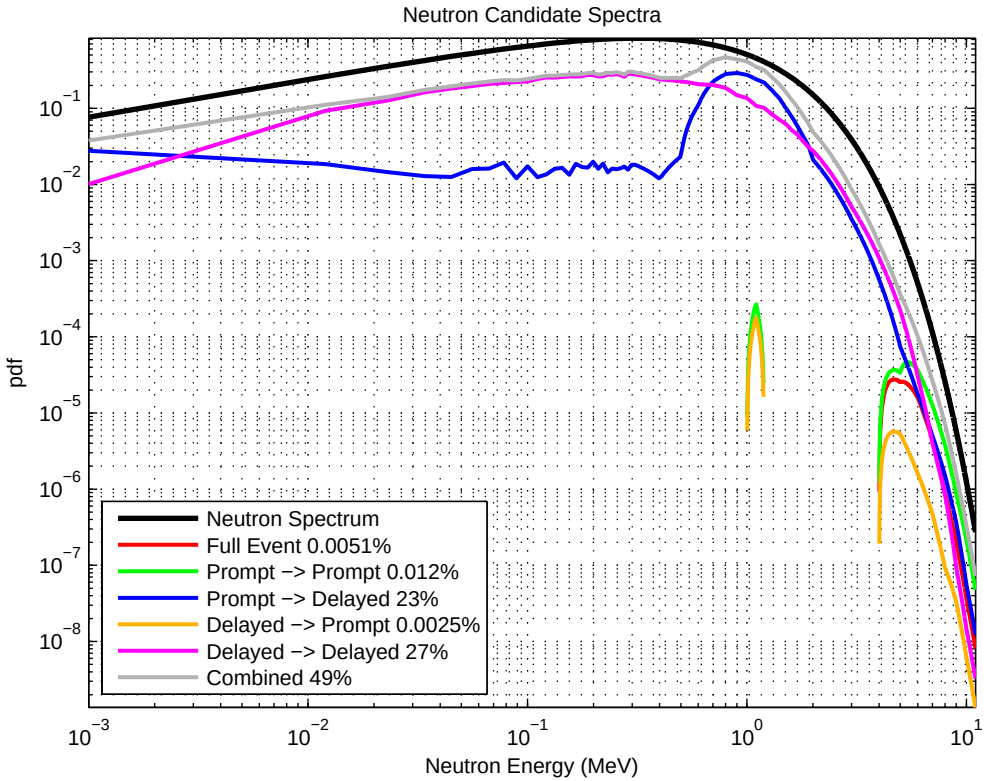

pdf
Antineutrino Energy (MeV)
Full Event 35%
Prompt −> Prompt 44%
Prompt −> Delayed 0.31%
Delayed −> Prompt 3.7%
Delayed −> Delayed 7.9%
Missed/Rejected Events 9.01%

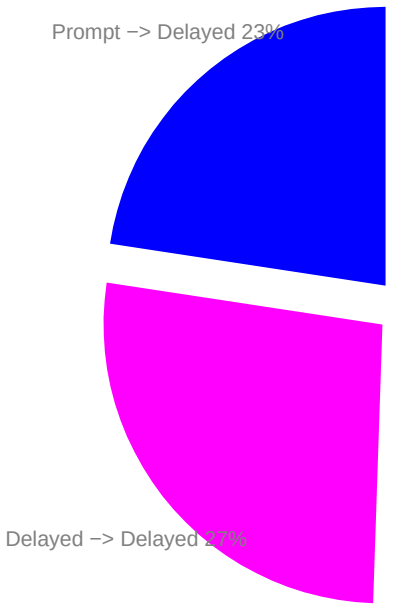

Antineutrino Candidate Spectra
pdf
Antineutrino Energy (MeV)
Antineutrino Spectrum
Full Event 35%
Prompt −> Prompt 44%
Prompt −> Delayed 0.31%
Delayed −> Prompt 3.7%
Delayed −> Delayed 7.9%
Combined 91%

