

GBP MC Analysis

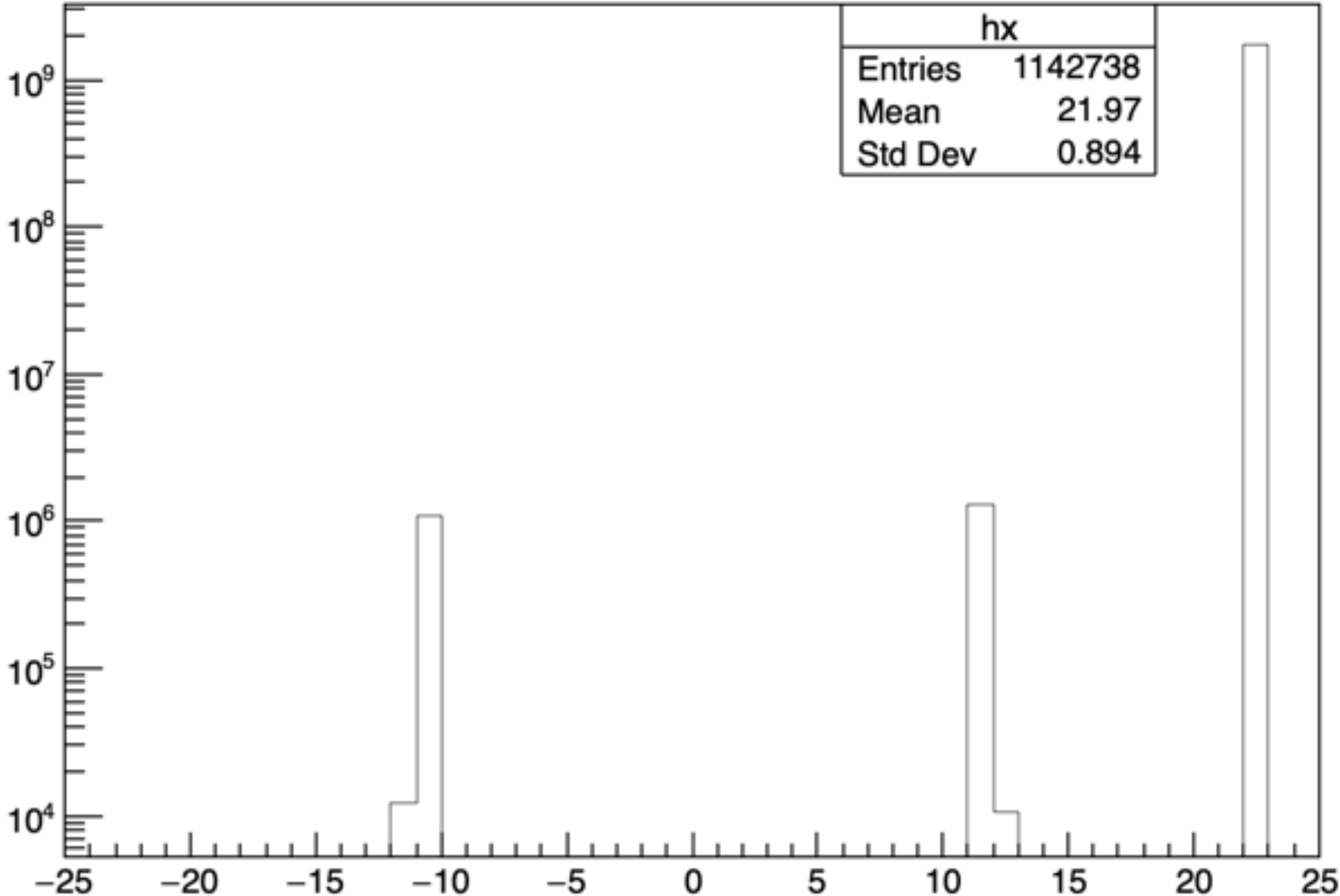
Full Scale Simulation

K Fleck, G Sarri - 15/12/21

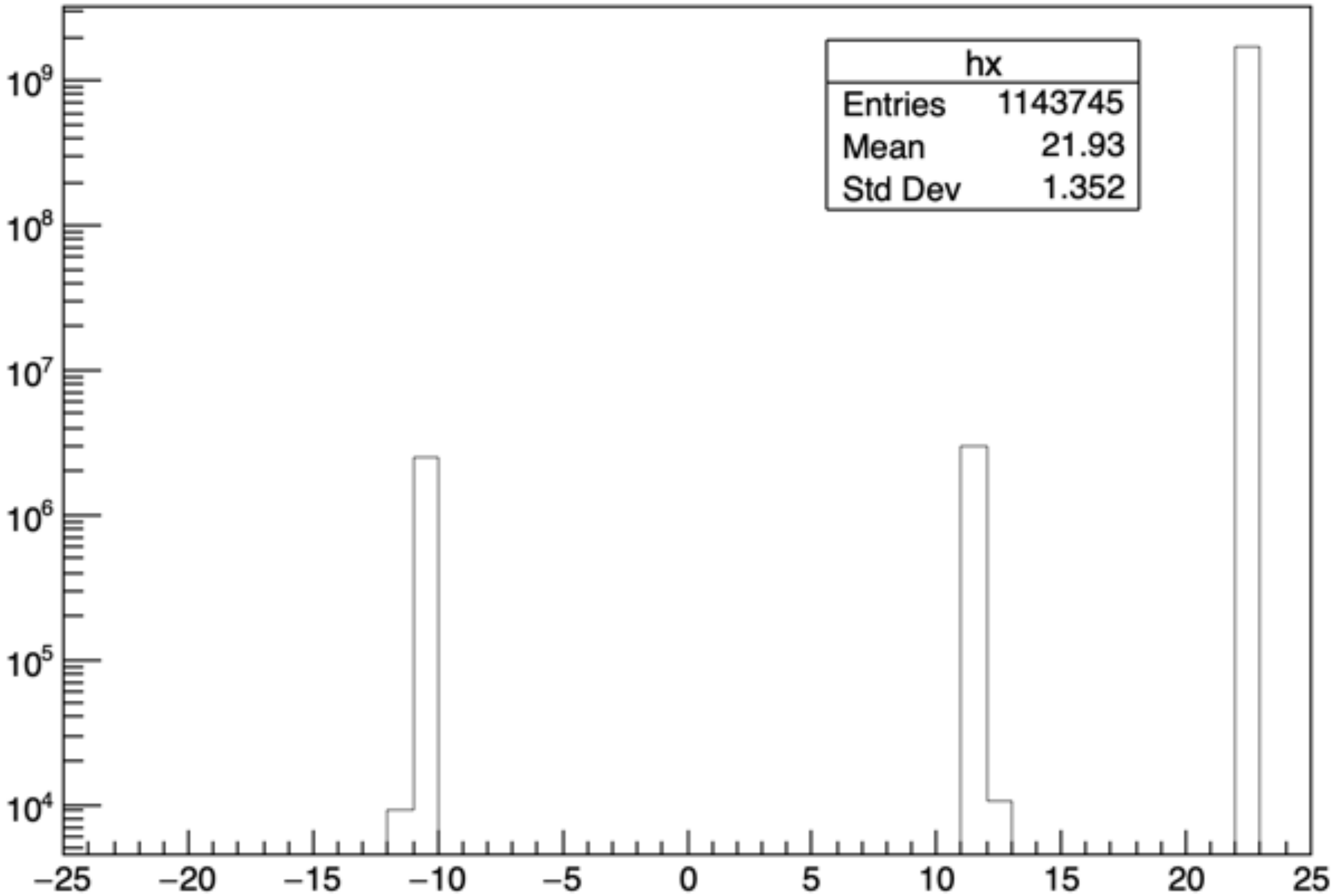
