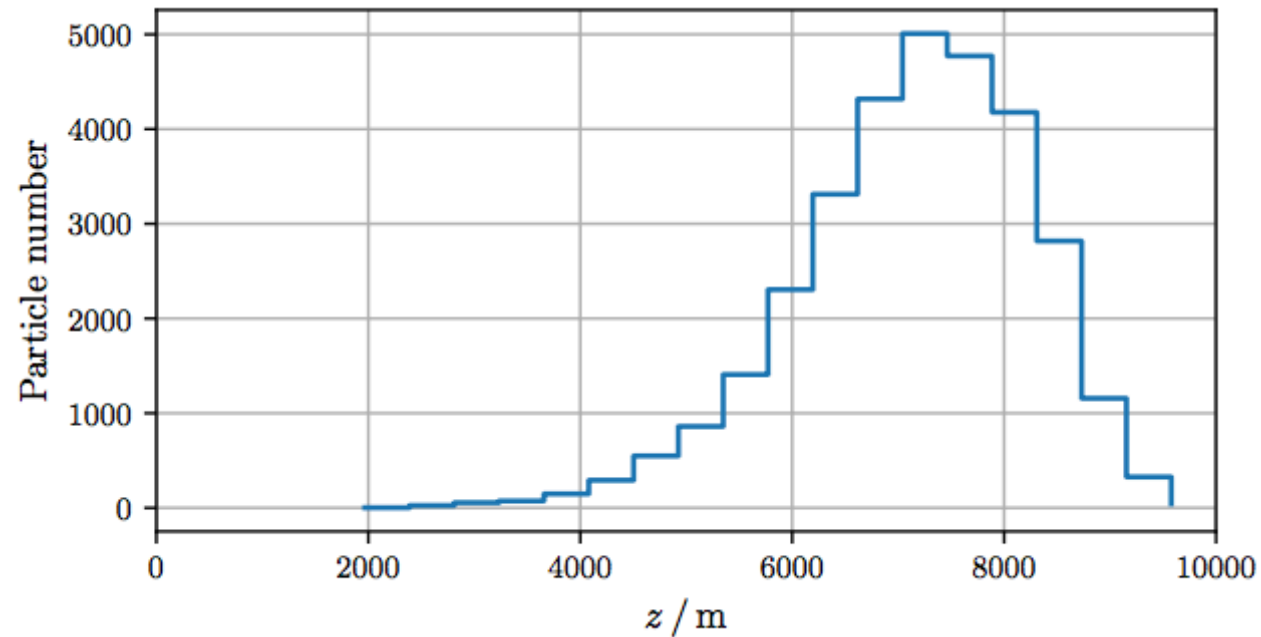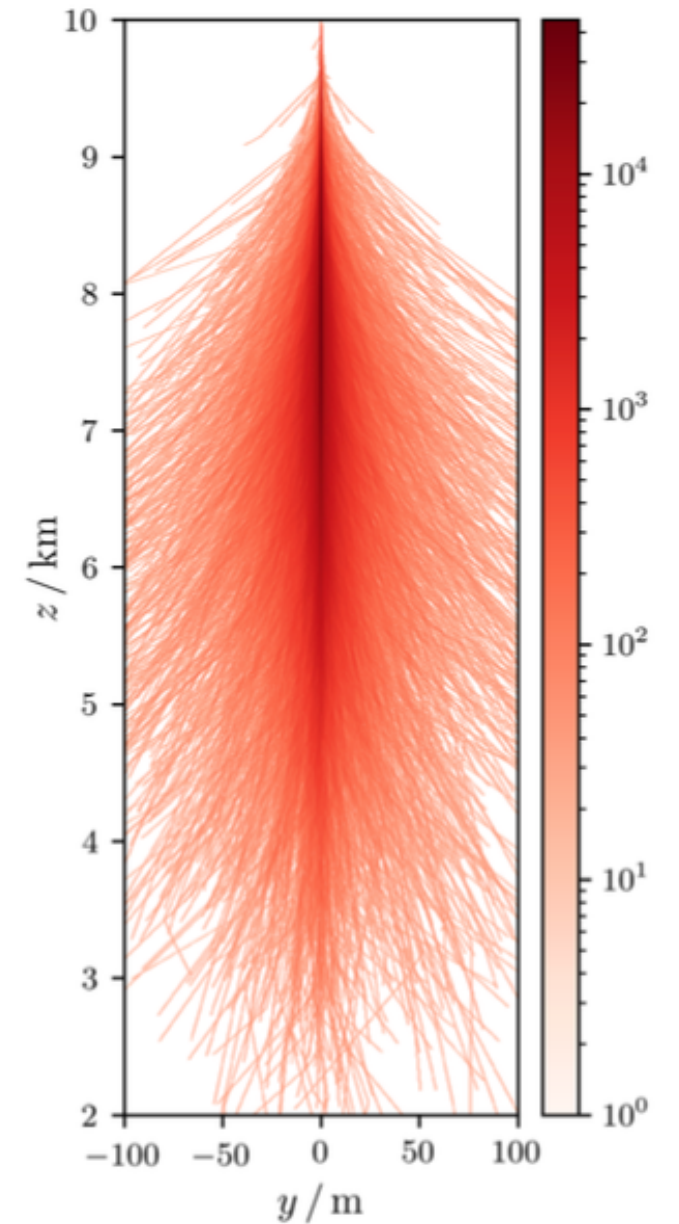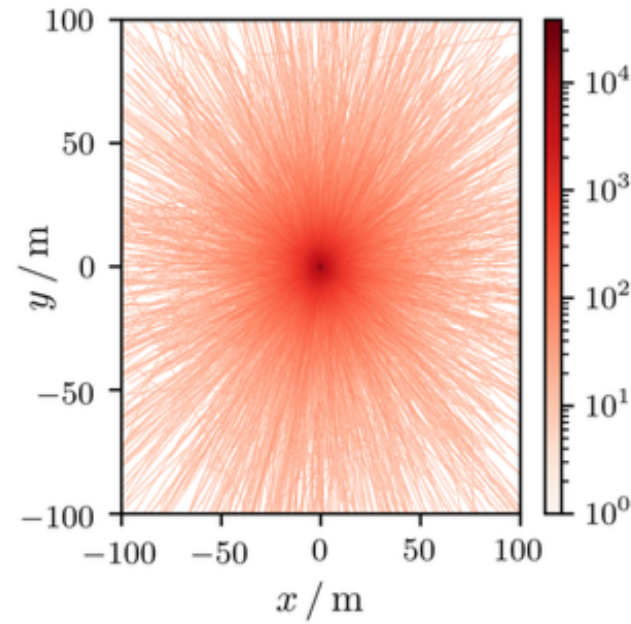