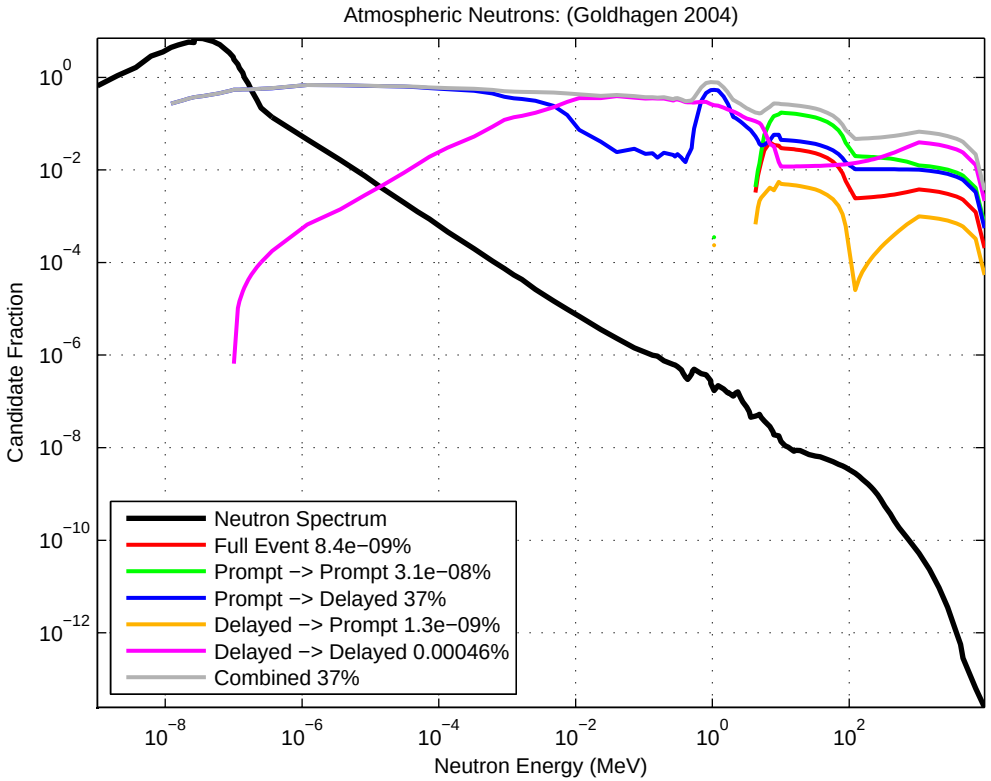

Delayed −> Delayed 7.9%
Full Event 35%
Prompt −> Prompt 44%

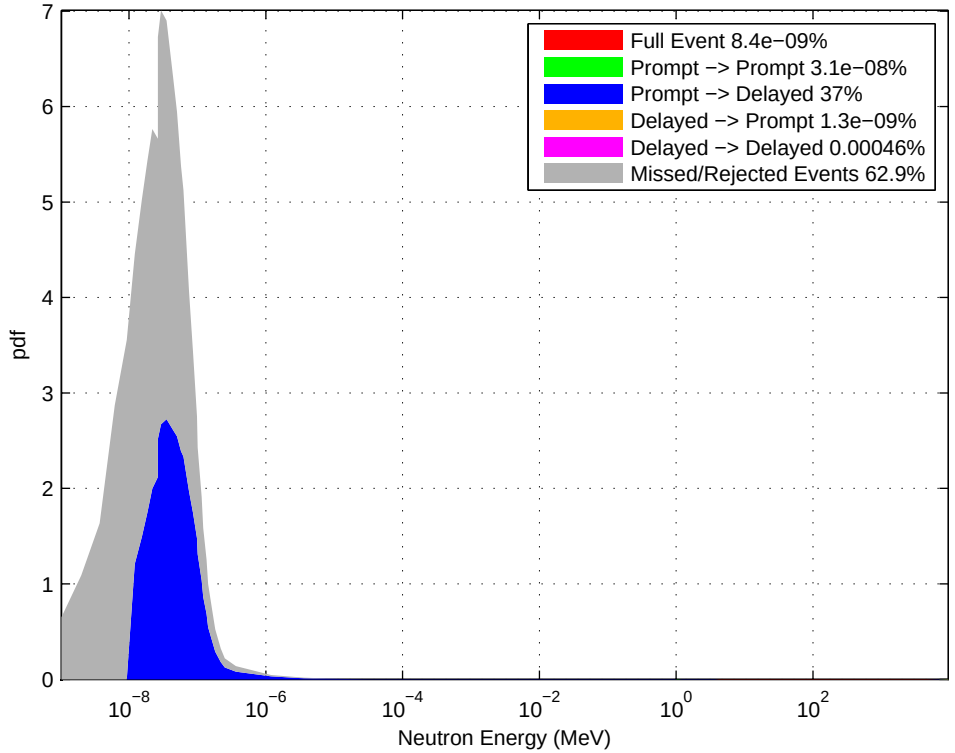

Reactor Neutrons: gamma pdf, k=1.5, θ=0.64 (92.3%<2MeV)
Candidate Fraction
Neutron Energy (MeV)
Neutron Spectrum
Full Event 0.0051%
Prompt −> Prompt 0.012%
Prompt −> Delayed 23%
Delayed −> Prompt 0.0025%
Delayed −> Delayed 27%
Combined 49%