Particle species

EM species

pdg {weight*(detid==86000)}

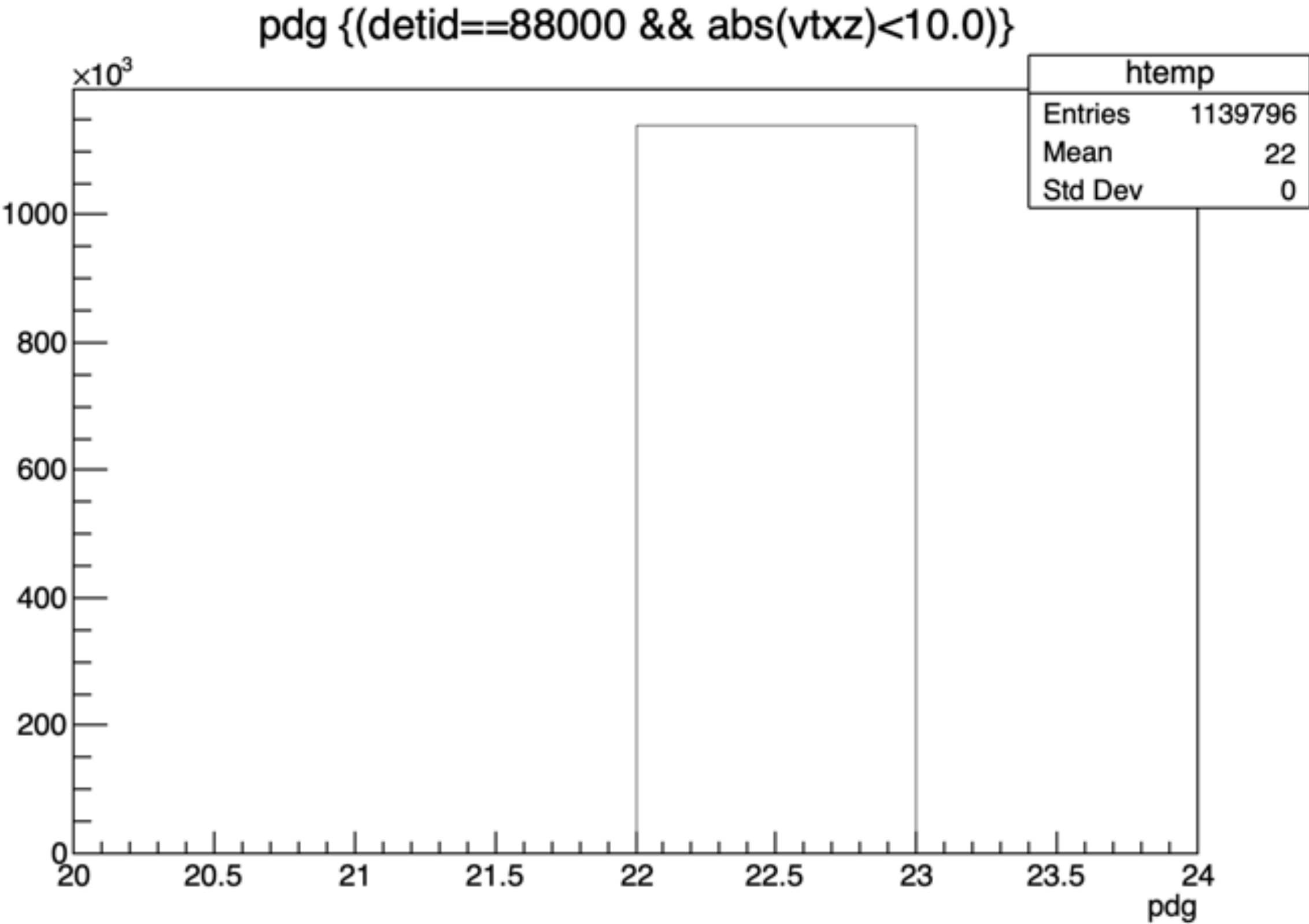
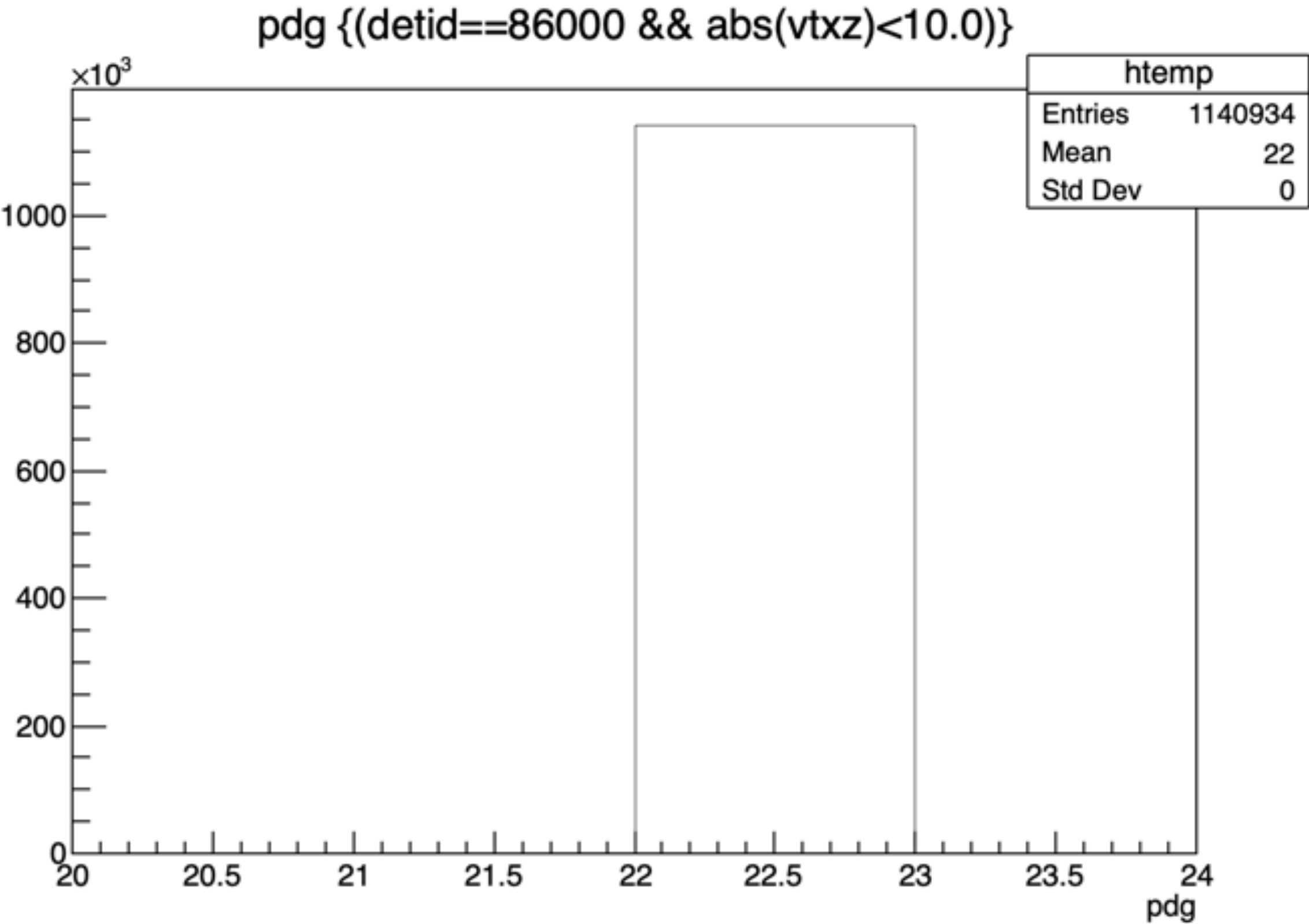