# PROPOSAL Update
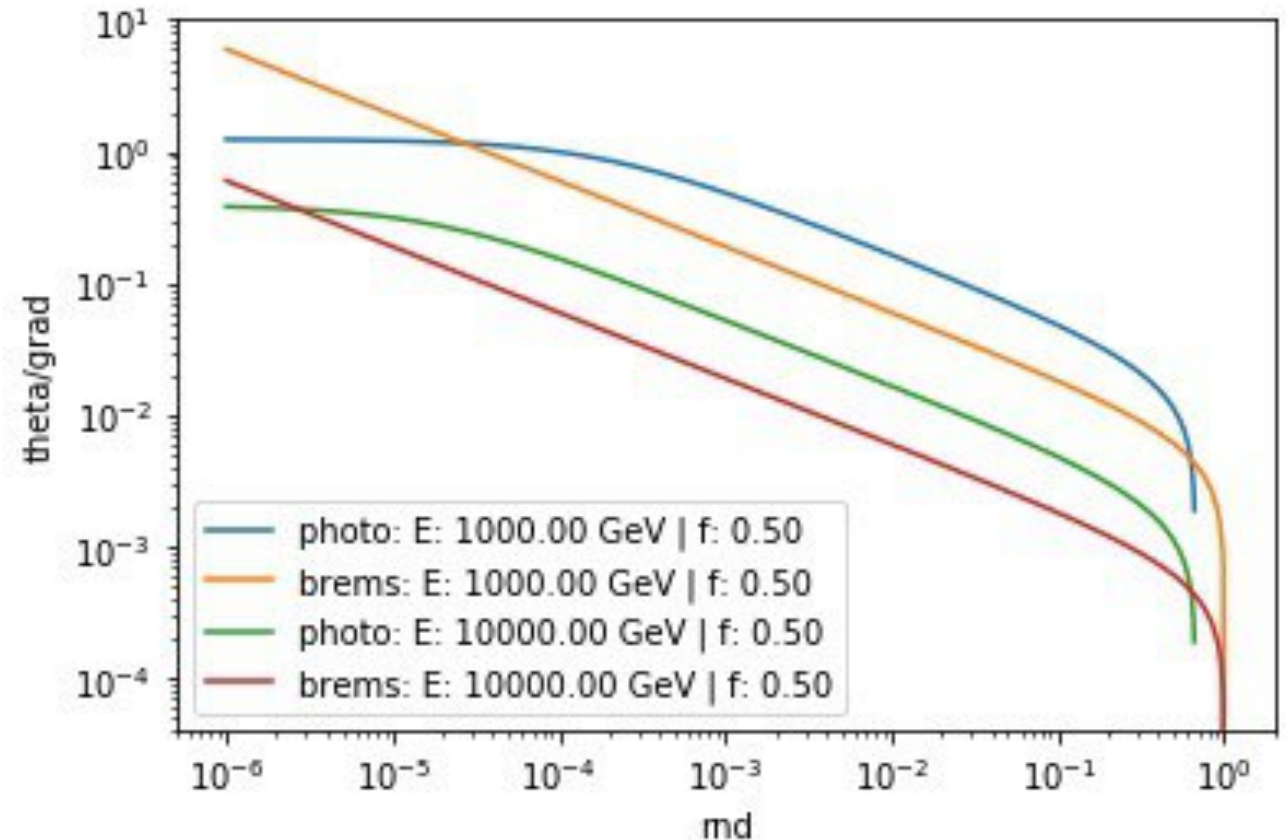
Shower Testing
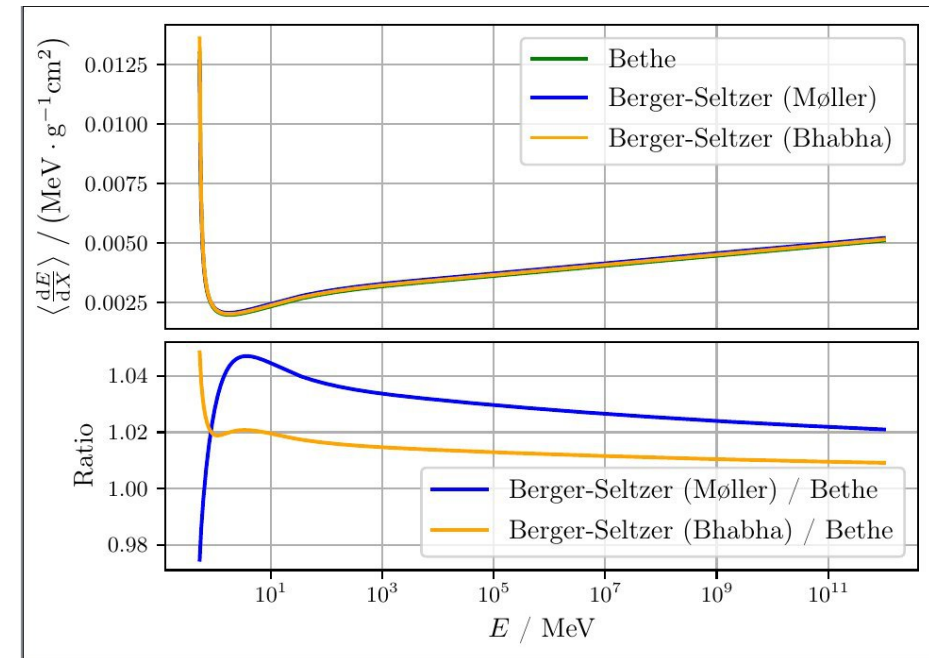