

# SoLID Simulation update

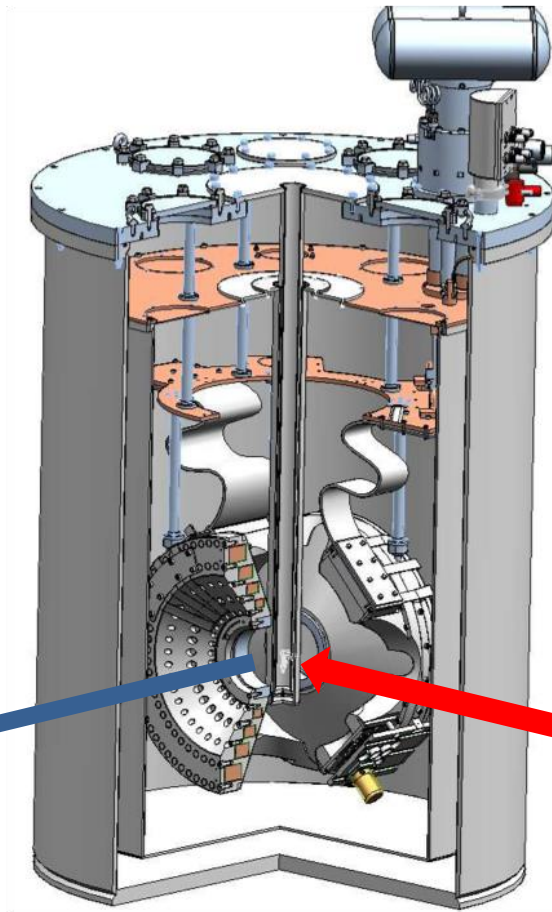
Zhiwen Zhao

2022/12

# List of things ongoing

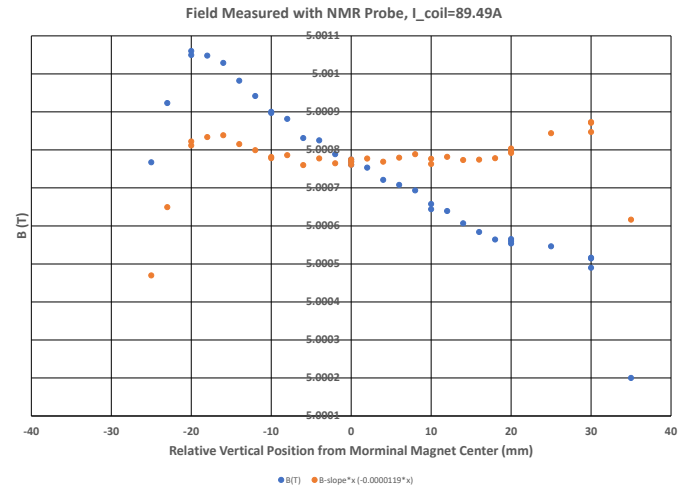
- Event generator update and data comparison (Ye)
- Geant4 physics and data comparison (Zhiwen, Ye)
- beamtest sim (Ye)
- Test sim and reconstruction in EPIC software framework (Chao)
- Compare GEM rate between beamtest data and sim (Weizhi, Xinzhan)
- Some sim study (e.g. SIDIS NH3 background)