pdg {weight*(detid==88000)}



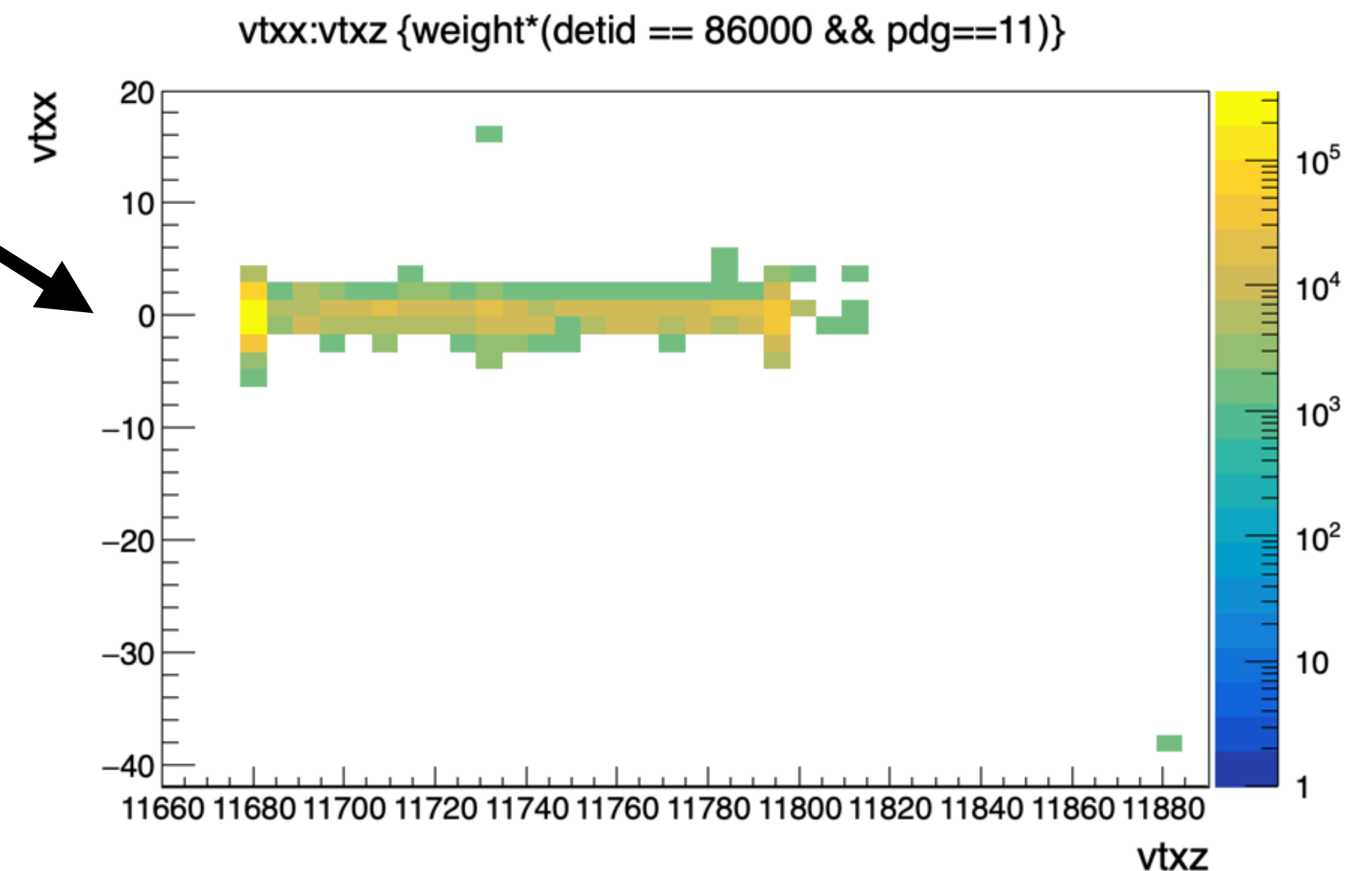