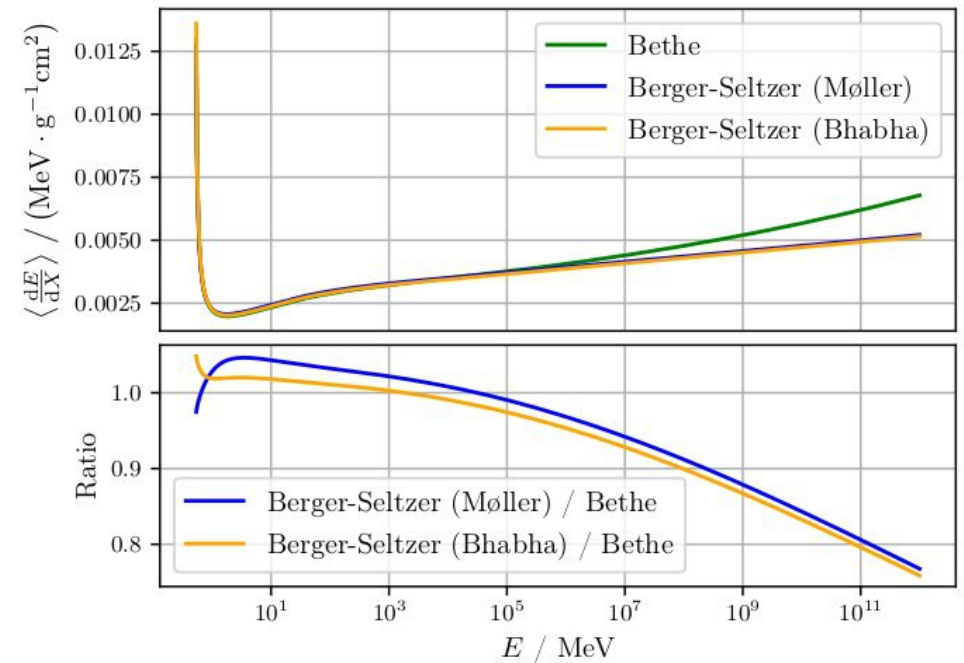
Initial Photon Energy 1e7 MeV
constant density

