

PVDIS PHOTON BACKGROUND

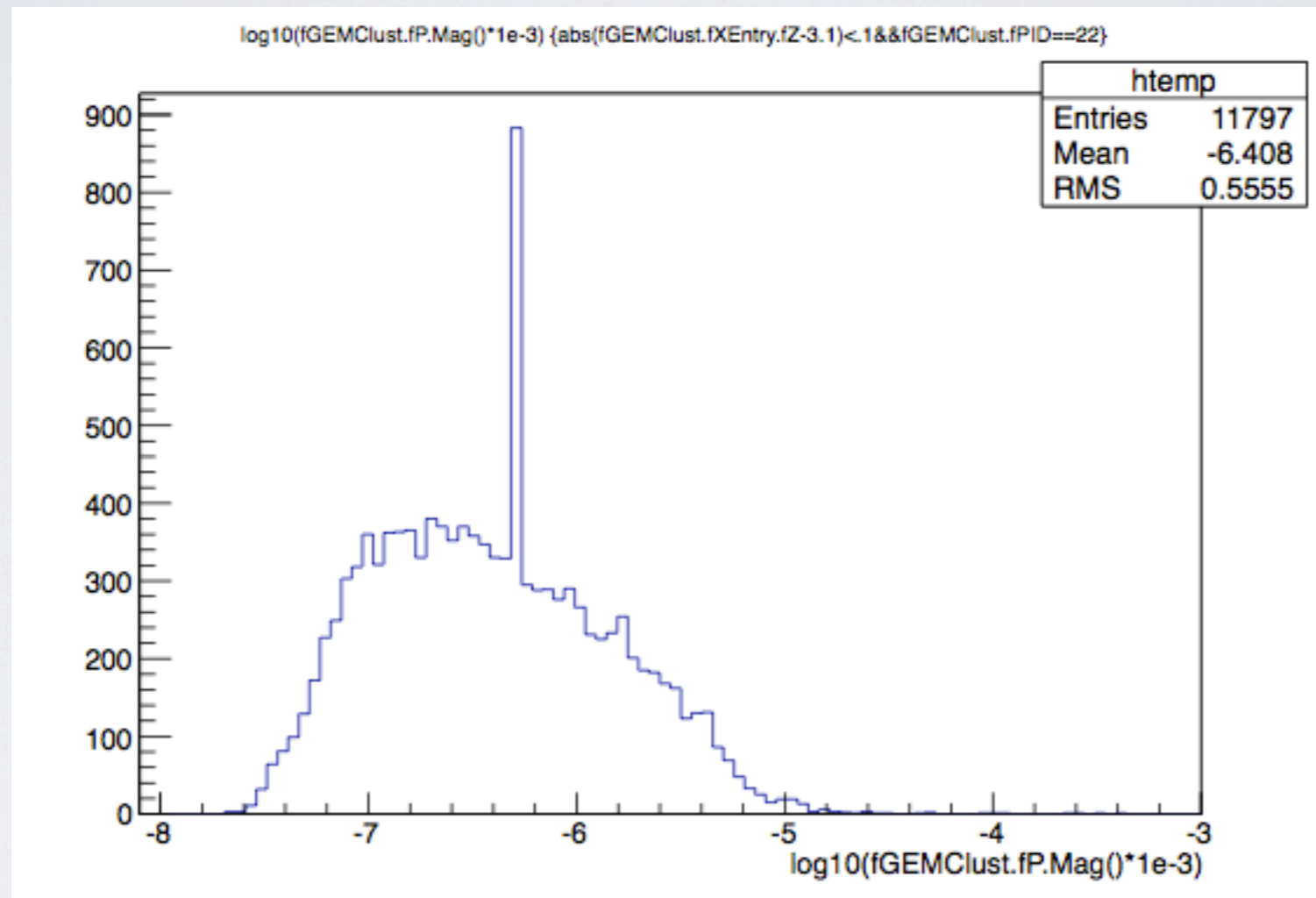
Rich Holmes

May 2013 SoLID Collaboration Meeting

PHOTON BACKGROUND AT LAST GEM AND ECAL

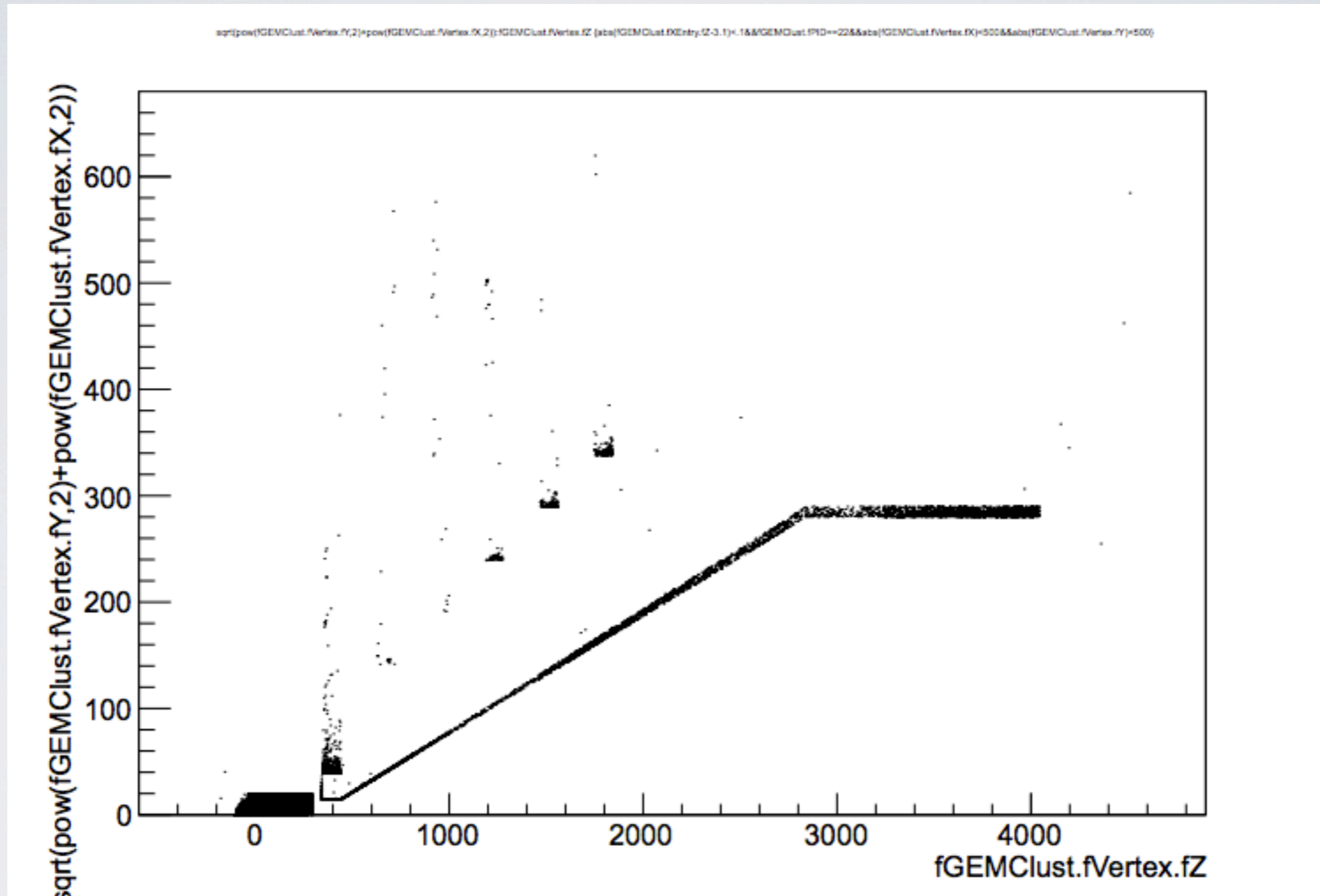
- Beam on target and DIS simulations
