

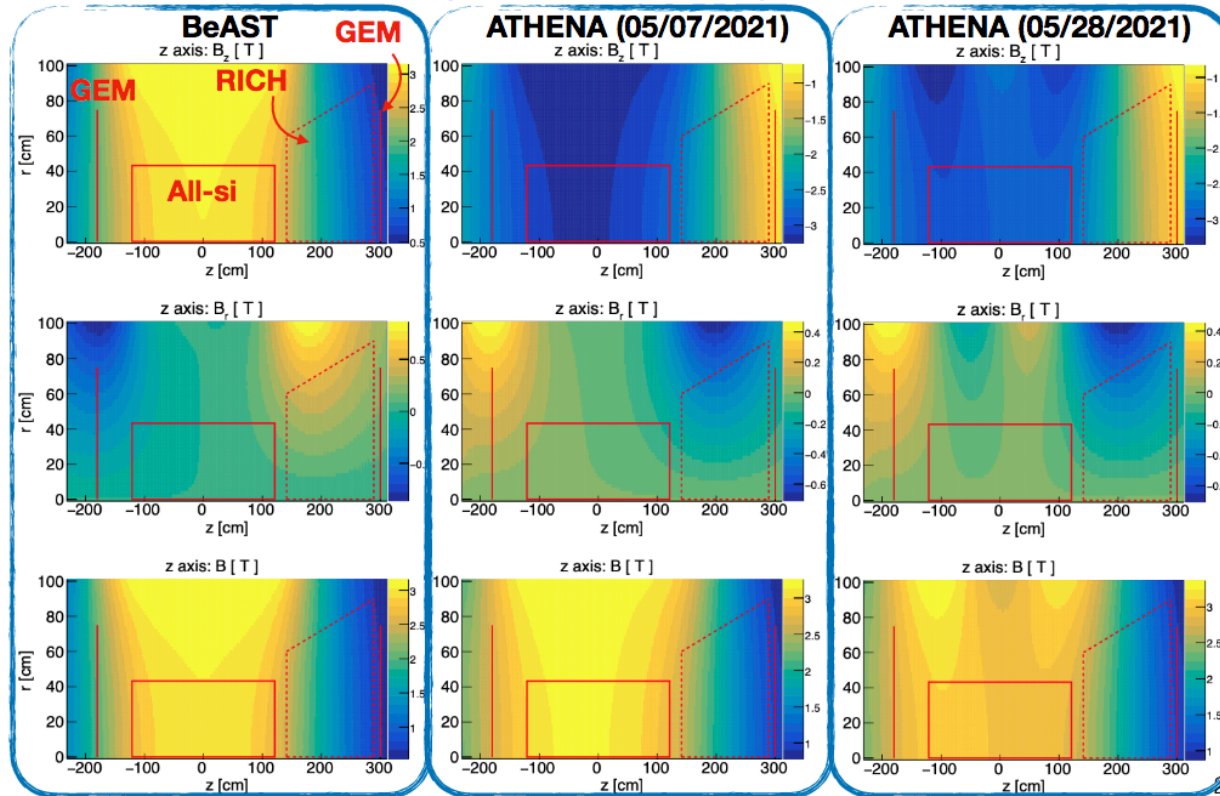
Athena Tracking WG Magnetic Field Studies

F. Bossu, D. Elia, L. Gonella, M. Posik

Athena Monthly Meeting
July 1st, 2021

Athena Field Maps

<https://github.com/eic/BeastMagneticField>



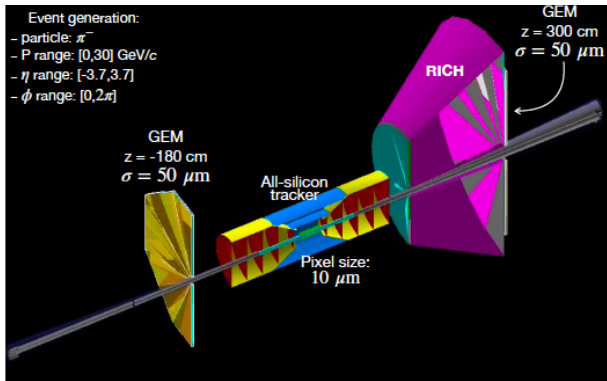
Rey Cruz-Torres,

https://indico.bnl.gov/event/12016/contributions/51384/attachments/35600/58137/210629_new_Beast_map.pdf