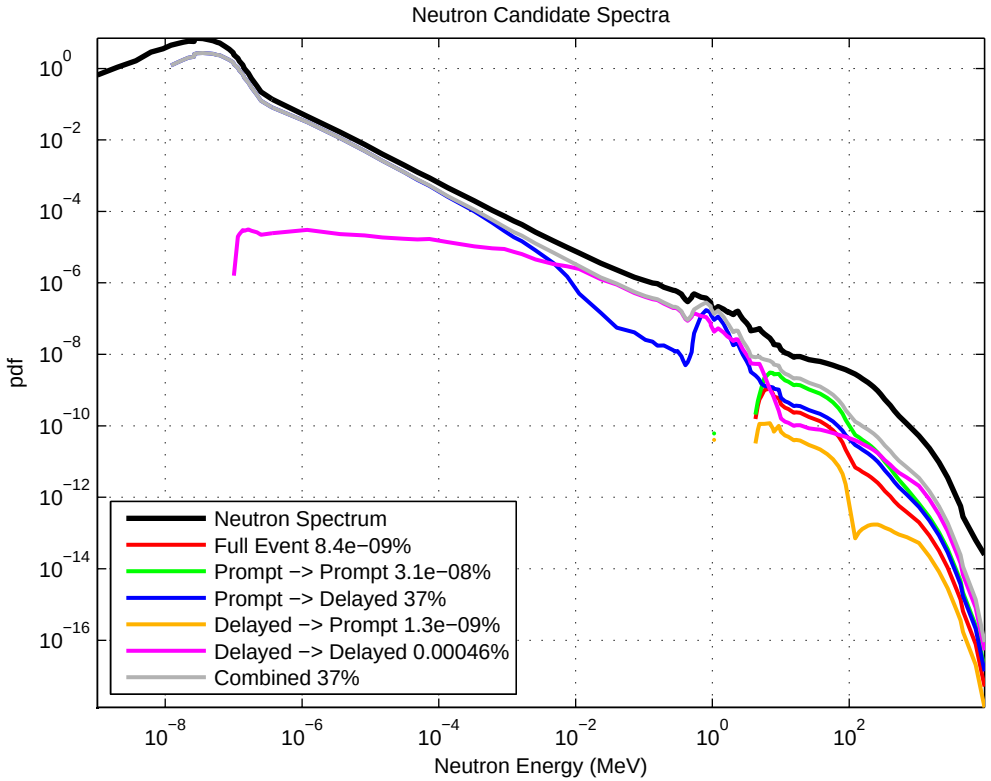

pdf
Neutron Energy (MeV)
Full Event 0.0051%
Prompt −> Prompt 0.012%
Prompt −> Delayed 23%
Delayed −> Prompt 0.0025%
Delayed −> Delayed 27%
Missed/Rejected Events 50.5%

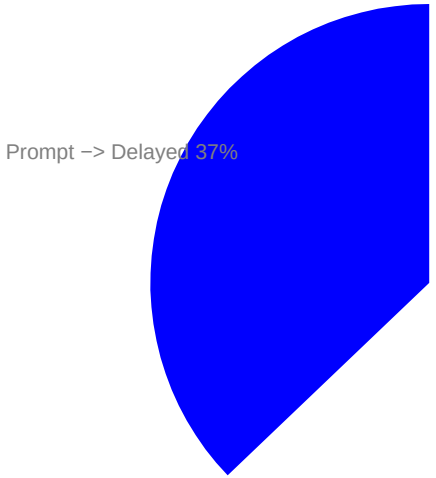

Neutron Candidate Spectra
pdf
Neutron Energy (MeV)
Neutron Spectrum
Full Event 0.0051%
Prompt −> Prompt 0.012%
Prompt −> Delayed 23%
Delayed −> Prompt 0.0025%
Delayed −> Delayed 27%
Combined 49%

