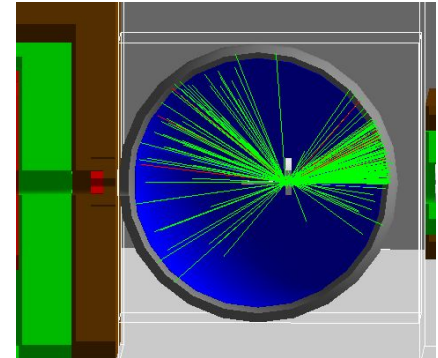
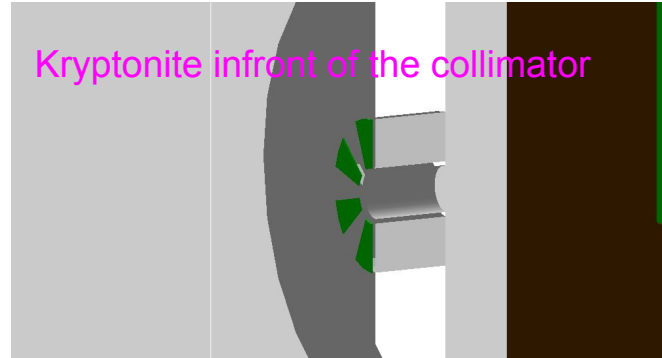
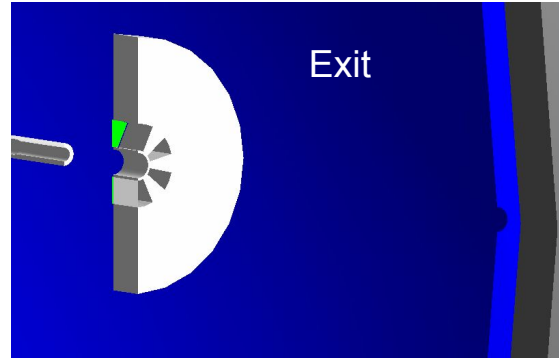
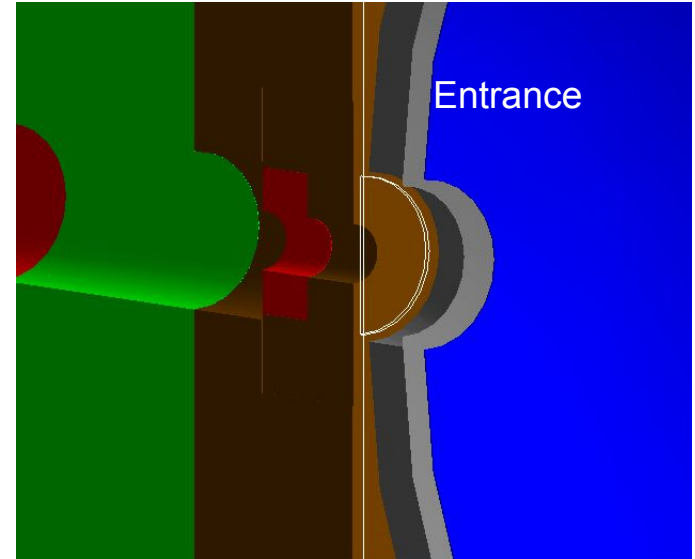
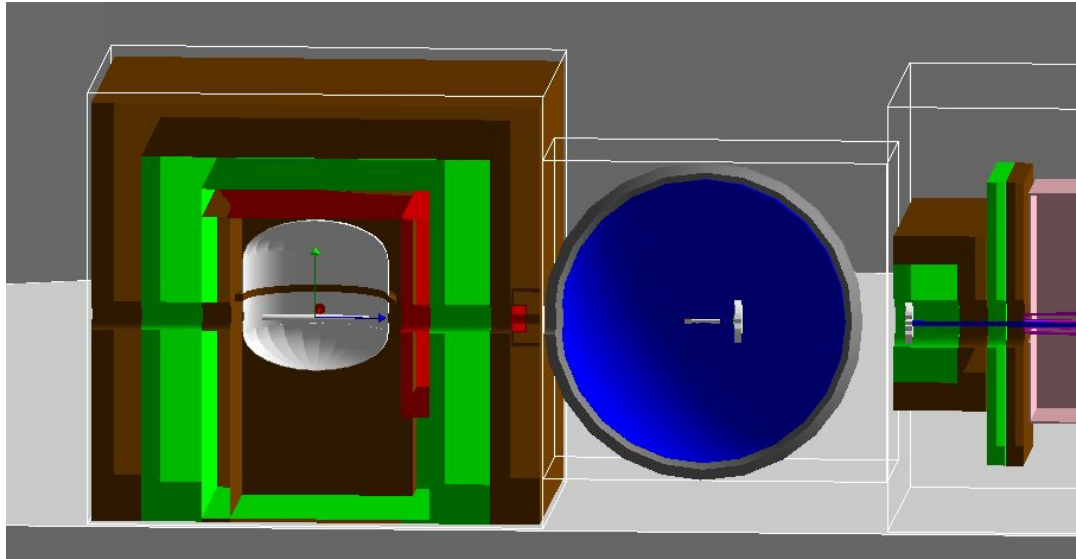


