Hadronic Interaction Studies in the ATLAS Inner Detector

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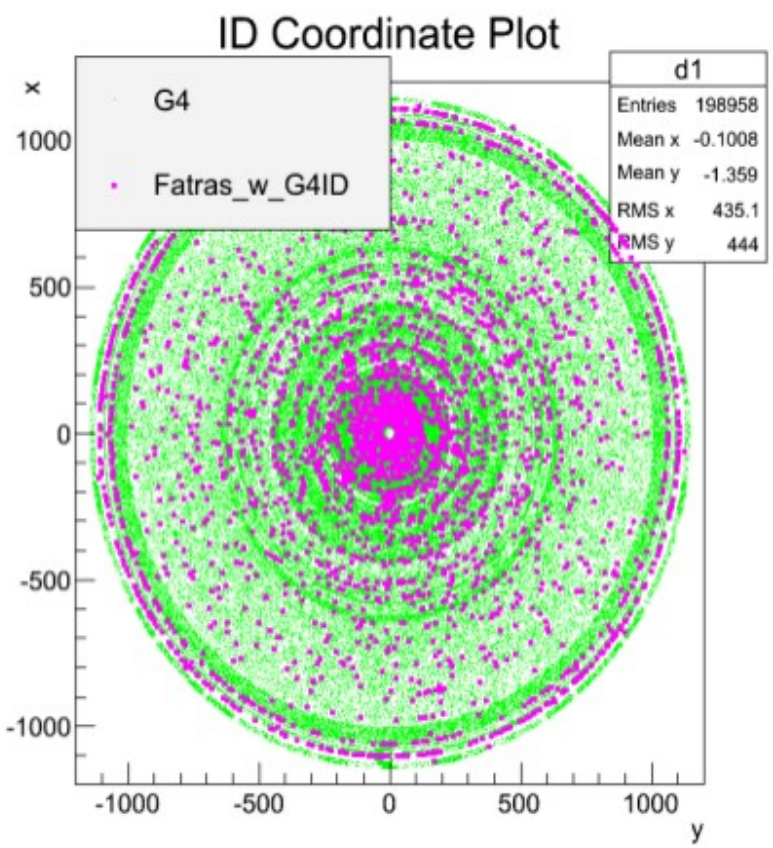
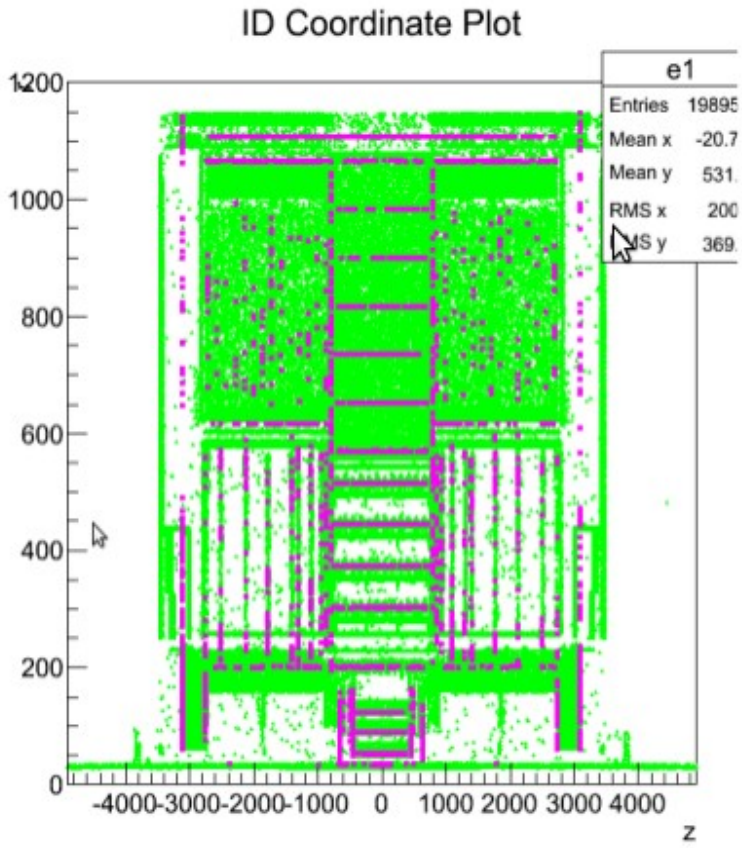
Introduction