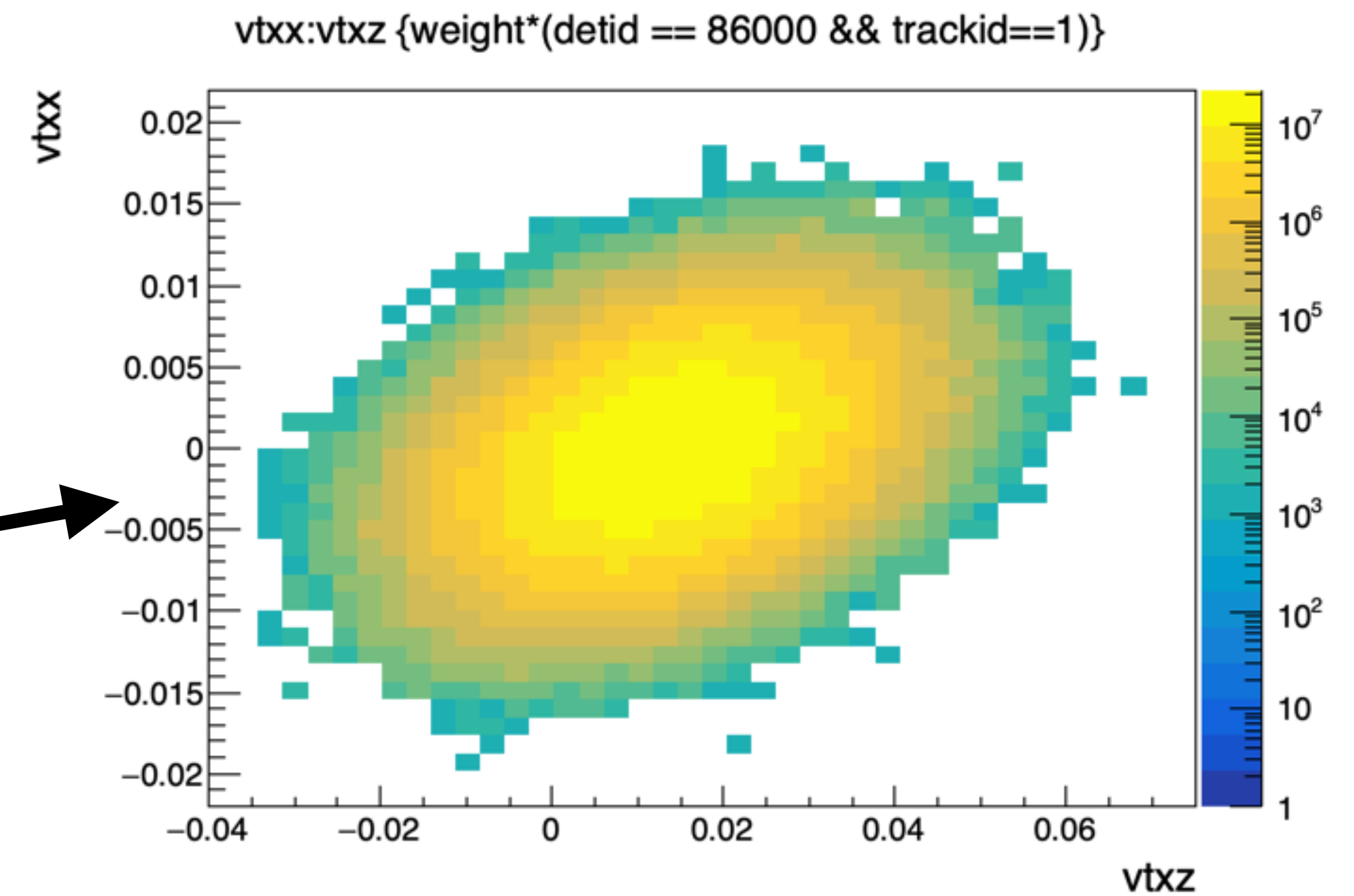
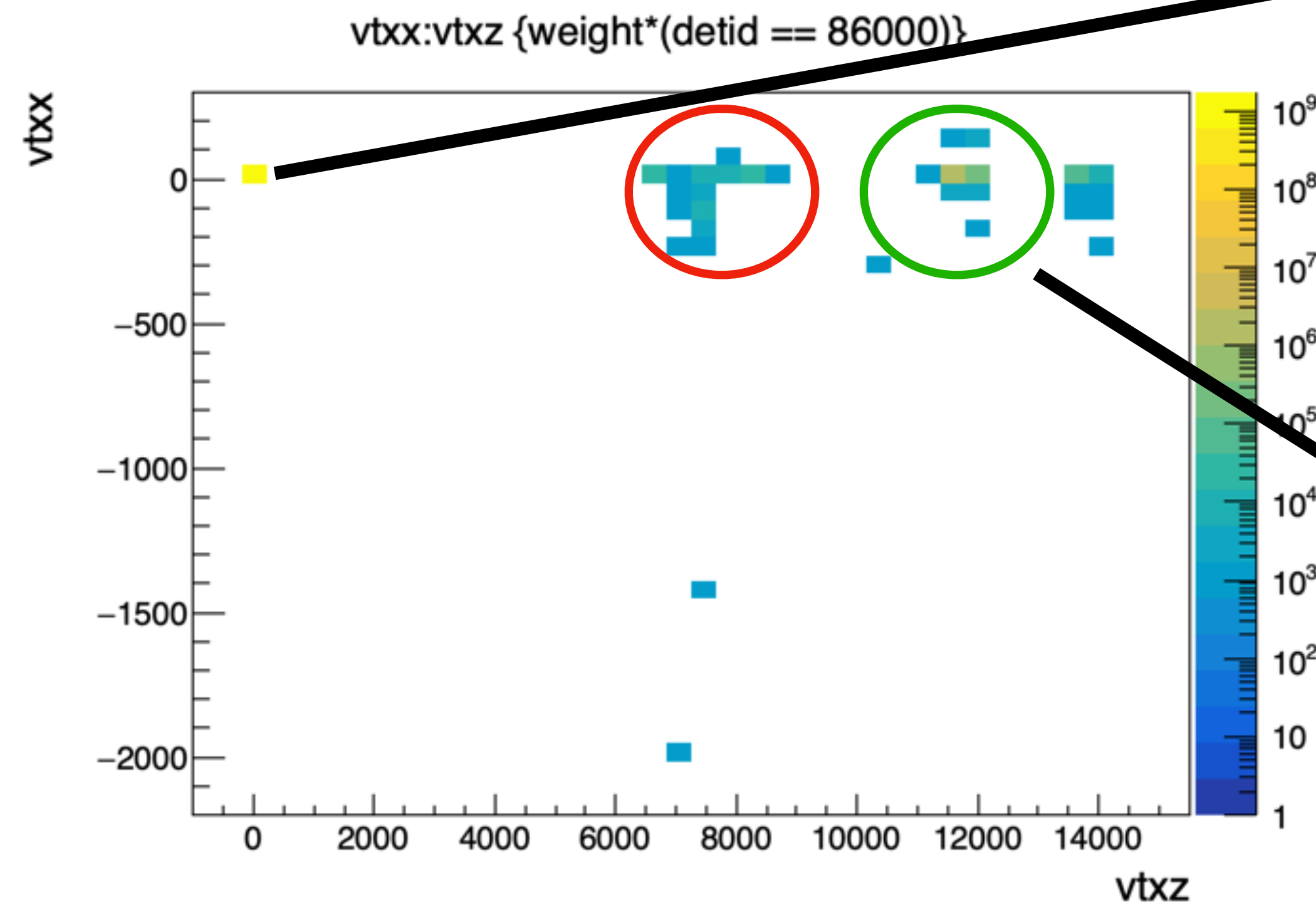
Particle species