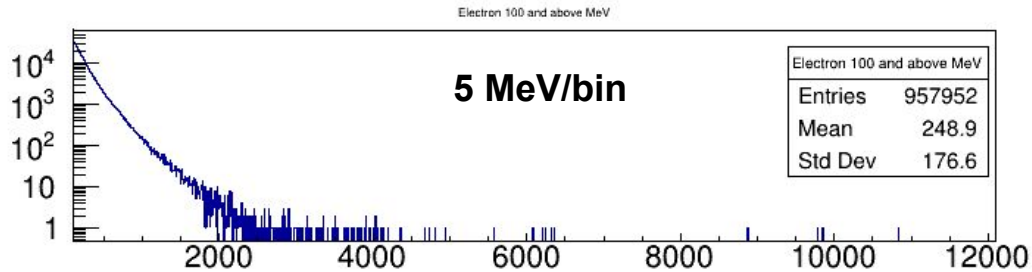
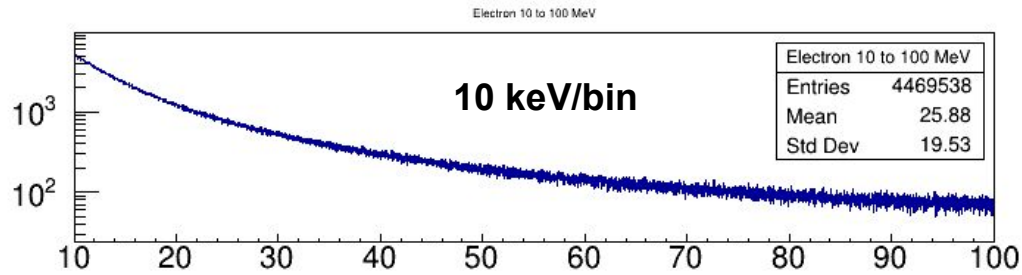
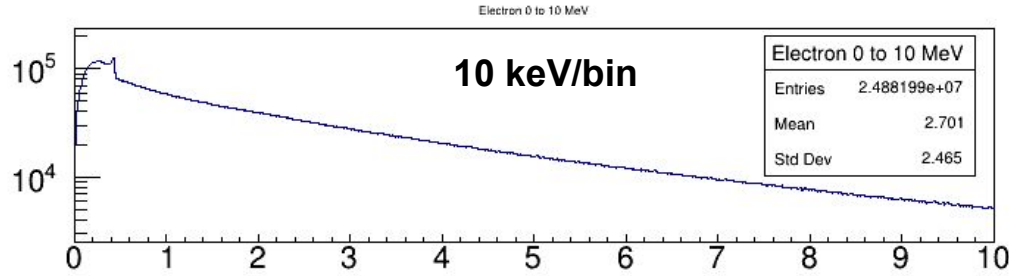
**MOLLER Simulation:
Collimator 1 and 2 Shield optimization**