# SIDIS NH3 target magnet

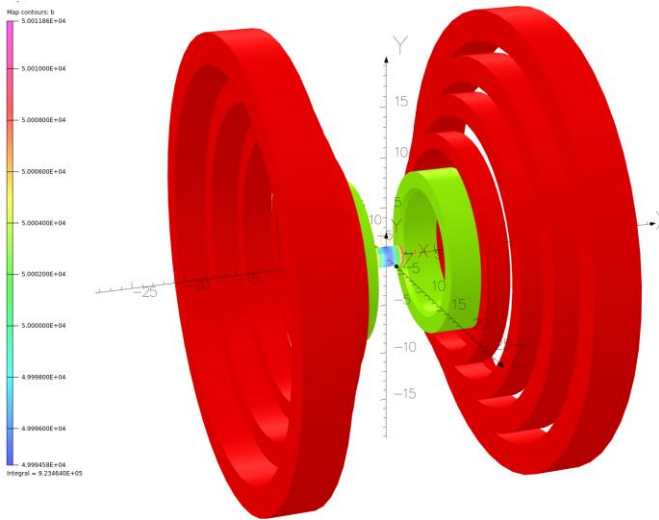


Magnetic Field

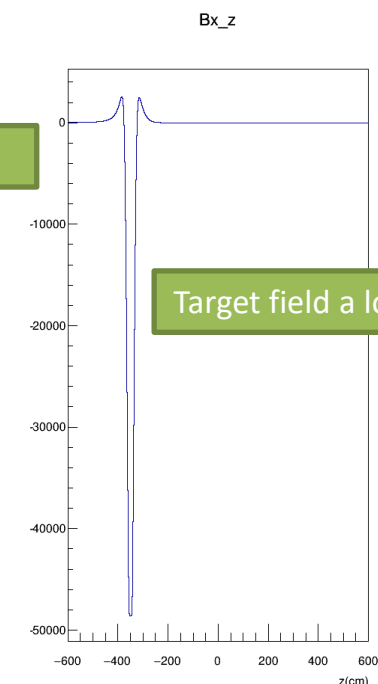
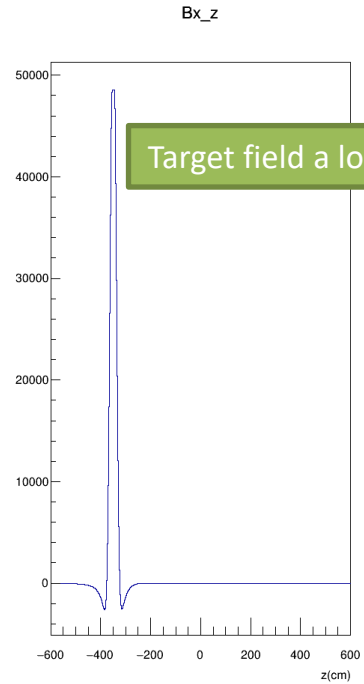
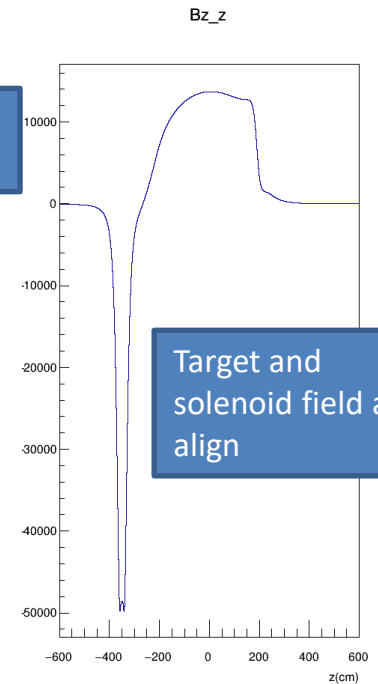
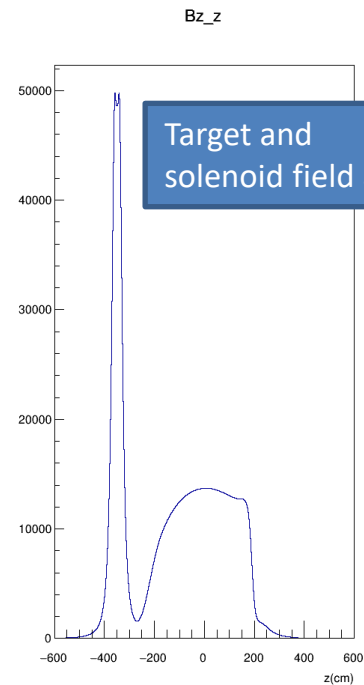
Beam