Further Deflection

- Up to now just in Compton Interaction
- Also effects in Bremsstrahlung and Photonuclear Interaction
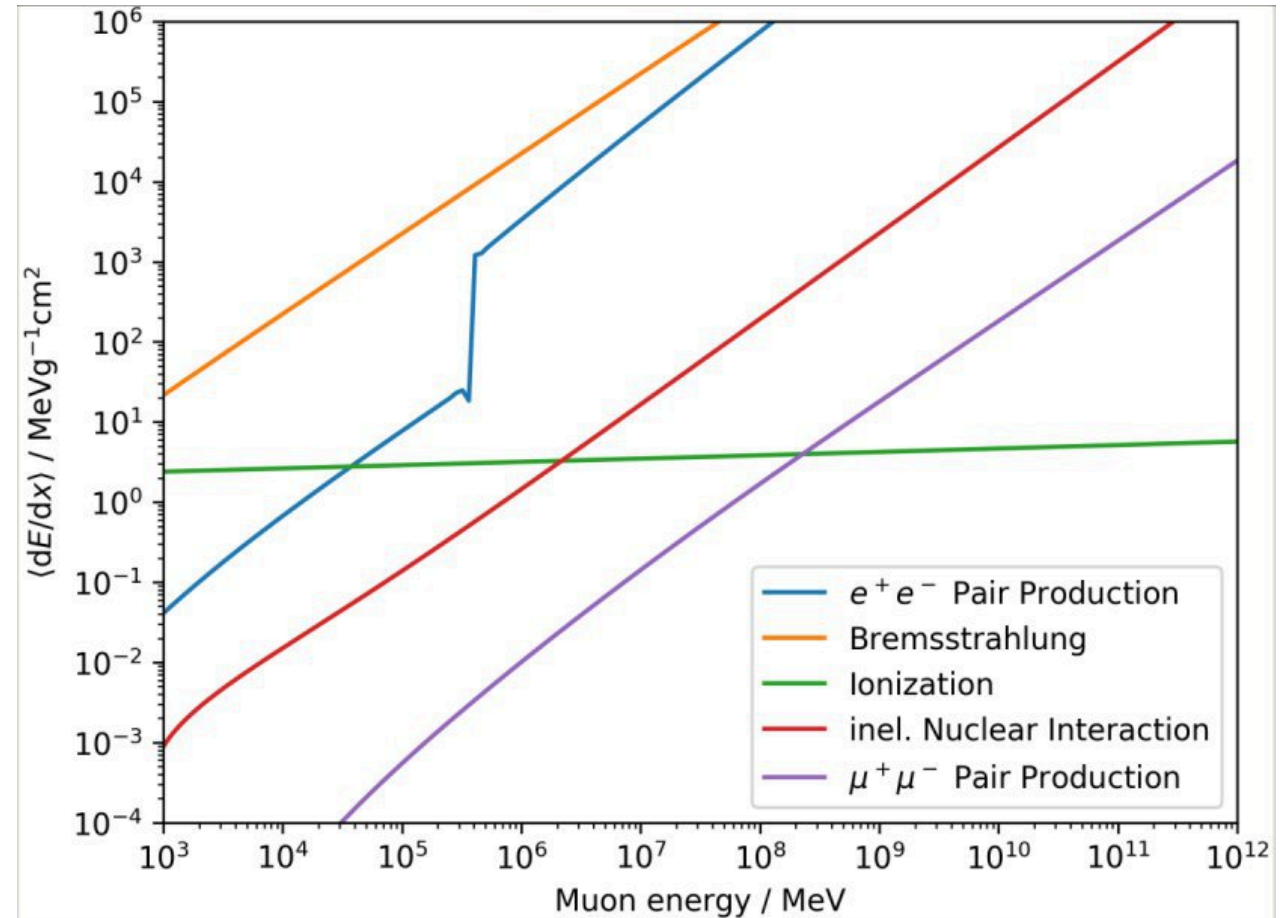
Ionization differences