Chandan Ghosh
Sept 26 2018

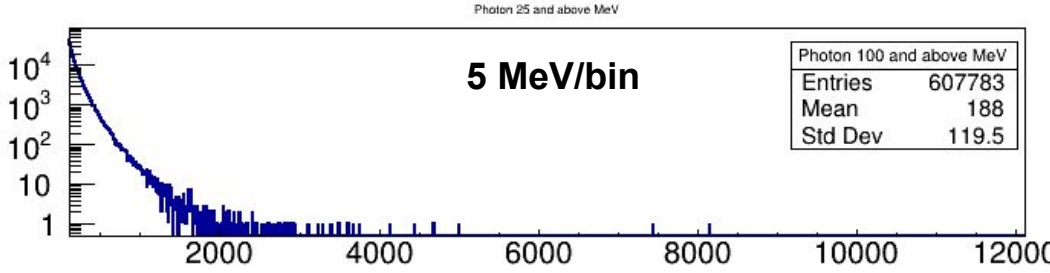
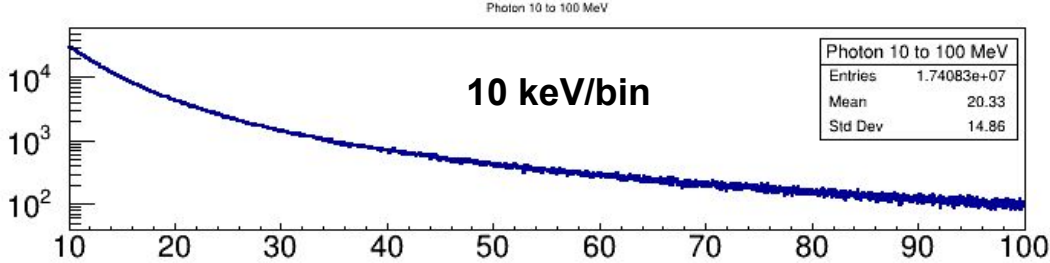
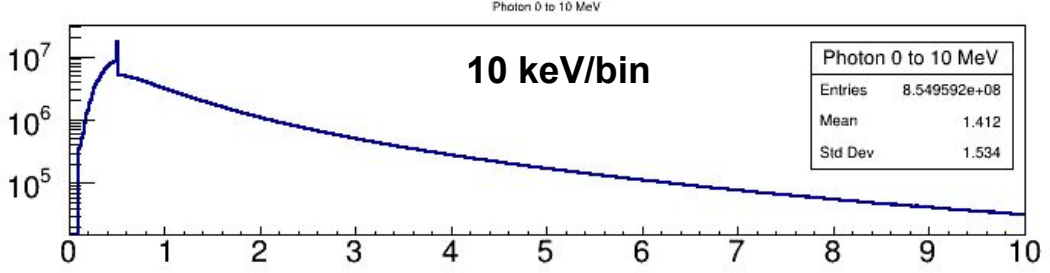
Setup pictures



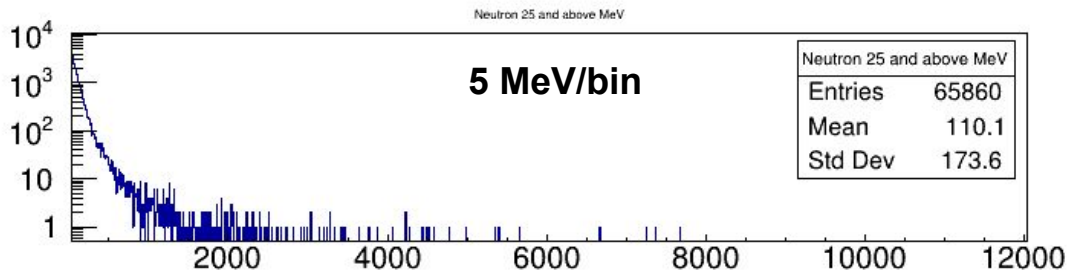
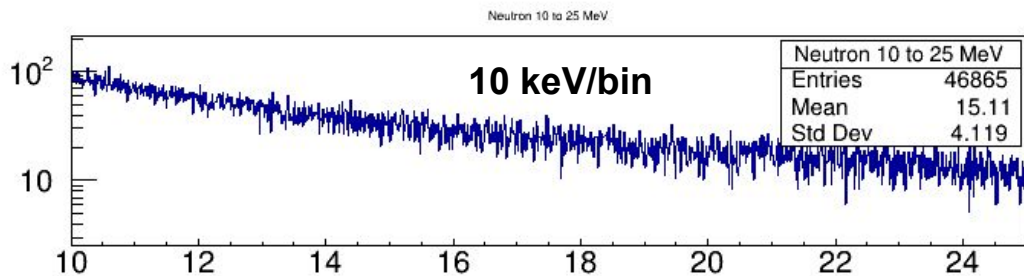
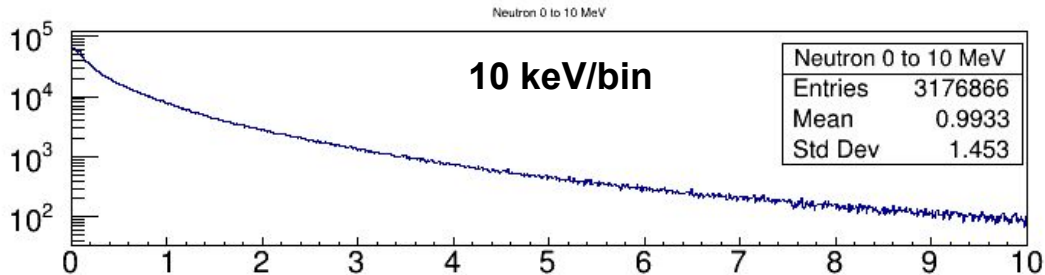
Energy Spectrum: Electron