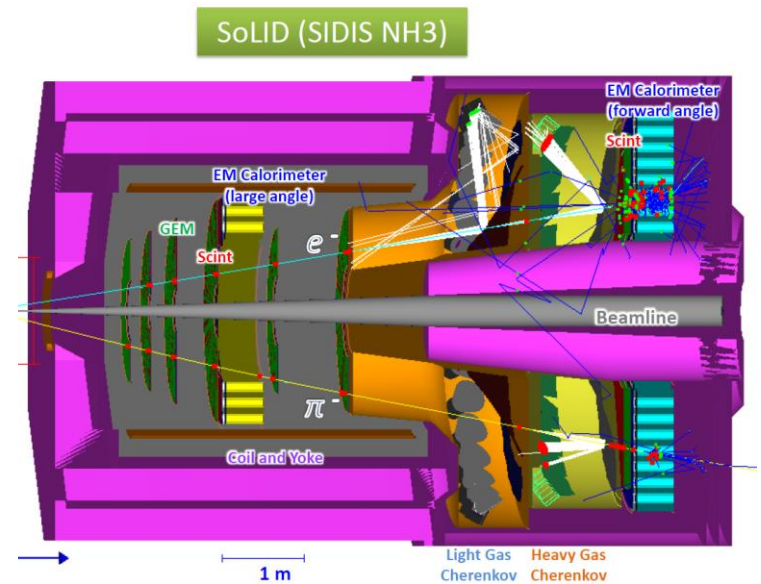
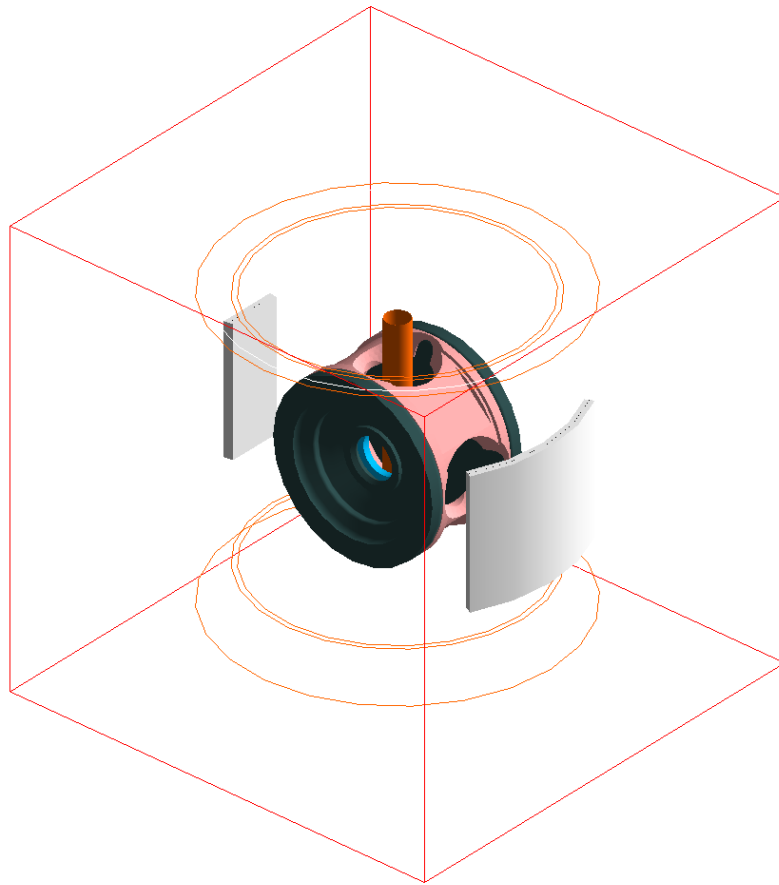
# SIDIS NH3 field map from Jay



- Target and solenoid field are solved in one model. Total 4 models exist
- 4 of 3D maps exist
  - 2 of 3D\_quadrant map of 3GB file for longitudinal target
  - 2 of full 3D map of 14GB file for transverse target
- solid\_gemc mem use reach ~5GB

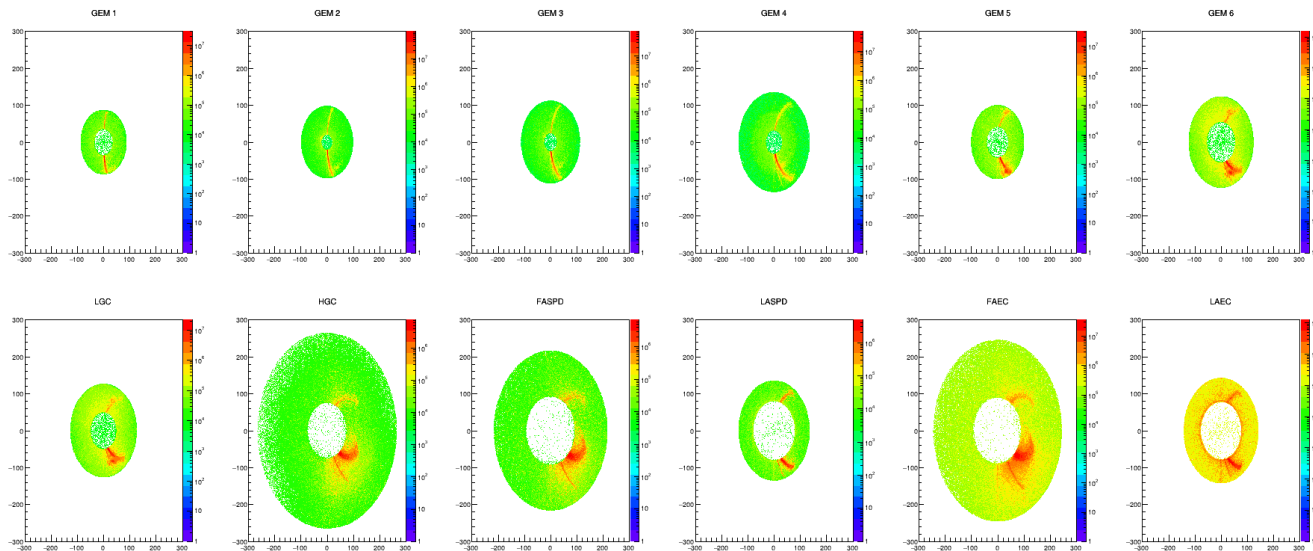


# New NH3 target geometry in solid\_gemc (work in progress by Shuo Jia)



# Hit rate on detector planes

Old geometry and map



new geometry and map