- Included beam line, target, baffles, GEMs
- CLEO field, BaBar baffle design
- Look at tracks crossing 4th GEM (“hits”)
- Plots are hit positions in GEM plane and ϕ (polar coordinate of hit) (relative to center of 12° segments)

Photon energy spectrum

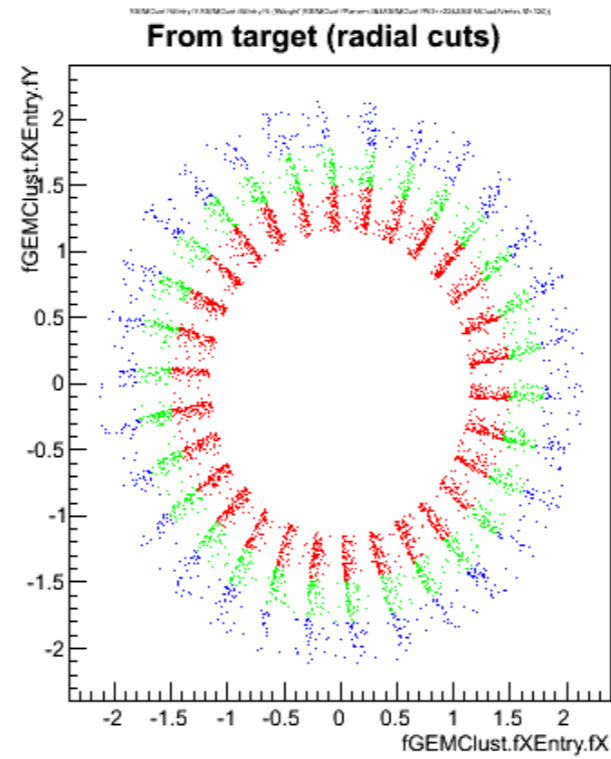
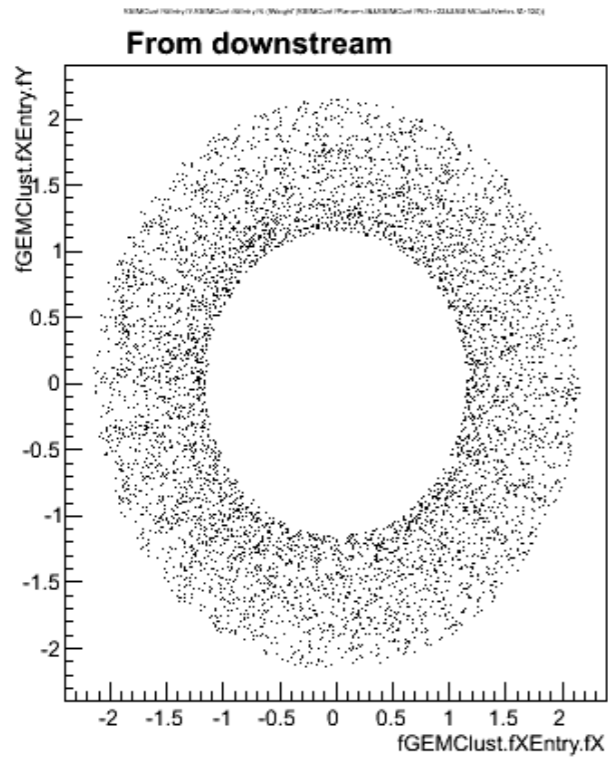
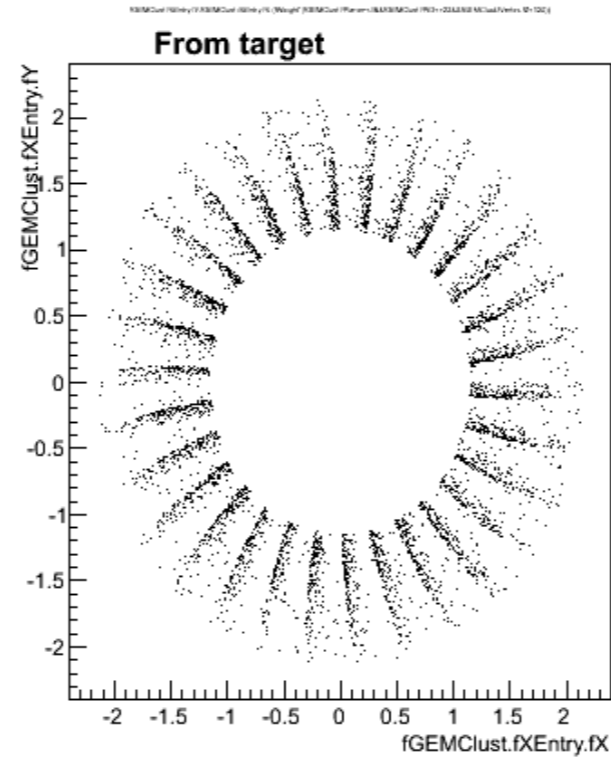
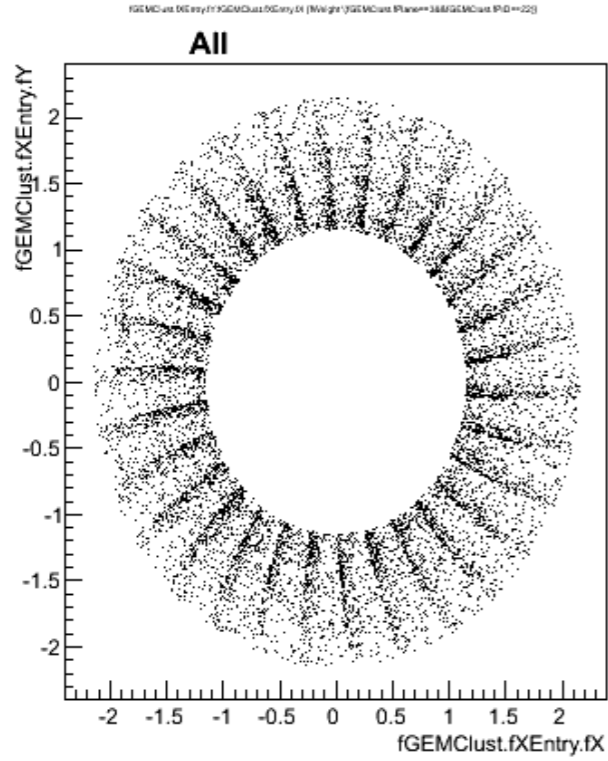