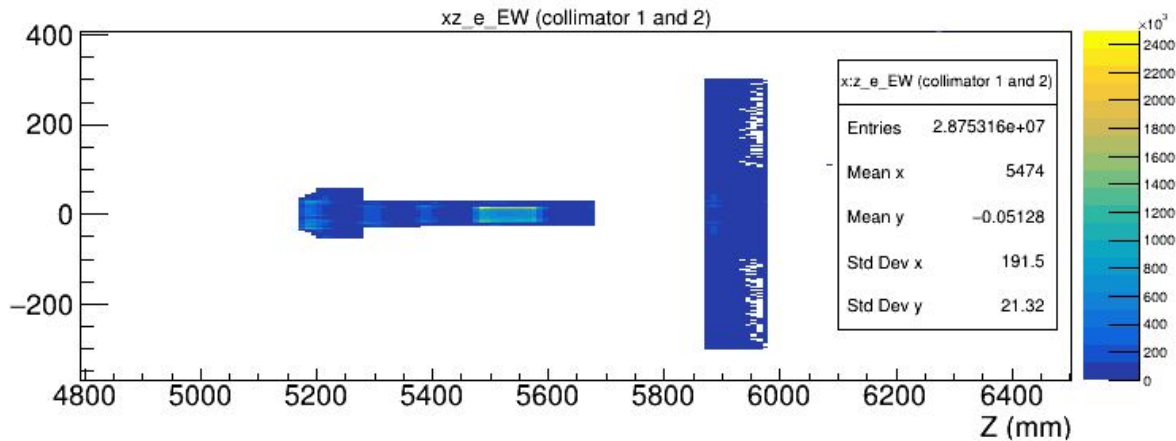
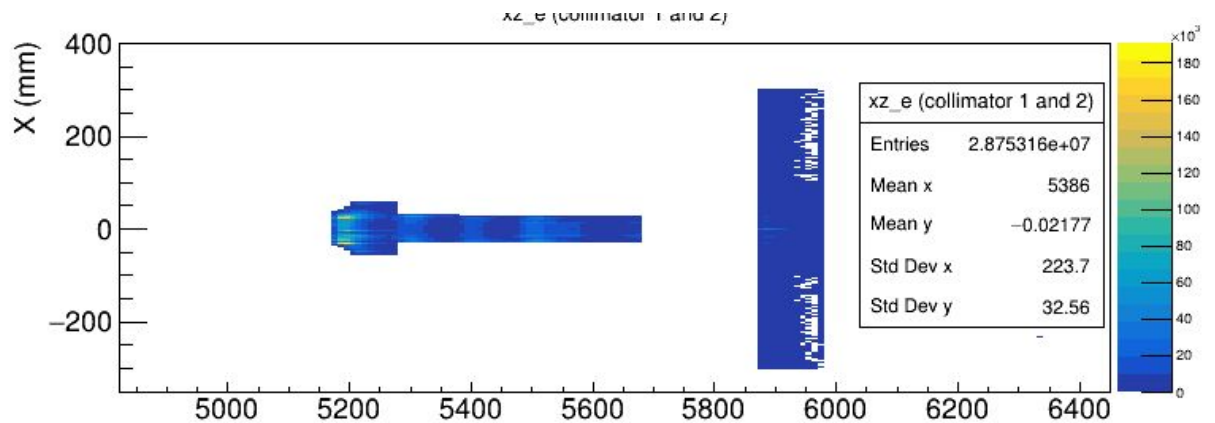
Energy Spectrum: Photon