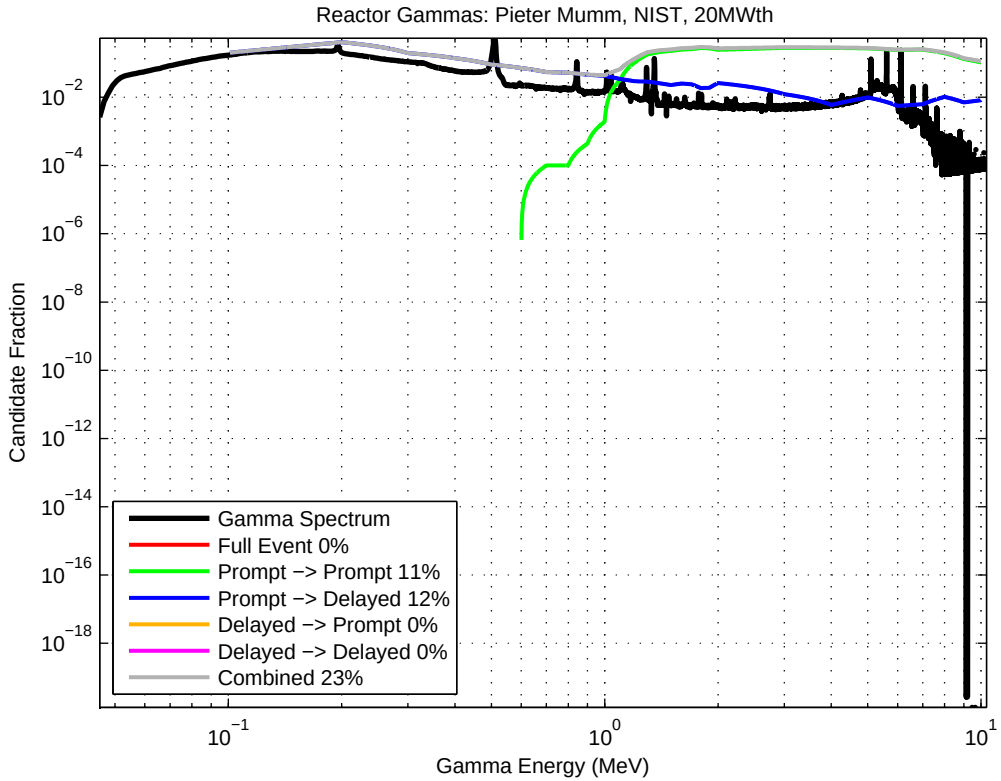

Prompt −> Delayed 23%
Delayed −> Delayed 27%

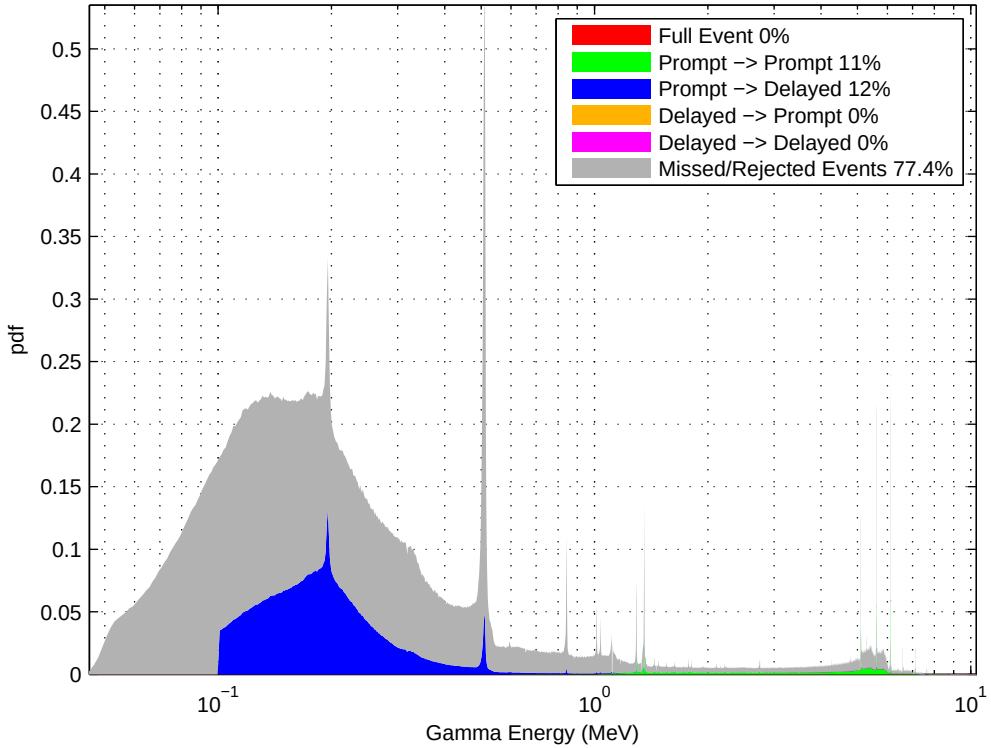

Atmospheric Neutrons: (Goldhagen 2004)
Candidate Fraction
Neutron Energy (MeV)
Neutron Spectrum
Full Event 8.4e−09%
Prompt −> Prompt 3.1e−08%
Prompt −> Delayed 37%
Delayed −> Prompt 1.3e−09%
Delayed −> Delayed 0.00046%
Combined 37%