(Log plot, “-6” is 1 MeV)

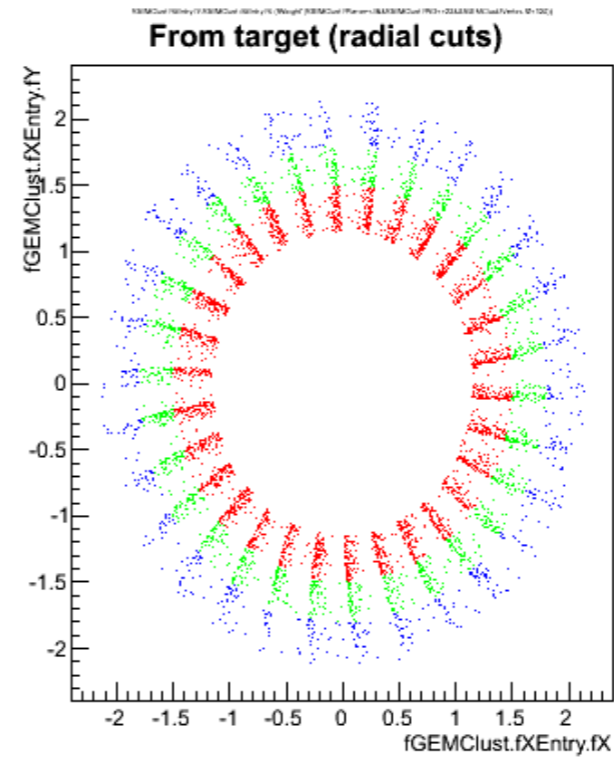
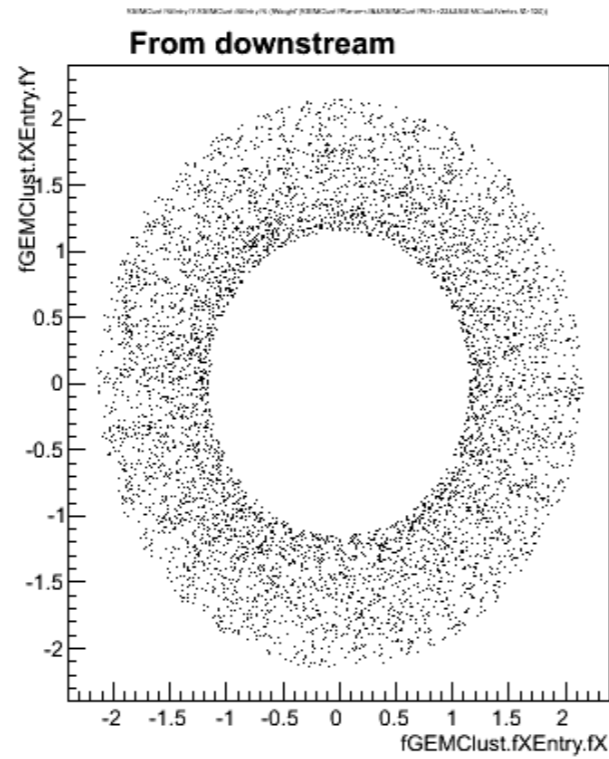
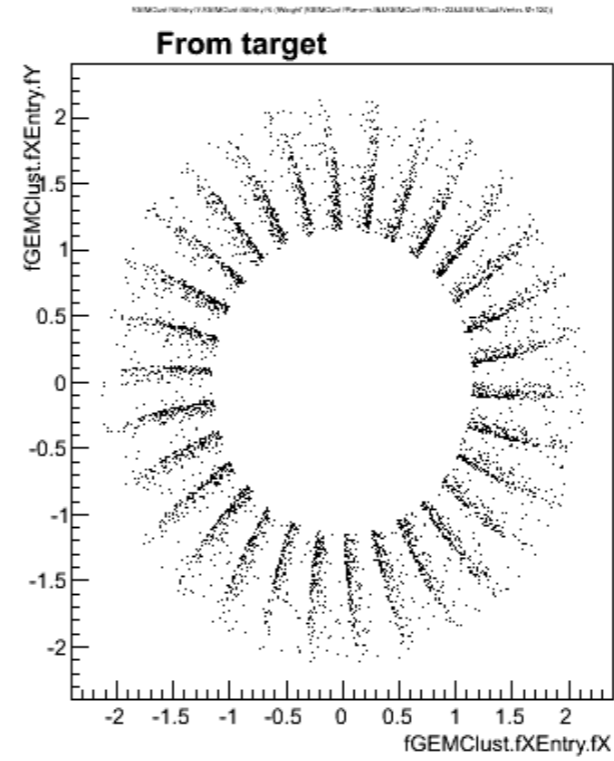
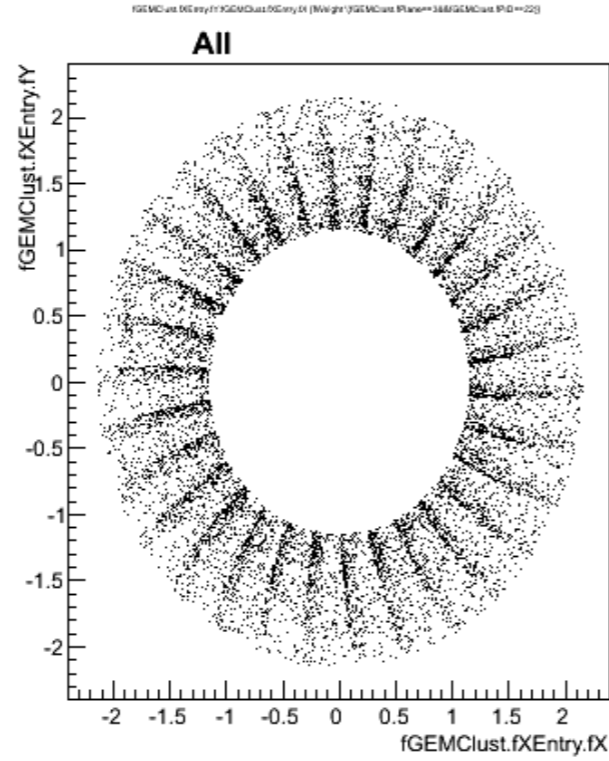
Vertex r vs z