EM species - IP region



Production vertices

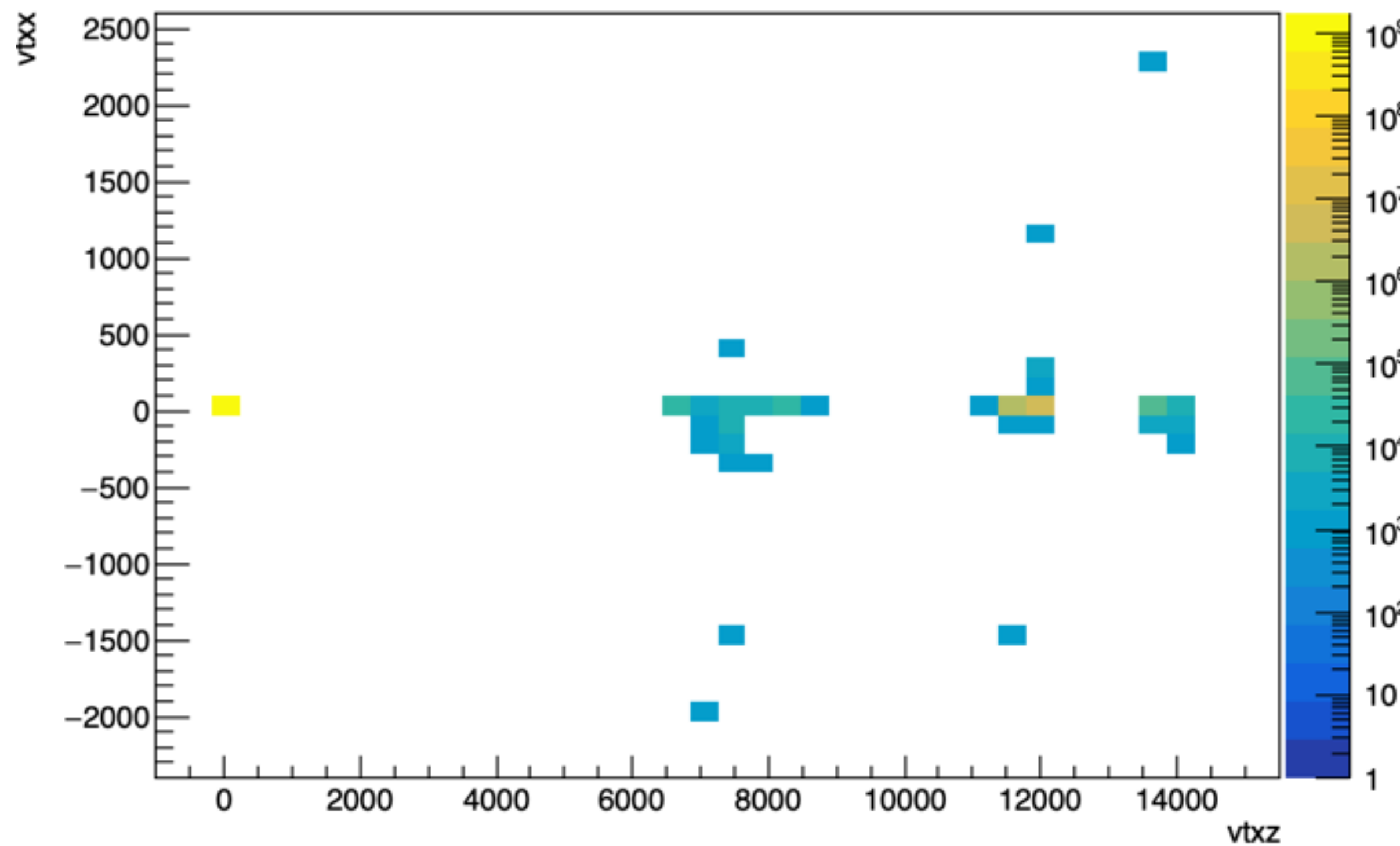
e0lp_5_0_0_particles_g4.root - 1 BX



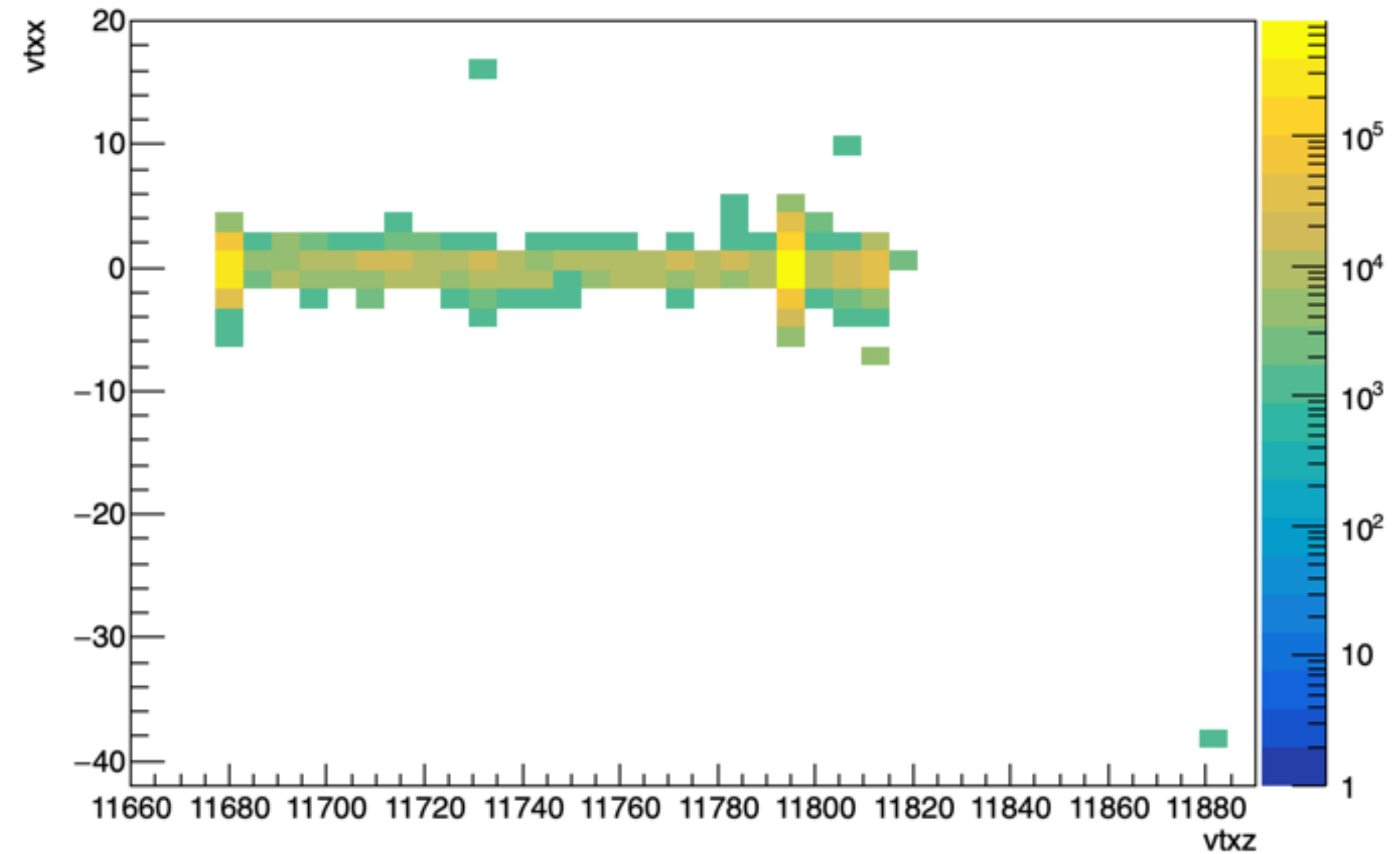
Production vertices

e0lp_5_0_0_particles_g4.root - 1 BX

vtxx:vtxz {weight*(detid==88000)}

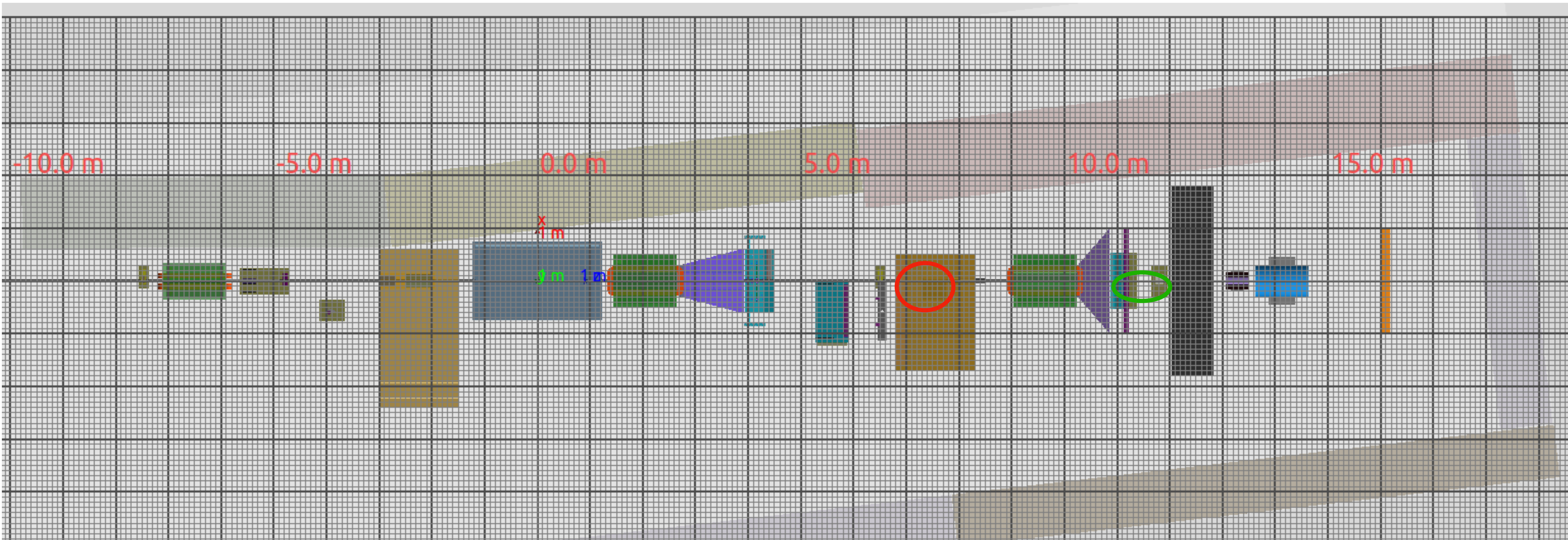


