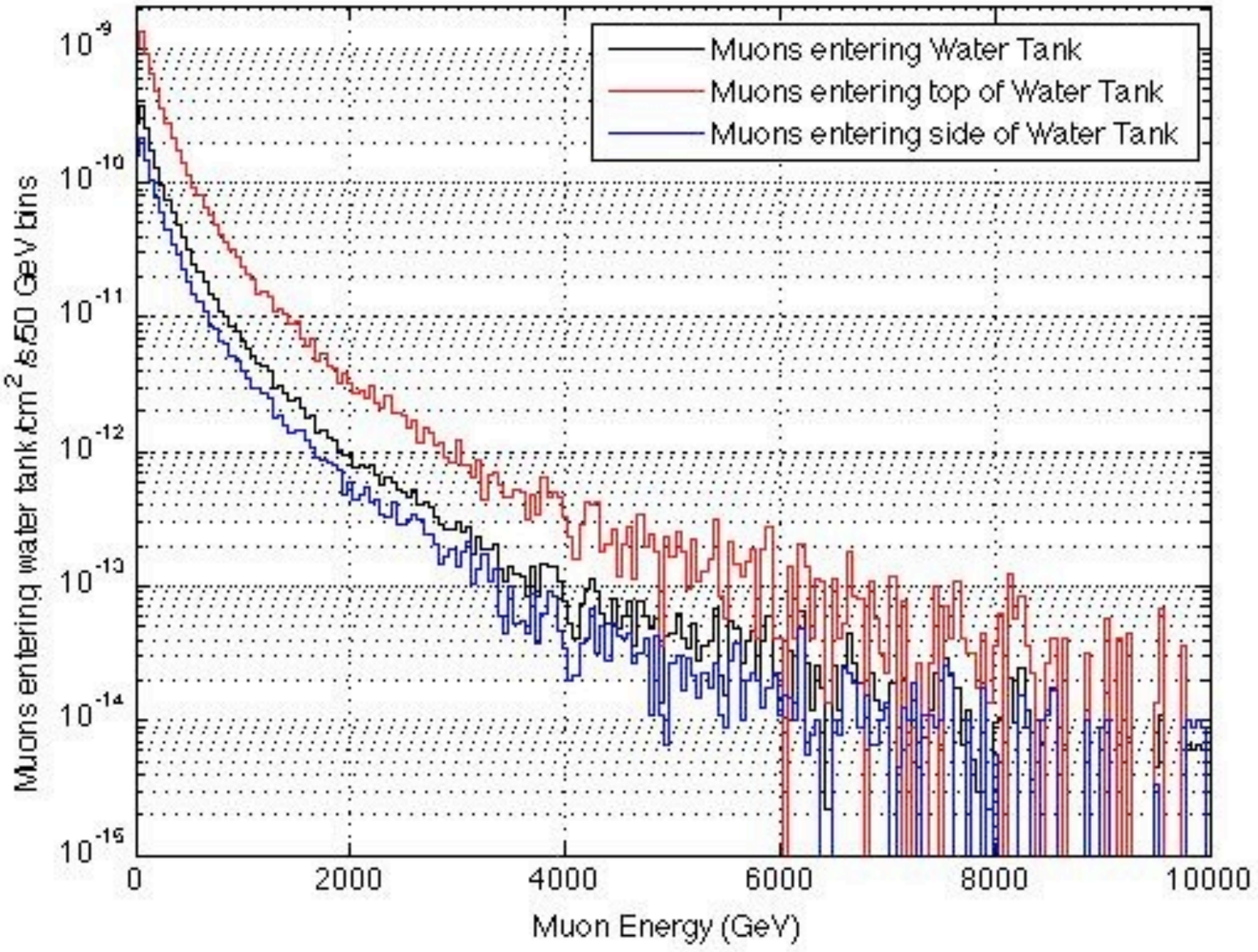
LZ & Comparison Update

Monica Pangilinan

August 9, 2012

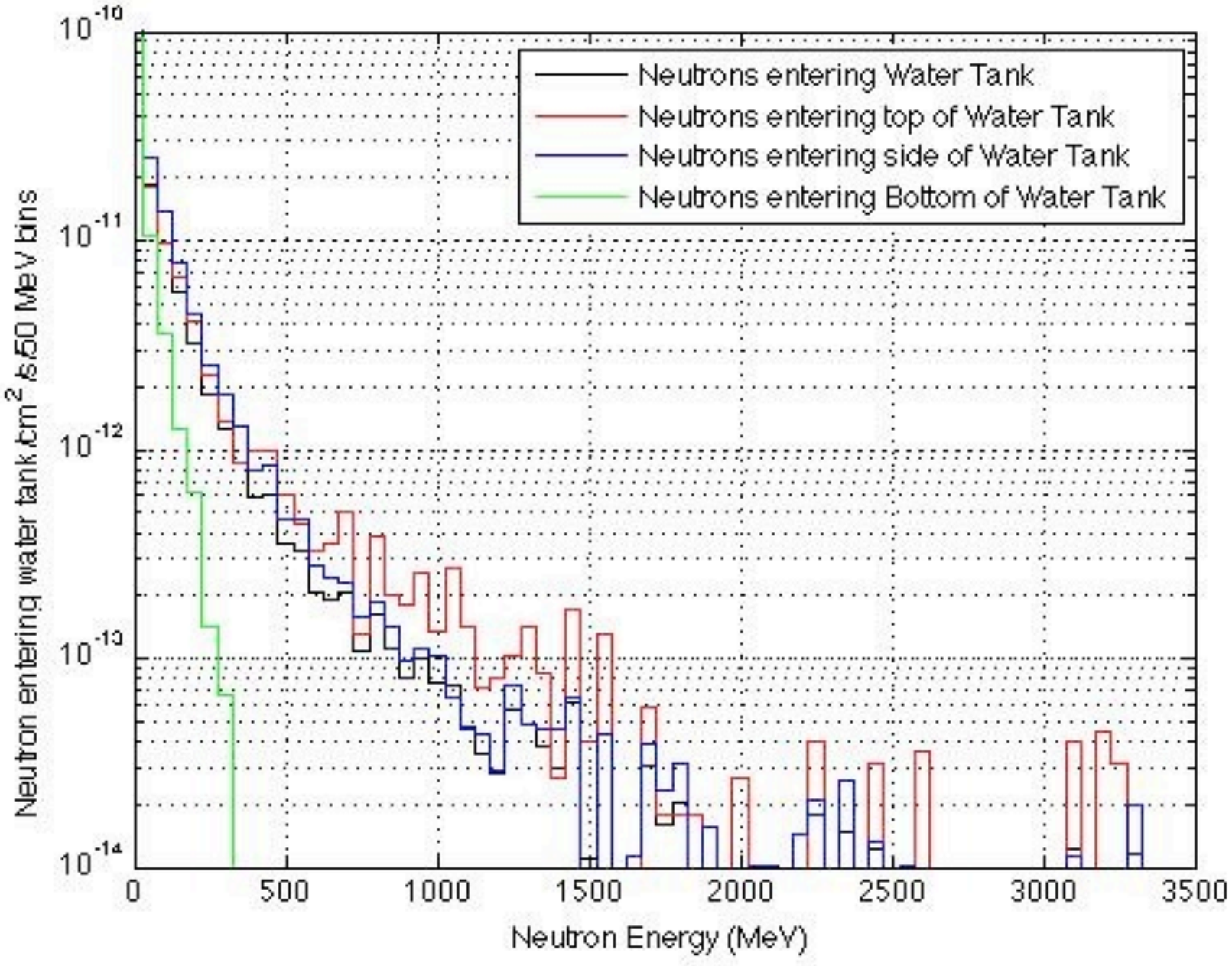
Muon Flux: Water Tank



Top of water tank: 6.46 x 10^{-5} mu/m^2/s
Total Flux of water tank: 1.77 x 10^{-5} mu/m^2/s