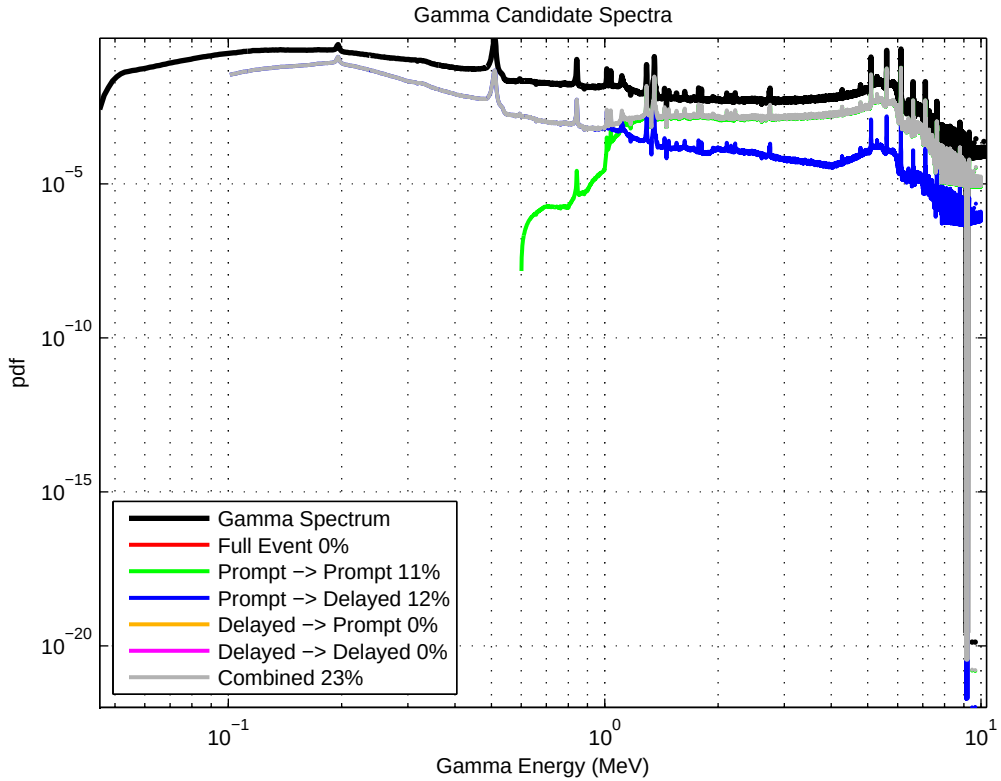

pdf
Neutron Energy (MeV)
Full Event 8.4e−09%
Prompt −> Prompt 3.1e−08%
Prompt −> Delayed 37%
Delayed −> Prompt 1.3e−09%
Delayed −> Delayed 0.00046%
Missed/Rejected Events 62.9%

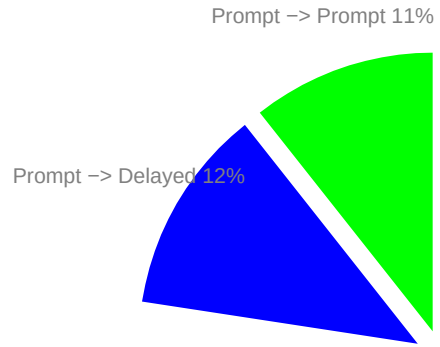

Neutron Candidate Spectra
pdf
Neutron Energy (MeV)
Neutron Spectrum
Full Event 8.4e−09%
Prompt −> Prompt 3.1e−08%
Prompt −> Delayed 37%
Delayed −> Prompt 1.3e−09%
Delayed −> Delayed 0.00046%
Combined 37%