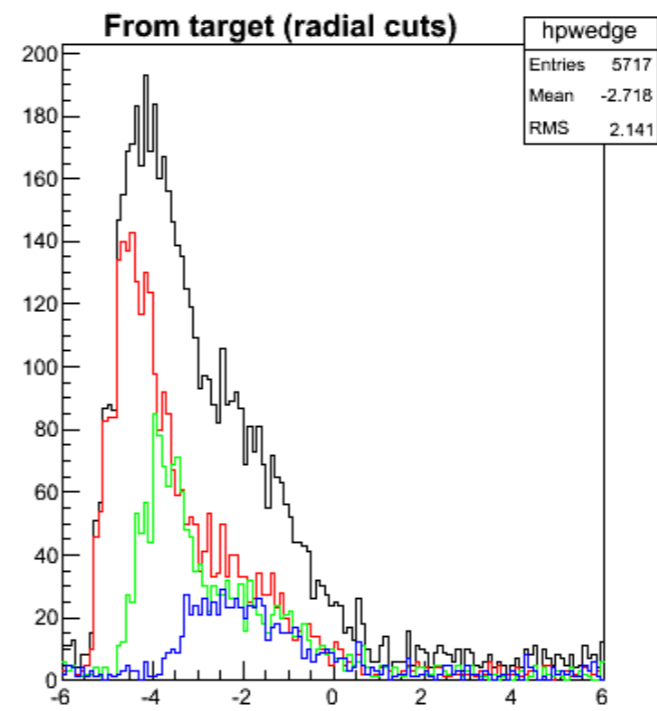
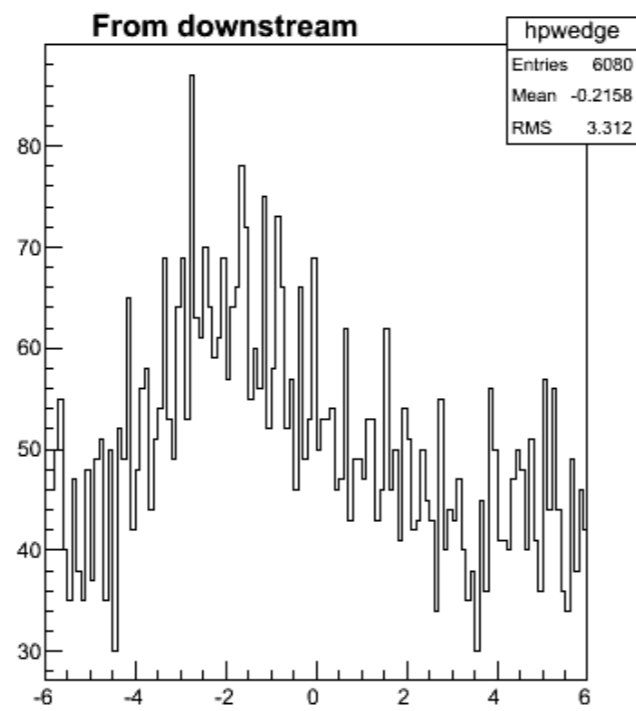
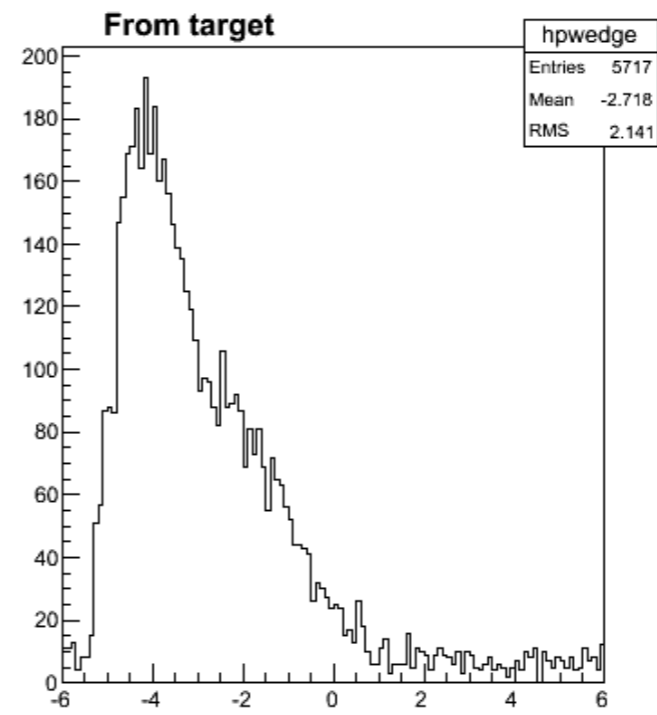
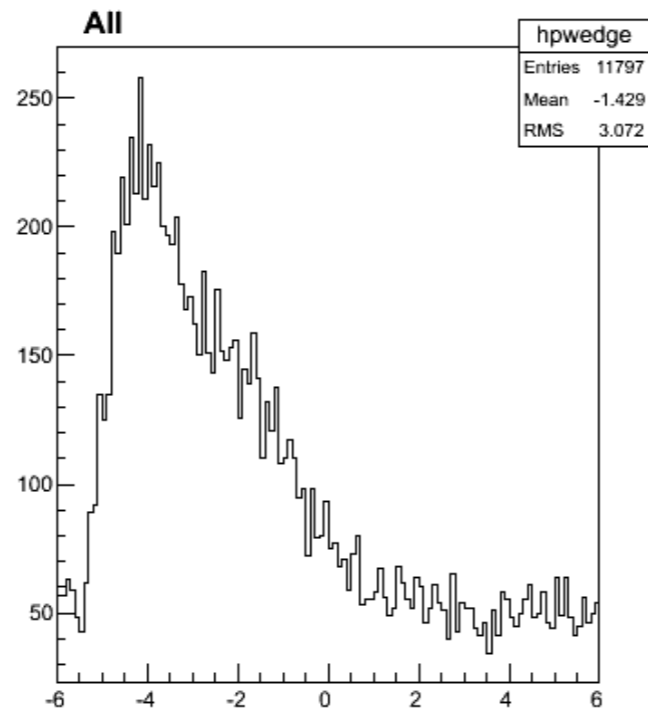
Background photons