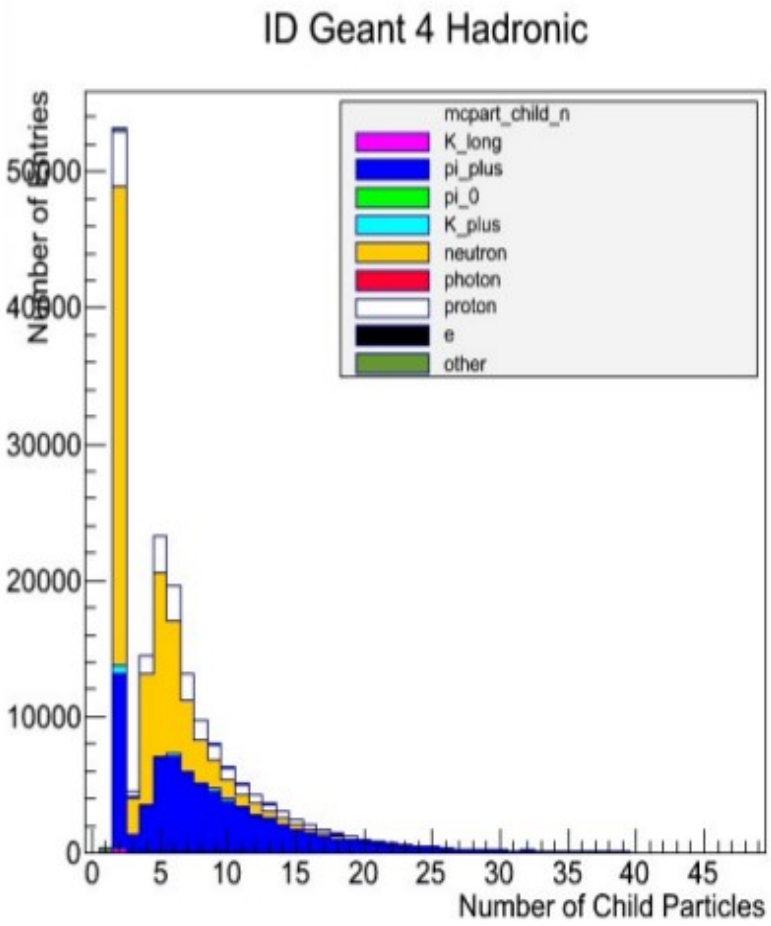
- I have reactivated hadronic interactions in the inner detector for Fatras Fast Simulations using the G4 Hadronic Processor and am starting to validate it by comparing to Geant 4 results. In these plots, Fatras used 1000 events, ttbar, and Geant4 used ~1000 events, ttbar
- Reminder:Fatras is the Fast parametrized simulator and Geant4 is the Full simulation
- Importance? If ATLAS doesn't develop the ISF framework with FastSim, it cannot analyze the new data.