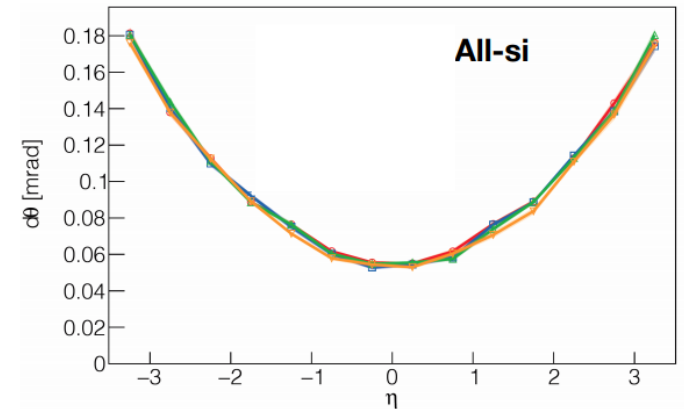
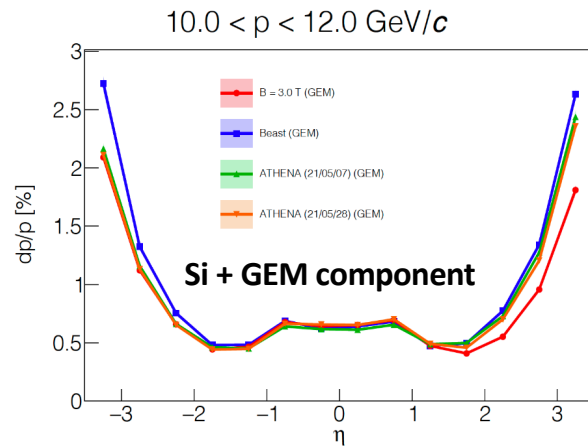
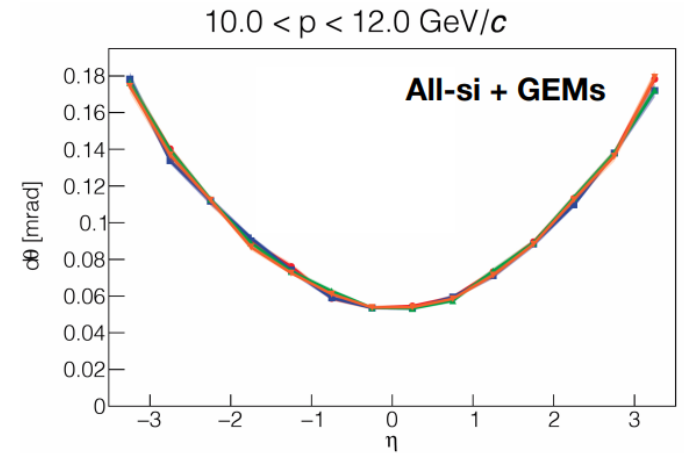
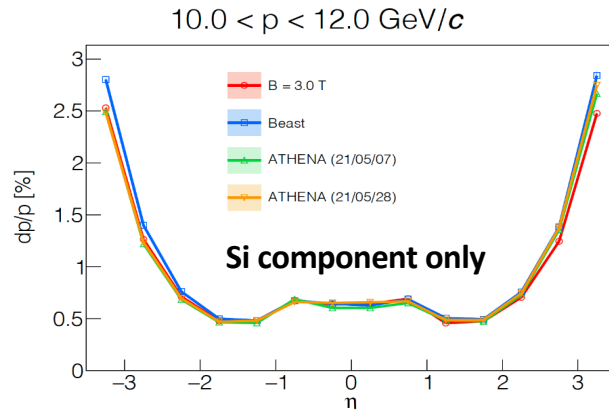
All-Si Concept