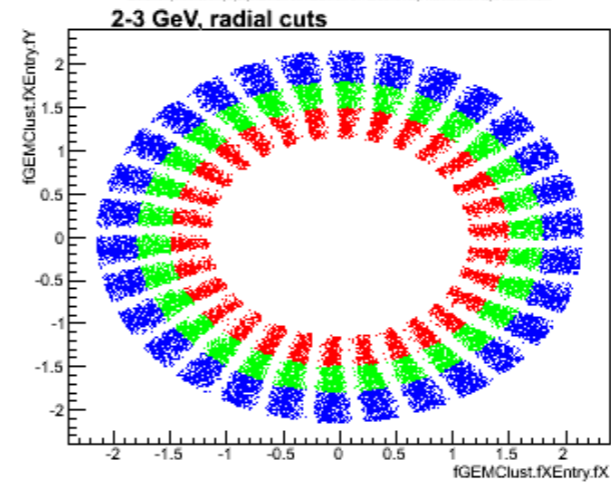
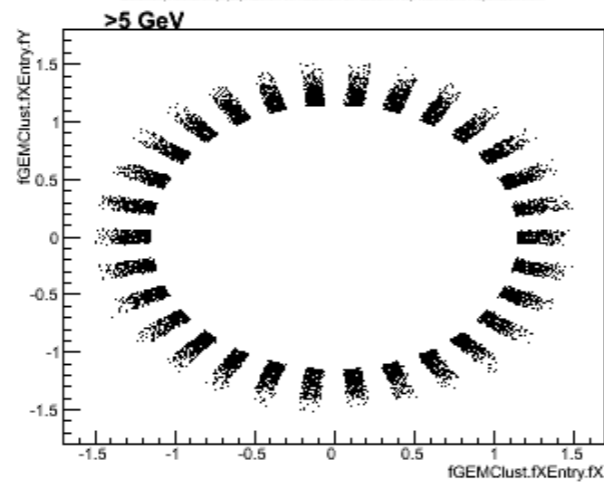
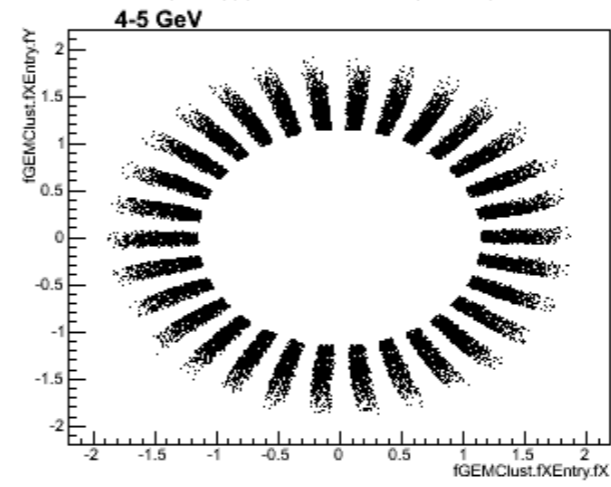
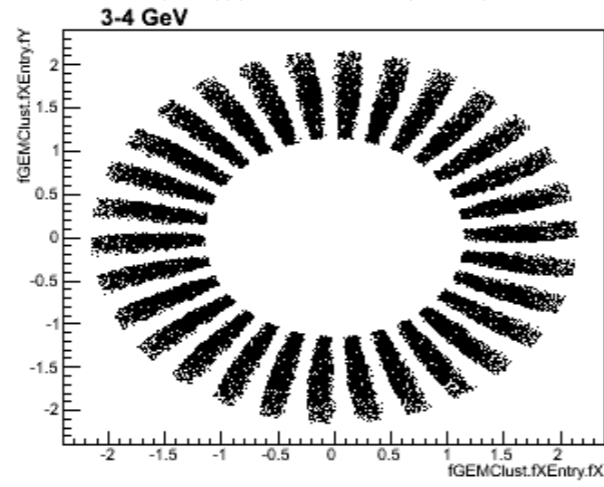
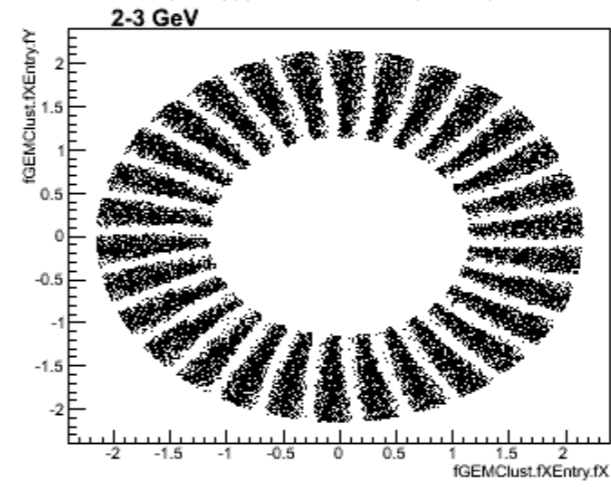
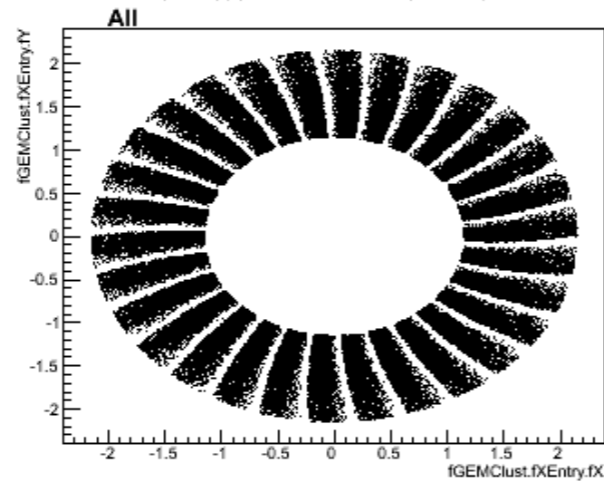
Background photons