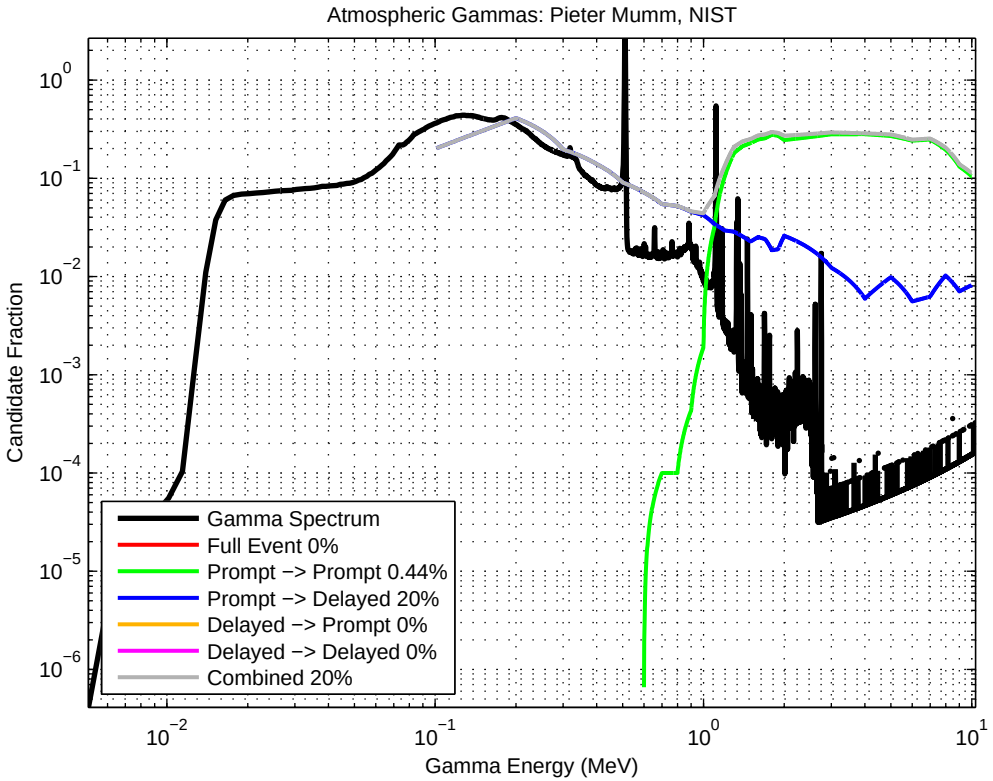

Prompt −> Delayed 37%

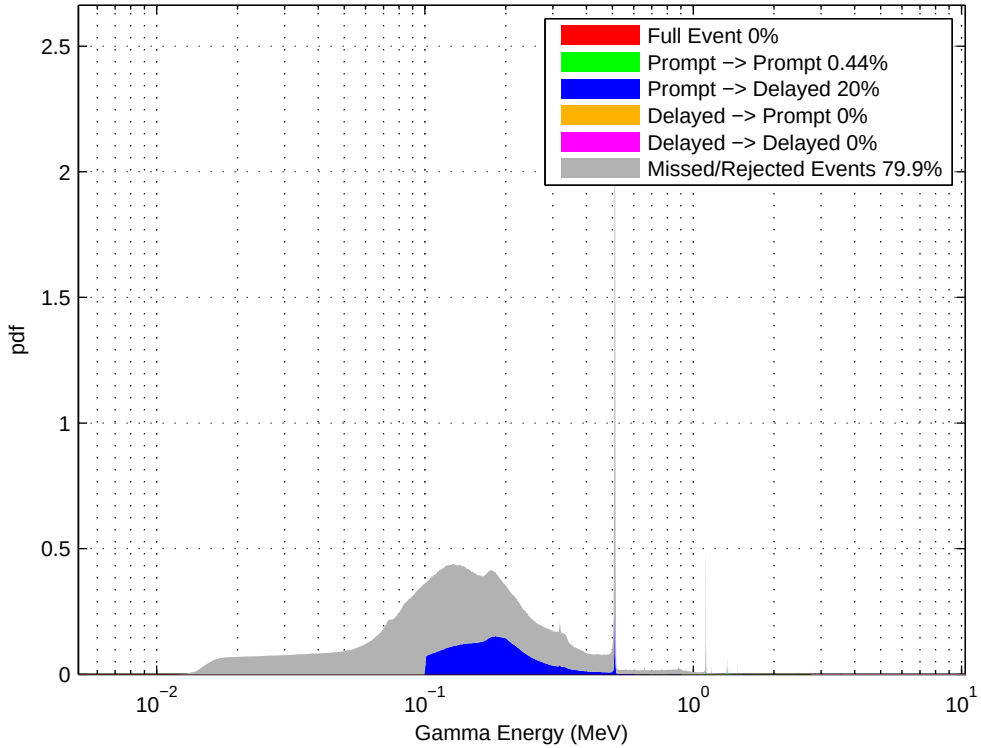

Reactor Gammas: Pieter Mumm, NIST, 20MWth
Candidate Fraction
Gamma Energy (MeV)
Gamma Spectrum
Full Event 0%
Prompt −> Prompt 11%
Prompt −> Delayed 12%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Combined 23%

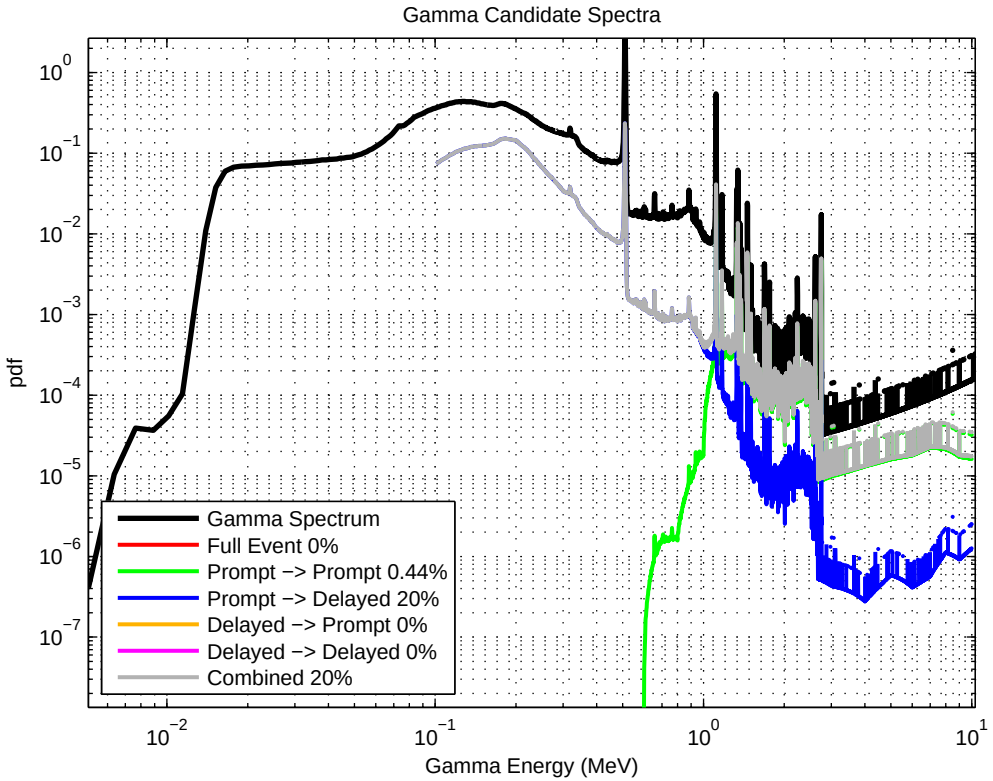

pdf
Gamma Energy (MeV)
Full Event 0%
Prompt −> Prompt 11%
Prompt −> Delayed 12%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Missed/Rejected Events 77.4%

