LUXE-SAS

Jan 9 2023

Recap

- FLUKA:
  - Stewart's study has converged and comparison w/G4 checks out
  - agreed to set a meeting with DESY's radio-protection people (and dump experts) in Jan

- GEANT4:
  - updates today
  - some progress in IP discussion (see next slide) will trigger work
  - more stats for the calo (TDR) study running
  - integration with key4hep: will arrange an introduction/tutorial in this forum

- FastSim:
  - Arka is now relatively back online and will restart the study where we stopped around Oct 2022
  - more volunteers are welcome

- NPOD:
  - finally accepted: Phys. Rev. D 106, 115034
  - update today by Raquel

IP chamber discussion in late Dec

- Cannot use one large pipe
  - no place and also requires much stronger requirements on the vacuum
  - use two pipes, as small as possible
    - the two beams will be going more further apart compared to earlier
  - JENA does not have dedicated engineering manpower at the moment
    - can only do the design of the final stretch
      - largest challenge is the last turning box above the IP chamber itself

- The current implementation has some collisions (the mechanics are in front of the beam, etc.)
  - Asaf and Ishay will do the re-design of the interior of the IP chamber
  - will also do the design of the services around the chamber (elx, vacuum, etc.)
  - Matt, Ishay and Asaf will decide on the (commercial) type of mirrors, cameras, motorized stages, etc. - TBD in early Jan.

- Once we have the IP box, final stretch pipes and turning box, Karsten will attempt the integration in the full model
  - we will only then know if the IP can be pushed upstream