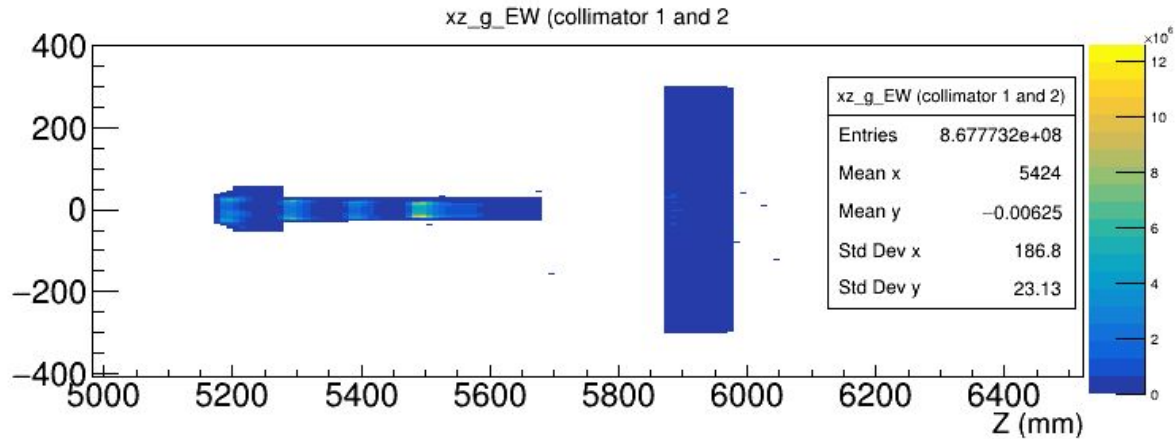
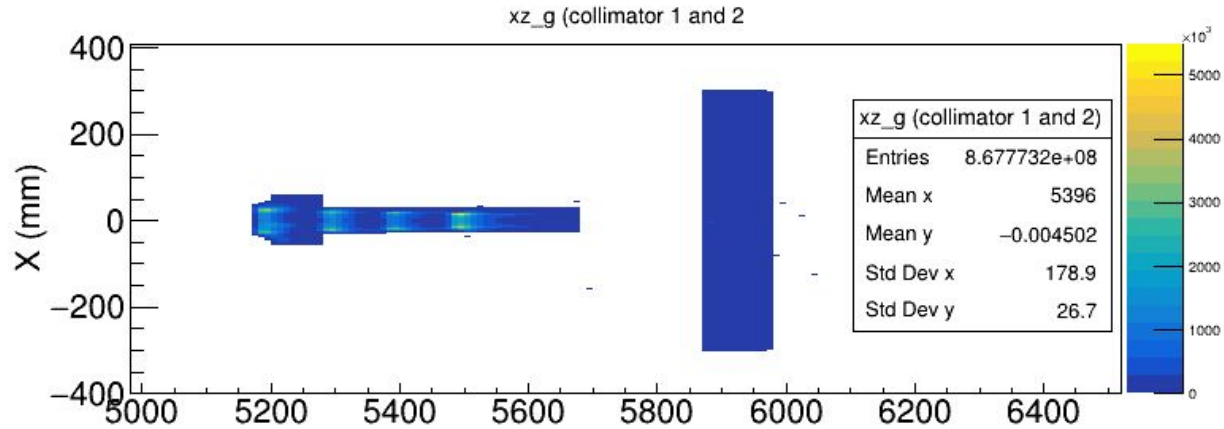
Energy Spectrum: Neutron