vtxx:vtxz {weight*(detid==88000 && pdg==11)}



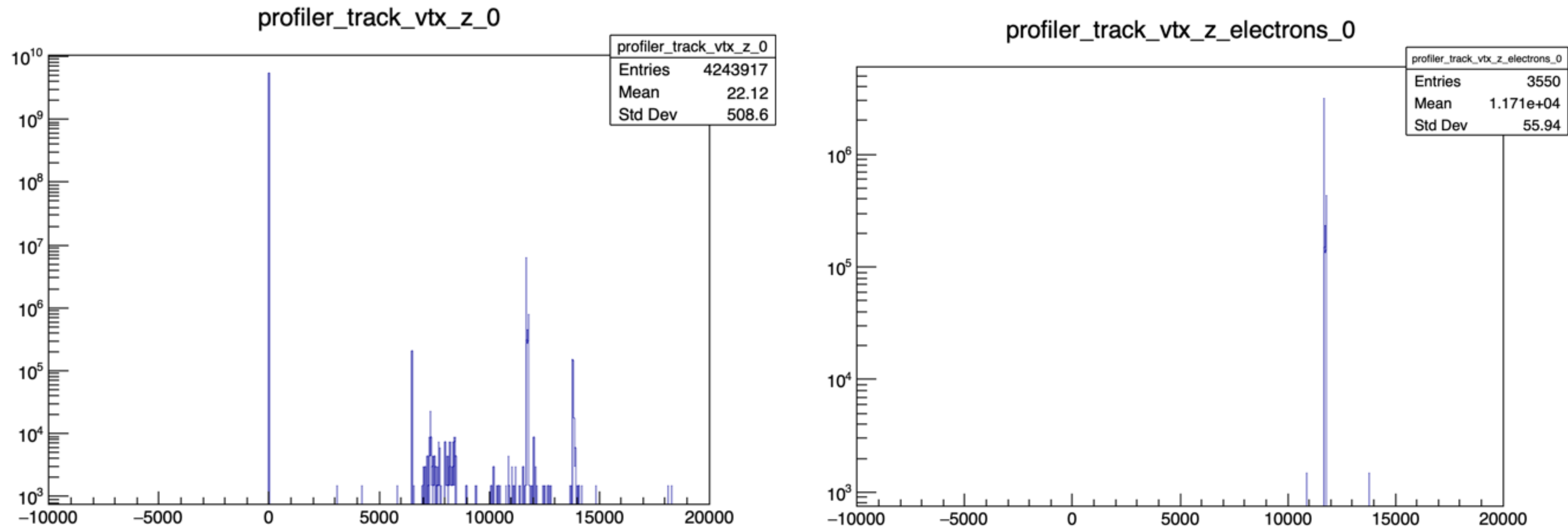
Production vertices

GEANT4 geometry



Production vertices

e0gpc_5_0_0_particles_g4.root - 728 BX



Production processes

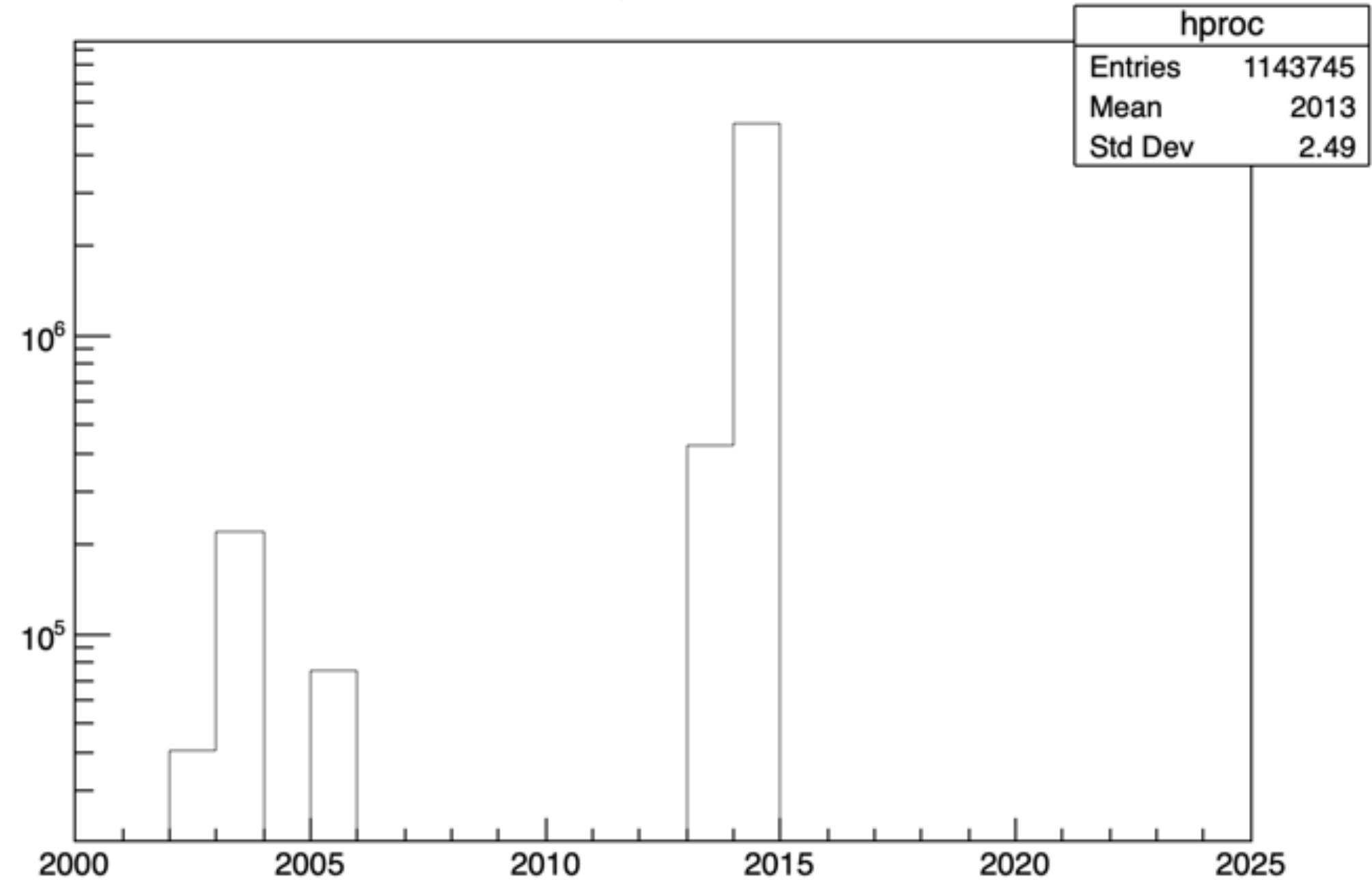
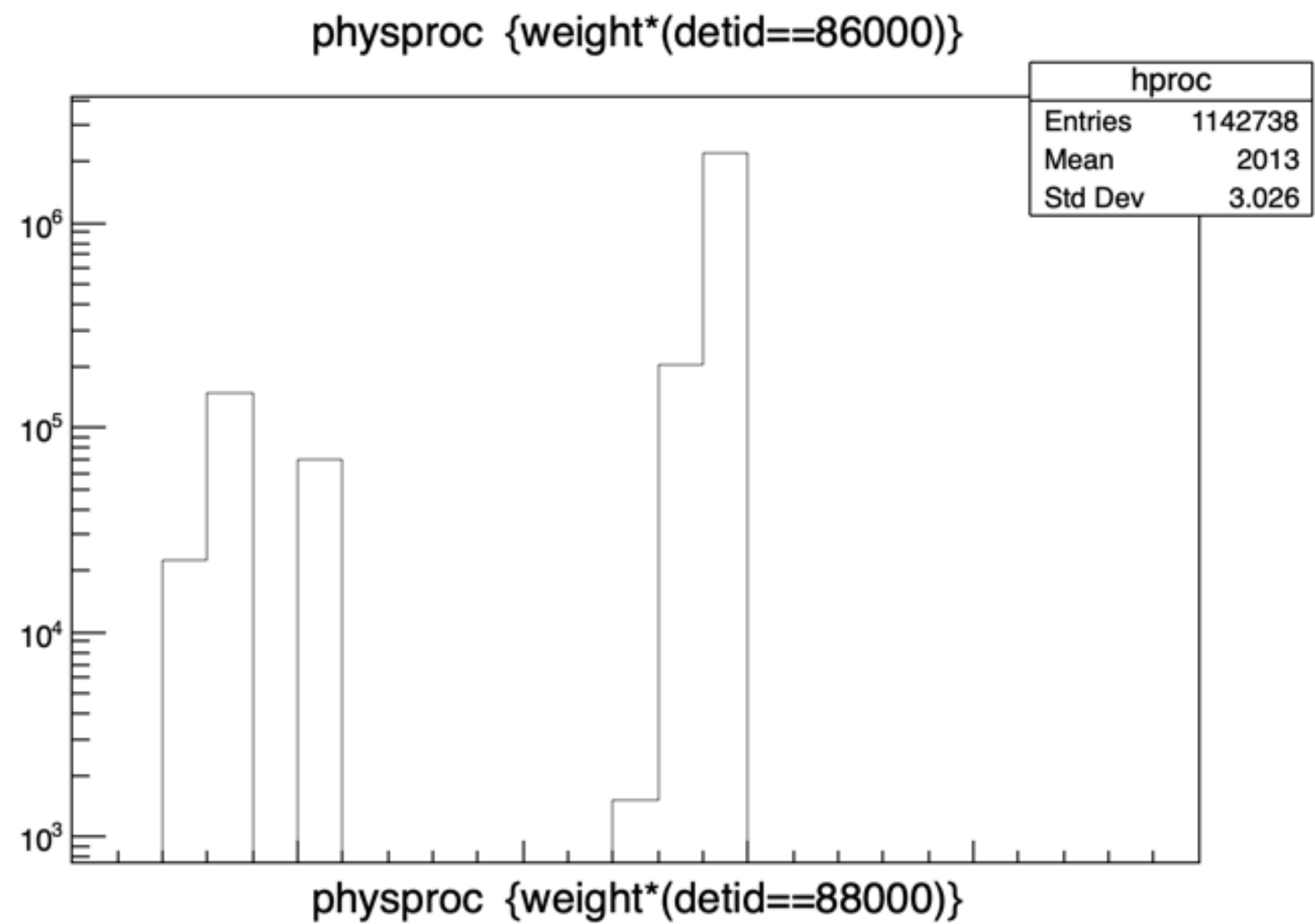
```
enum G4EmProcessSubType
{
    fCoulombScattering = 1,
    fIonisation = 2,
    fBremsstrahlung = 3,
    fPairProdByCharged = 4,
    fAnnihilation = 5,
    fAnnihilationToMuMu = 6,
    fAnnihilationToHadrons = 7,
    fNuclearStopping = 8,
    fElectronGeneralProcess = 9,

    fMultipleScattering = 10,

    fRayleigh = 11,
    fPhotoElectricEffect = 12,
    fComptonScattering = 13,
    fGammaConversion = 14,
    fGammaConversionToMuMu = 15,
    fGammaGeneralProcess = 16,

    fCerenkov = 21,
    fScintillation = 22,
    fSynchrotronRadiation = 23,
    fTransitionRadiation = 24
};
```

physproc = 2000 + emID



Neutron radiation

e0gpc_0.15_0_0 - 728 BX