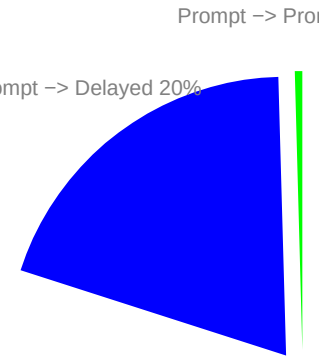

Gamma Candidate Spectra
pdf
Gamma Energy (MeV)
Gamma Spectrum
Full Event 0%
Prompt −> Prompt 11%
Prompt −> Delayed 12%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Combined 23%

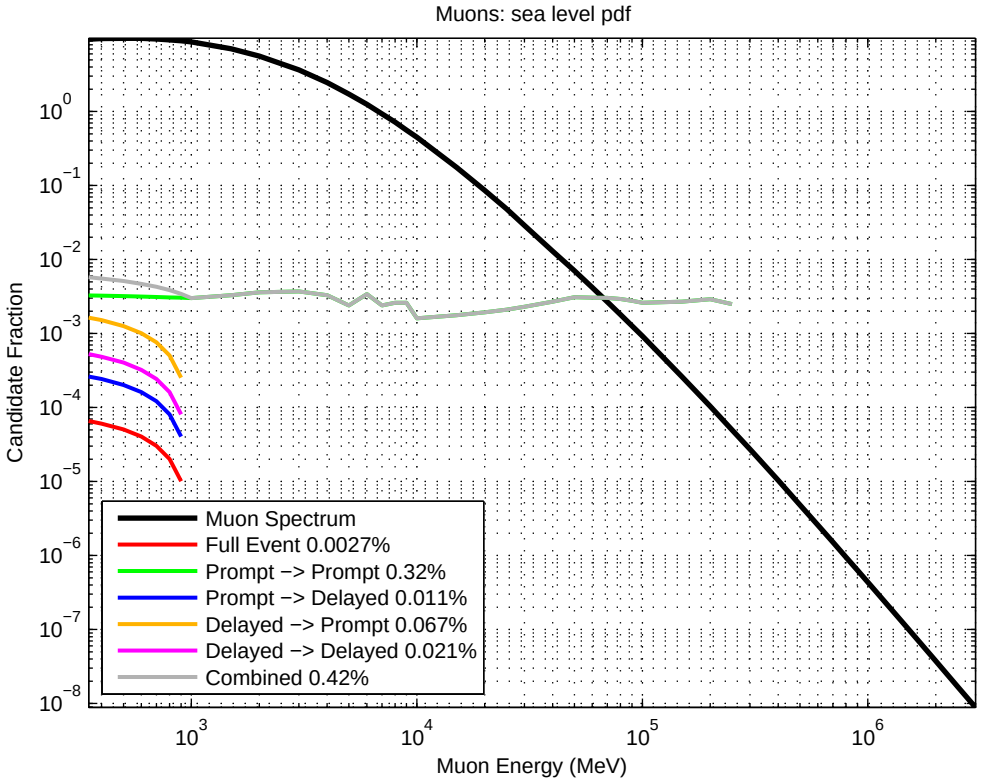

Prompt −> Prompt 11%
Prompt −> Delayed 12%

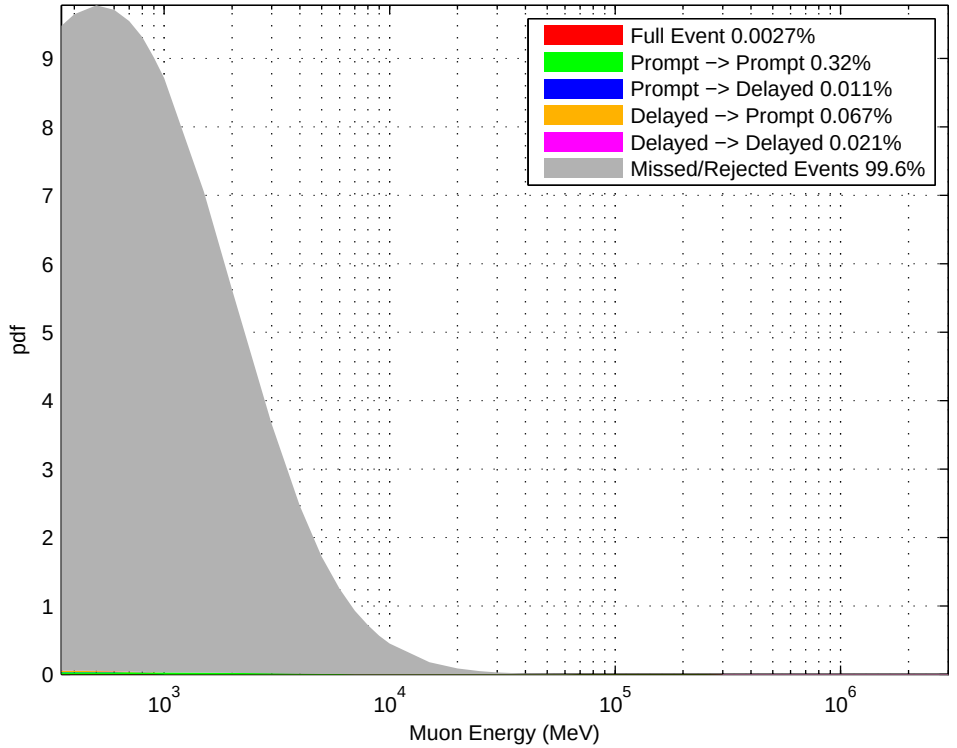

Atmospheric Gammas: Pieter Mumm, NIST
Candidate Fraction
Gamma Energy (MeV)
Gamma Spectrum
Full Event 0%
Prompt −> Prompt 0.44%
Prompt −> Delayed 20%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Combined 20%