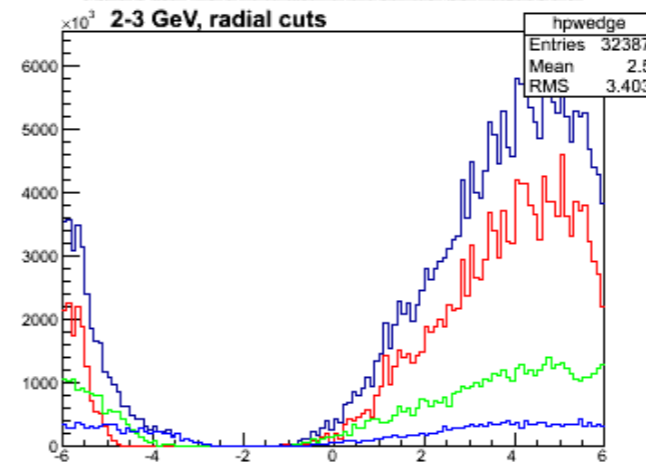
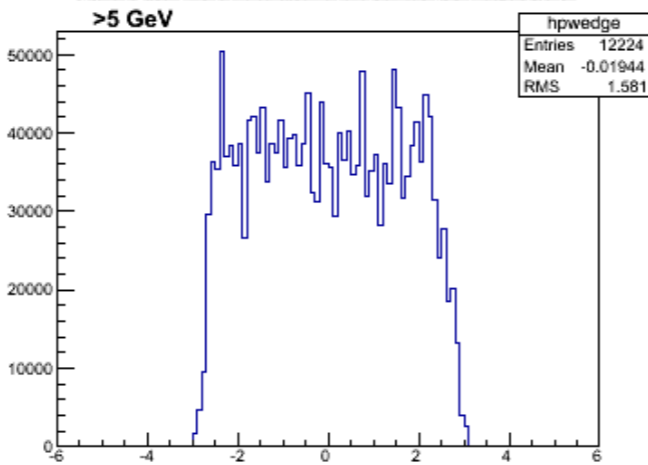
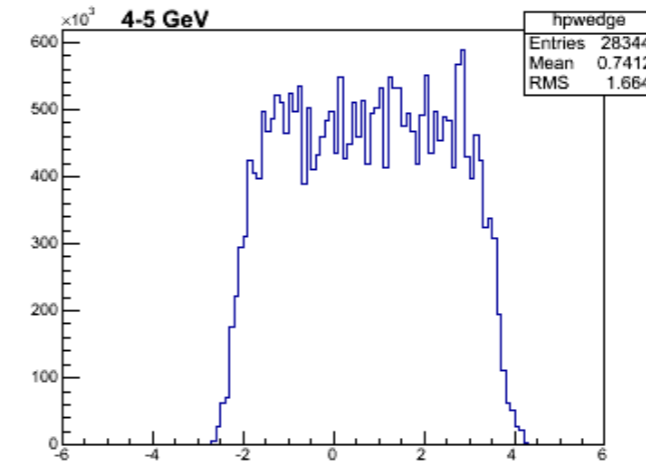
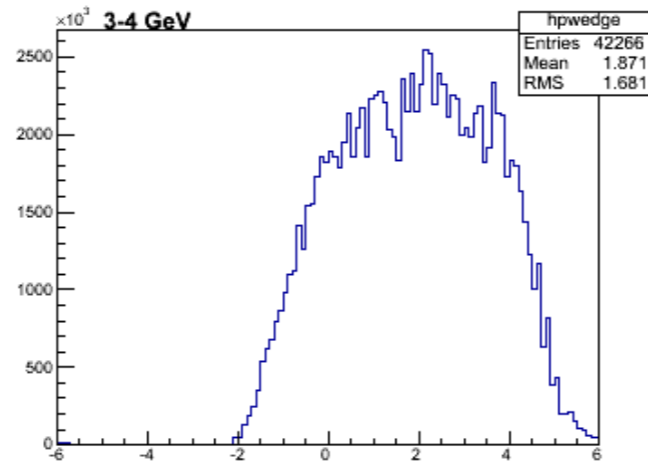
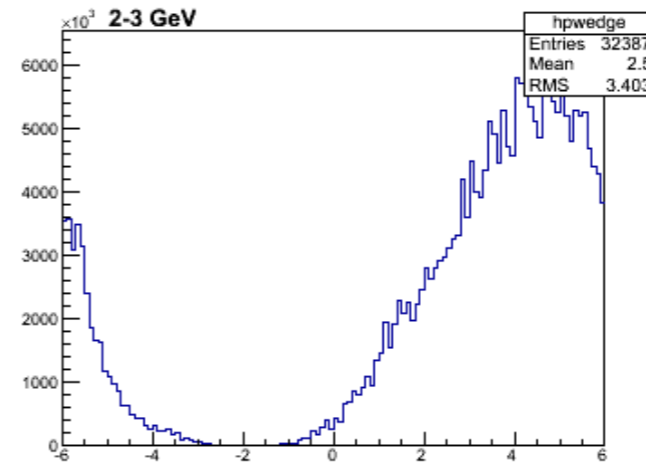
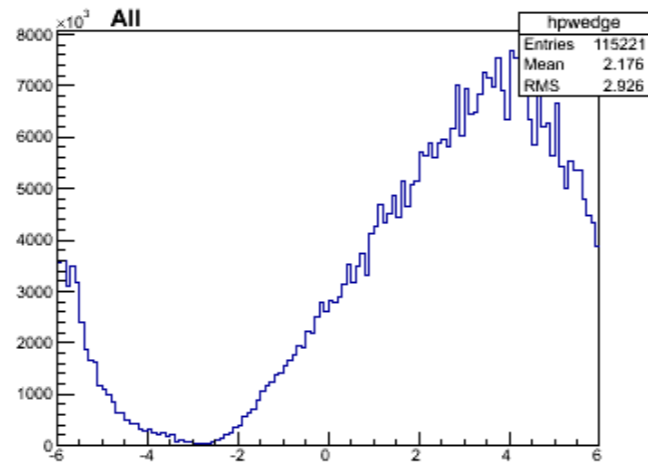
Background photons