- Radiation corrections for Electronpropagation (up to now just for muons)
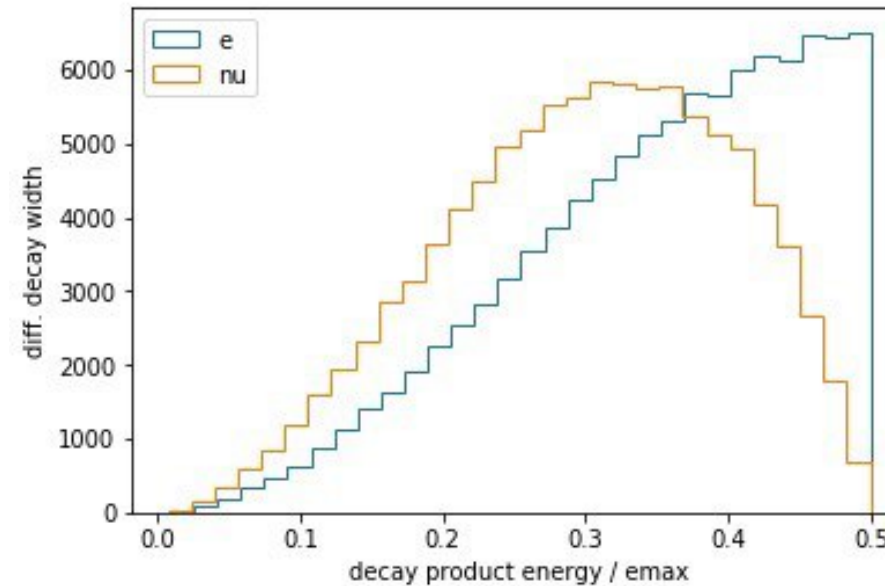
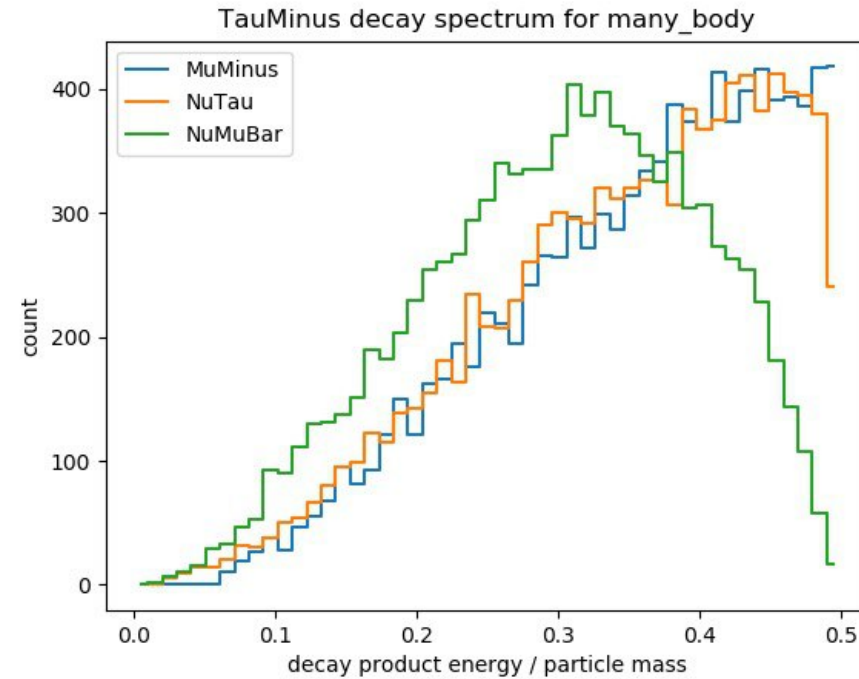- Bremsstrahlung of atomic Electrons

Electron pair production

- Pair production cross section for muons not directly applicable for electrons

- Identical particles

- Different Integration limits

Decay Spectra

- Using Matrix Elements for Decay to get better Neutrino spectra

Adapt Propagation routine

- Now like CORSIKA
- DoDecay, DoInteraction, DoContinuous
- Choose min(InteractionEnergy, DecayEnergy, DistanceEnergy, MinEnergy)
- Nearly finished Testing process

- Idea: don't rewrite propagation integration calls in CORSIKA
- Using same propagation algorithm in PROPOSAL and CORSIKA
- minimal maintenance in CORSIKA