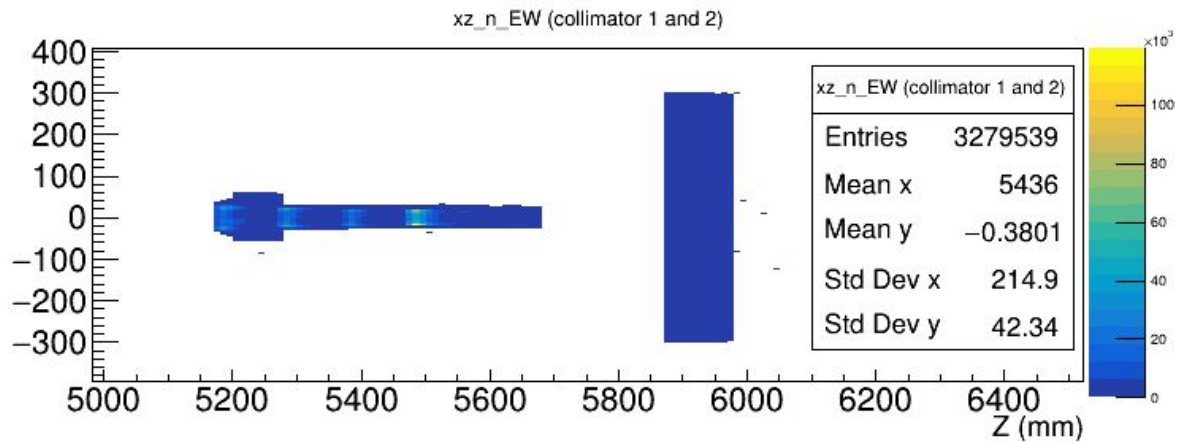
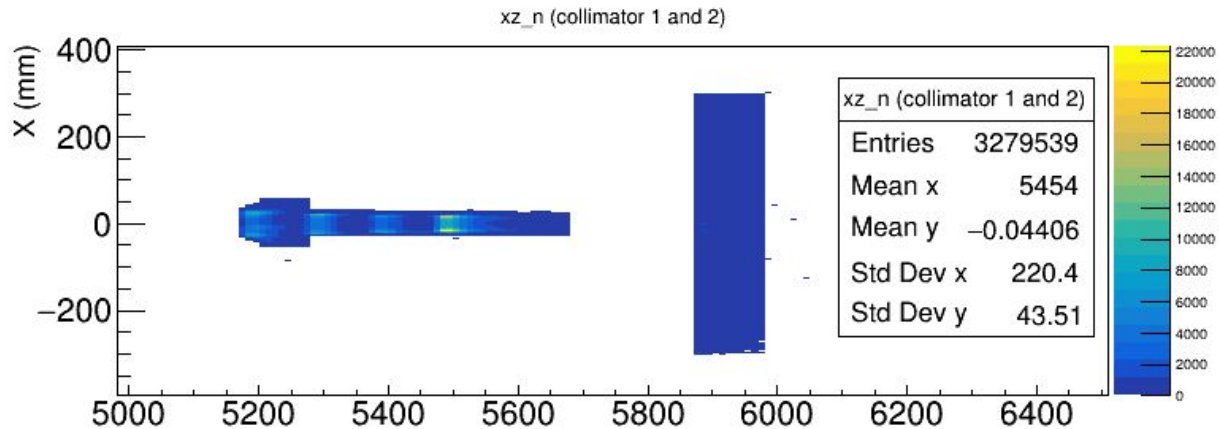
Vertex: Electron



Vertex: Photon



Vertex: Neutron



Statistics

Beam particles: 299.4 millions;

fraction:(# particles in an energy bin)/(total # particles)

per beam: (# particle in a bin)/(beam particles)

Particle (Neutron)	0 - 10 (0 - 10) MeV (fraction) {per beam}	10 - 100 (10 - 25) MeV (fraction) {per beam}	100 and above (25 and above) MeV (fraction) {per beam}
Electron	24.9E6 (0.82) {0.083}	4.7E6 (0.15) {0.015}	0.96E6 (0.03) {3.2E-3}
Photon	855E6 (0.97) {2.86}	17.4E6 (0.02) {0.058}	0.61E6 (7E-3) {2.0E-3}
Neutron	3.2E6 (0.96) {0.01}	0.05E6 (0.014) {1.56E-4}	0.06E6 (0.02) {2.2E-4}