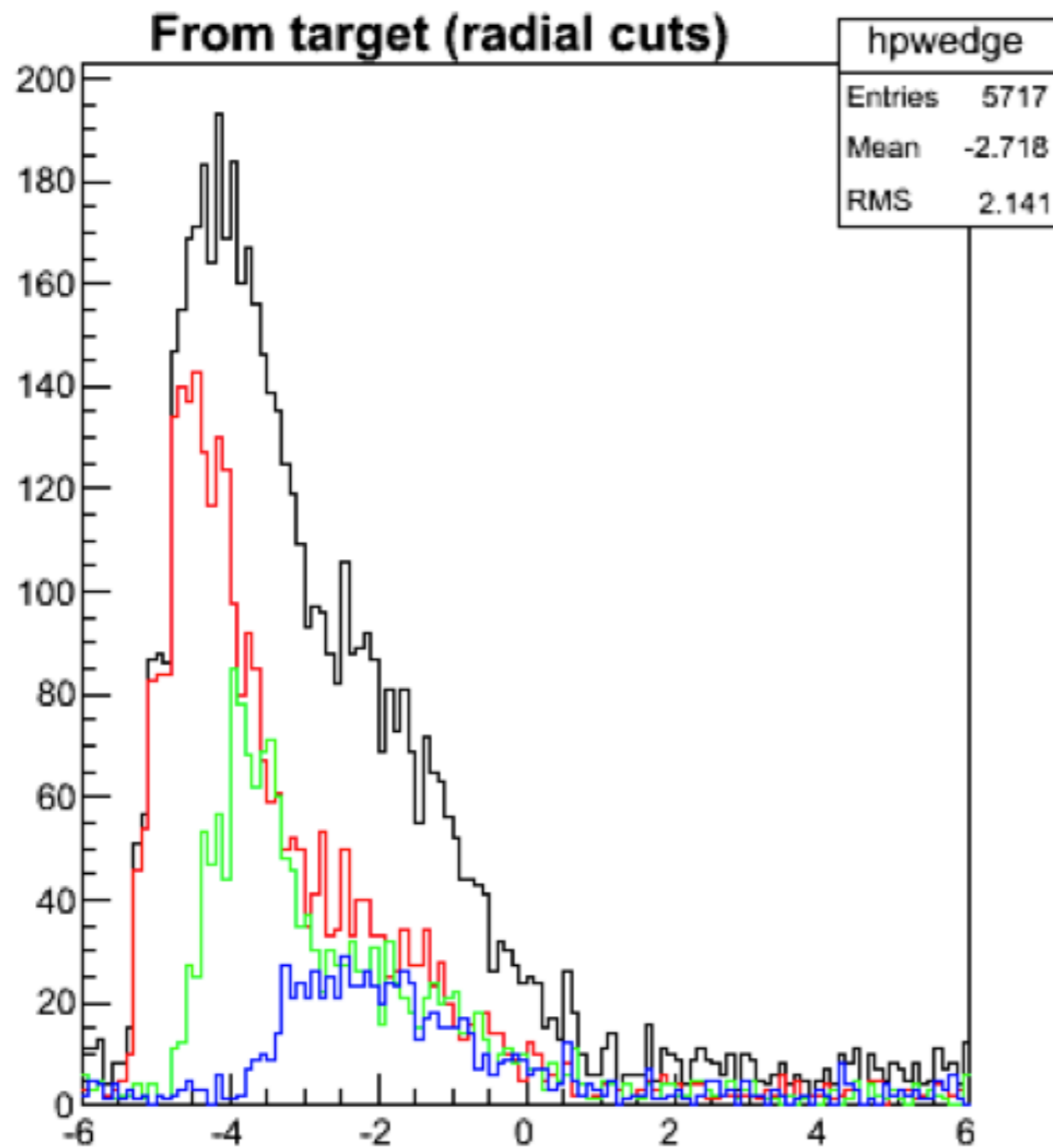
Inelastic electrons



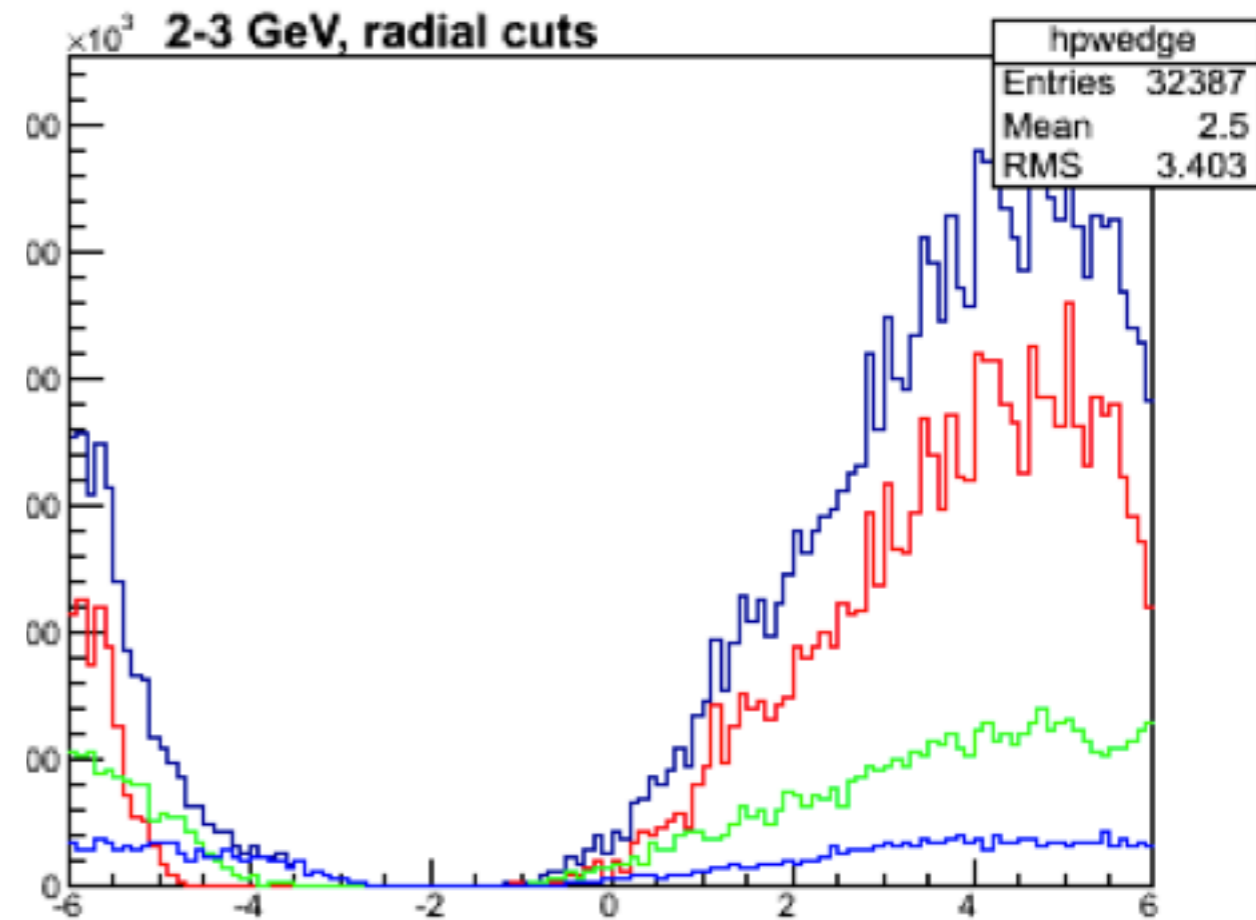
Inelastic electrons



Photons



Inelastics



- Photons are localized at -5° to -1°
- Inelastics are localized at -1° to 6° and -6° to -5°
- More precisely, localization is function of radius
- Consider replacing preshower with lead in photon regions