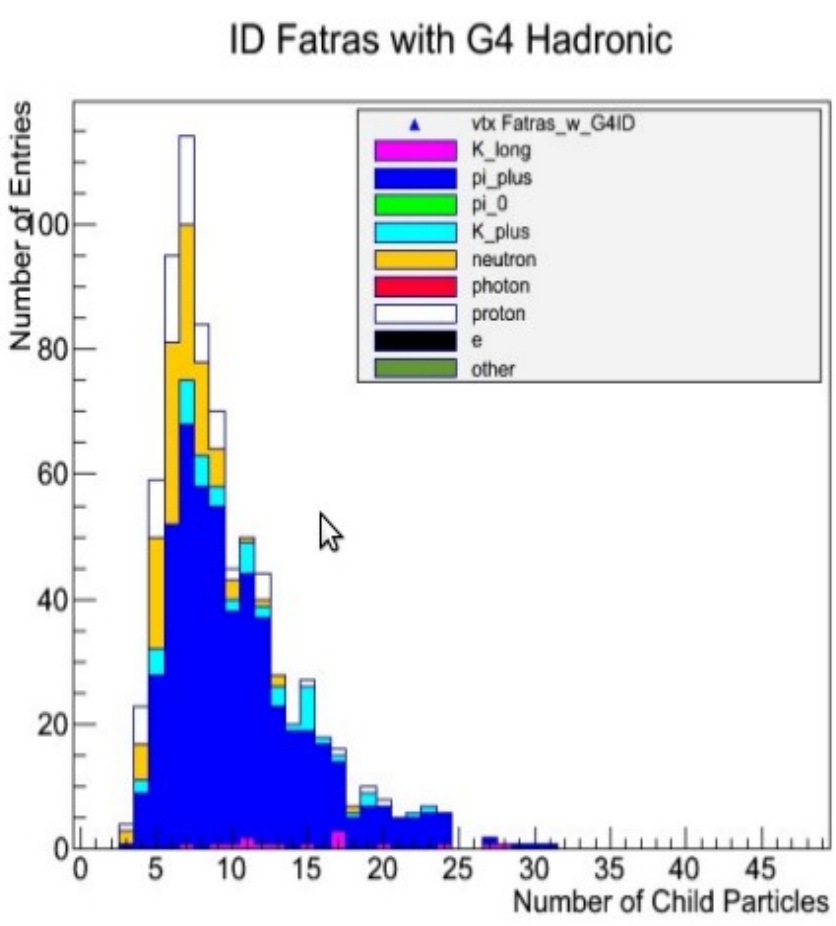
x vs y and r vs z



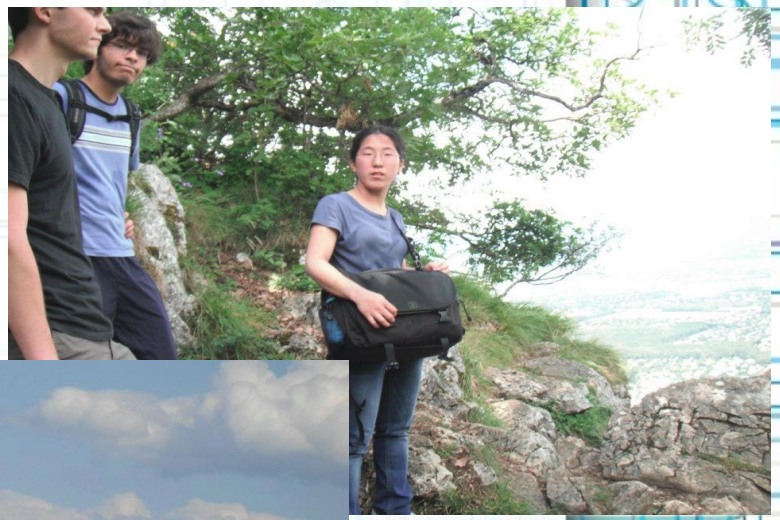
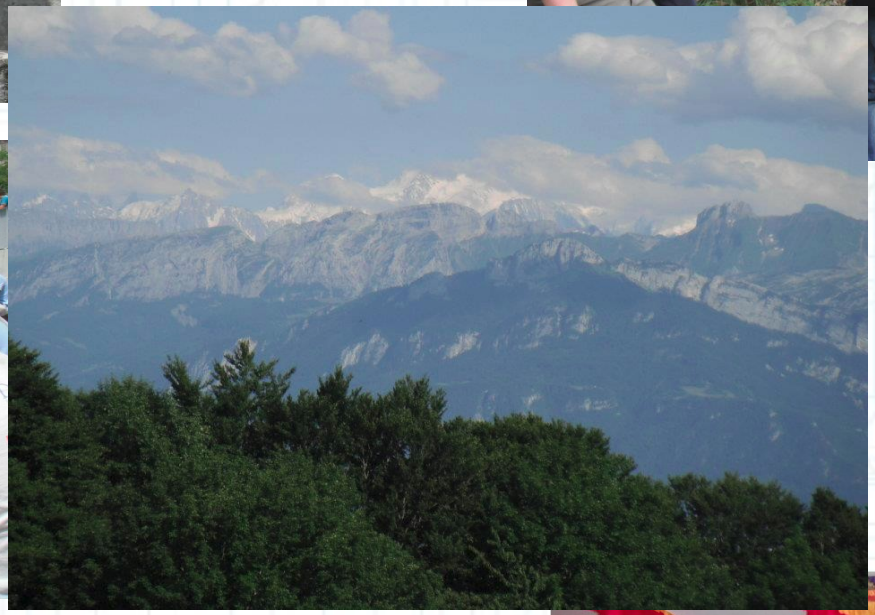


This shows how Fatras only has the projected 2D surface interactions and G4 interacts Inside the detector material.





The number of Entries vs number of child particles for different detector particles in Both simulations. Fatras is missing the large peak at 2 child particles.

Best thing about Switzerland

- Sorry for those with me that day, my video got corrupted, but this is pretty much it http://www.youtube.com/watch?v=da0u87JCjnY