livetime: ~4.2 years

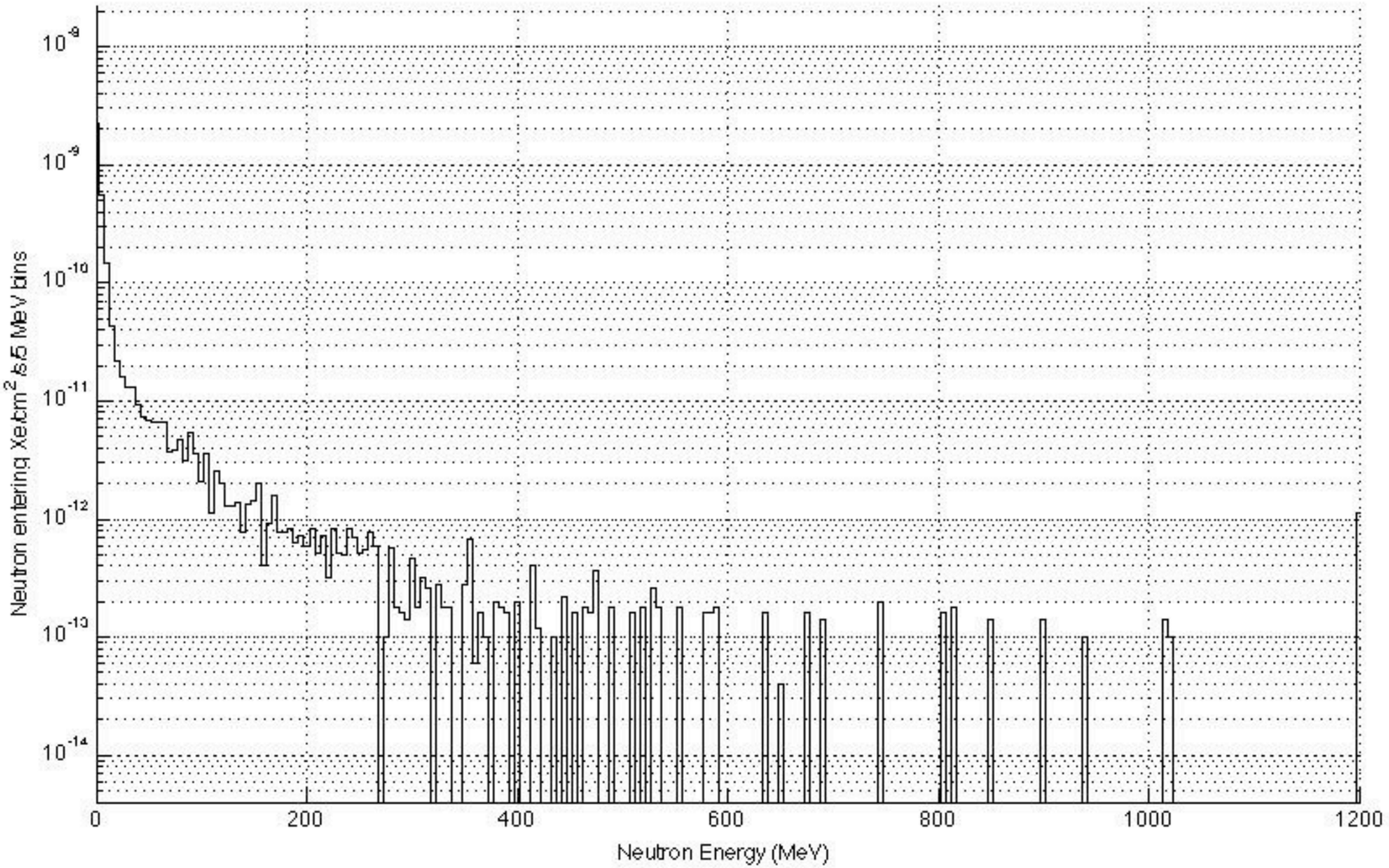
Neutron Flux: Water Tank



Top of water tank: 2.60 x 10^{-6} mu/m^2/s
Total Flux of water tank: 1.63 x 10^{-6} mu/m^2/s