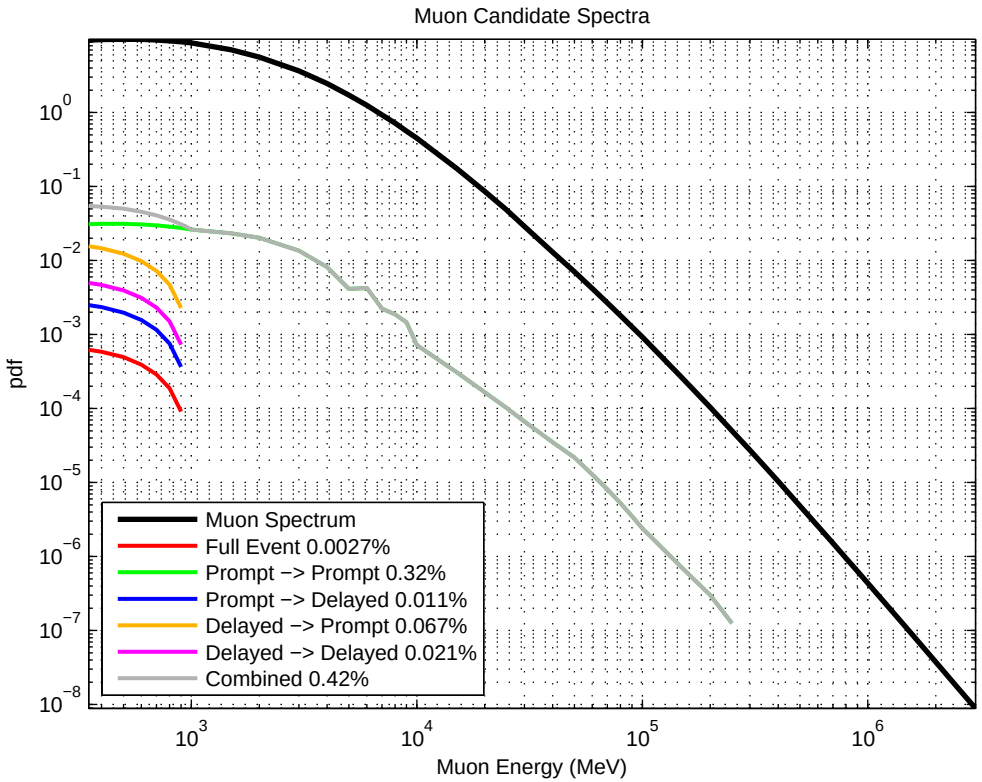

pdf
Gamma Energy (MeV)
Full Event 0%
Prompt −> Prompt 0.44%
Prompt −> Delayed 20%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Missed/Rejected Events 79.9%

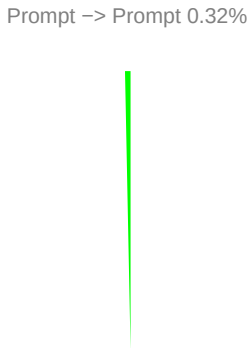

Gamma Candidate Spectra
pdf
Gamma Energy (MeV)
Gamma Spectrum
Full Event 0%
Prompt −> Prompt 0.44%
Prompt −> Delayed 20%
Delayed −> Prompt 0%
Delayed −> Delayed 0%
Combined 20%


Prompt −> Prompt 0.44%
Prompt −> Delayed 20%


Muons: sea level pdf
Candidate Fraction
Muon Energy (MeV)
Muon Spectrum
Full Event 0.0027%
Prompt −> Prompt 0.32%
Prompt −> Delayed 0.011%
Delayed −> Prompt 0.067%
Delayed −> Delayed 0.021%
Combined 0.42%


pdf
Muon Energy (MeV)
Full Event 0.0027%
Prompt −> Prompt 0.32%
Prompt −> Delayed 0.011%
Delayed −> Prompt 0.067%
Delayed −> Delayed 0.021%
Missed/Rejected Events 99.6%


Muon Candidate Spectra
pdf
Muon Energy (MeV)
Muon Spectrum
Full Event 0.0027%
Prompt −> Prompt 0.32%
Prompt −> Delayed 0.011%
Delayed −> Prompt 0.067%
Delayed −> Delayed 0.021%
Combined 0.42%


Prompt −> Prompt 0.32%