Rey Cruz-Torres,

https://indico.bnl.gov/event/12016/contributions/51384/attachments/35600/58137/210629_new_Beast_map.pdf



- Minimal momentum resolution field dependence
- Azimuthal angular field dependence similar to polar angle
 - Resolutions at vertex

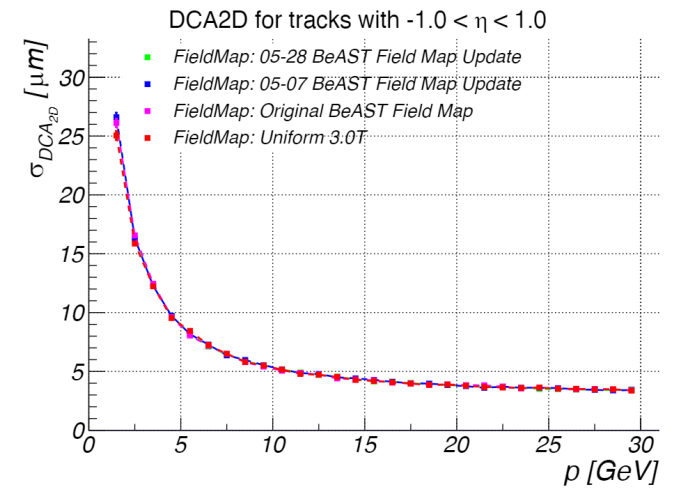
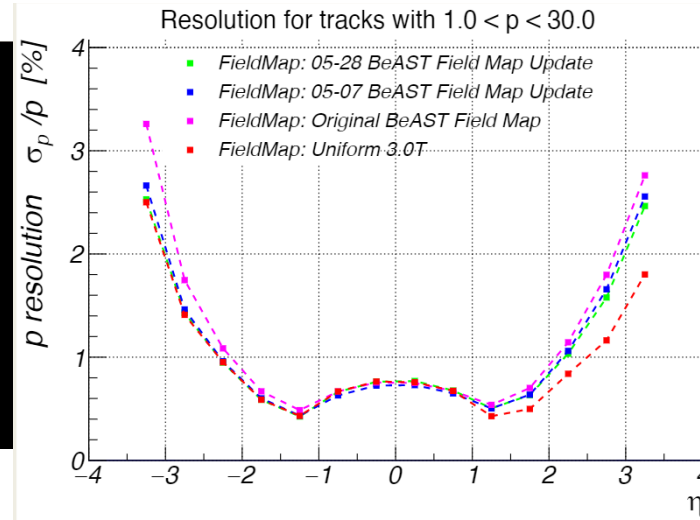
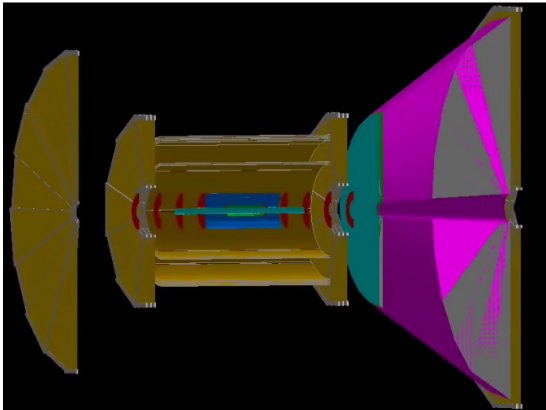


Hybrid Concept

Nick Lukow, same conclusion alternate hybrid,

<https://indico.bnl.gov/event/12238/contributions/51090/attachments/35504/57936/20210624-ATHENA-trk-WG-Bfield-mp.pptx>

- Minimal momentum resolution field dependence
- No DCA (2D) field dependence



Considerations on B-Field Studies

- ☐ Slight preference for later field (May 28th), but seems to have negligible impact on tracking
- ☐ Homogeneity requirements at mid-rapidity may become less stringent as TPC is not considered in the tracking system