livetime: ~4.2 years

Neutron Flux: Detector



Total Flux: 3.16 x 10^{-5} mu/m^2/s

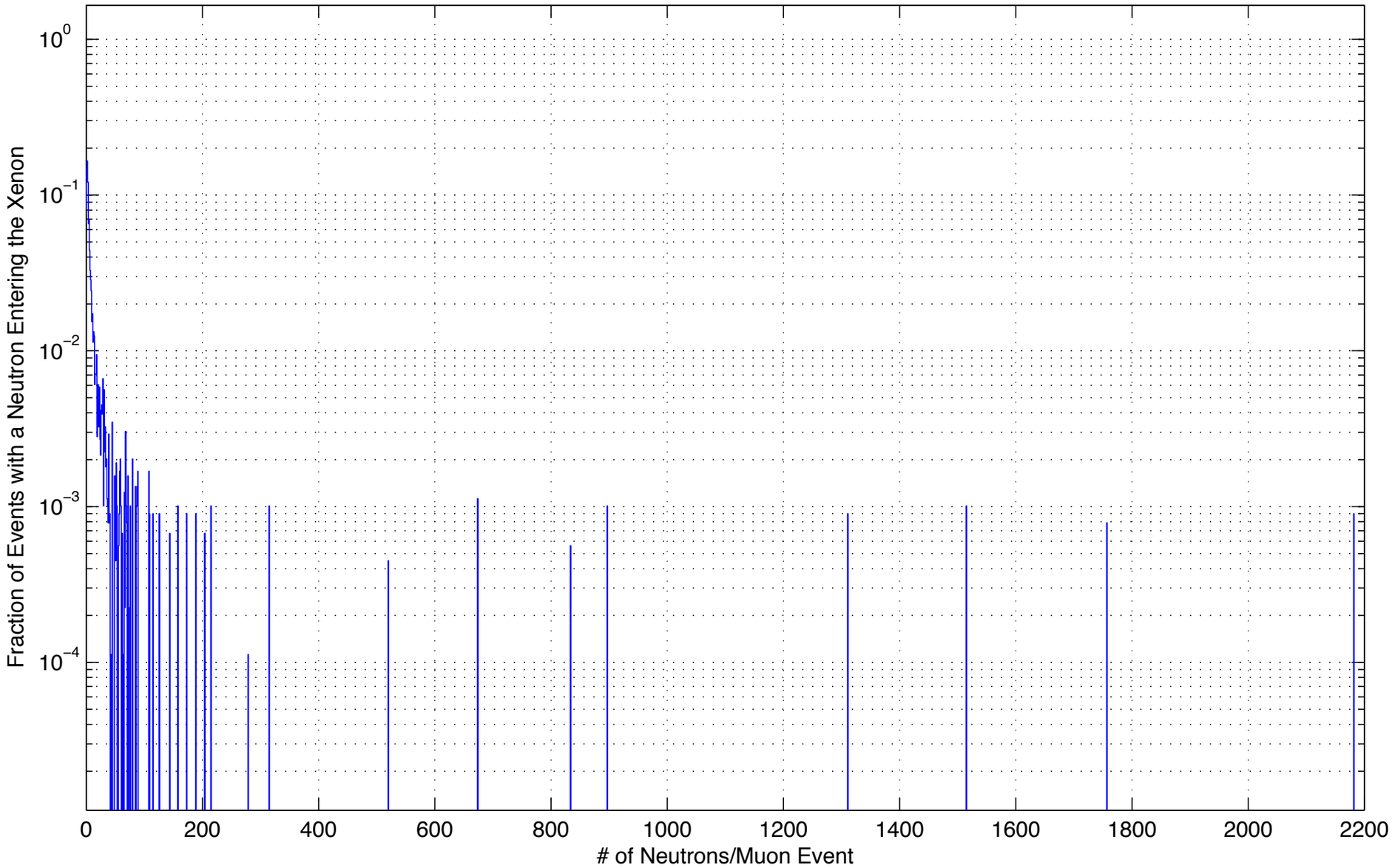
NR event/s: 1.20 x 10^{-4} /s

-> no Single NR event/s: < 5.05 x 10^{-9} /s

using limit of < 1/total livetime

livetime: ~4.2 years

Multiplicity of neutrons: Detector



- 90% of each event with a neutron has <= 25 neutrons
- large multiplicities although infrequent can skew the number of neutrons entering the xenon but correspond to 1 NR event
- These events will be cut out by single scatter cut

Outlook

- livetime increased to ~4.2 years (previous result of 330 days)
- comparisons still taking place for a set of complete datasets and should be done by next week
- looking at NR event/s as next discrepancy