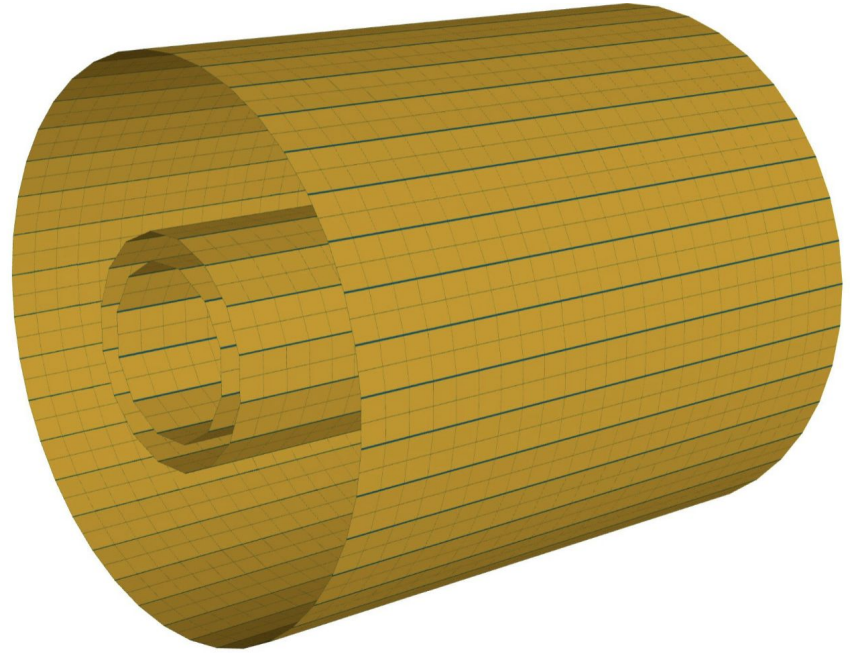# Near term tasks (Opportunities) on tracking software
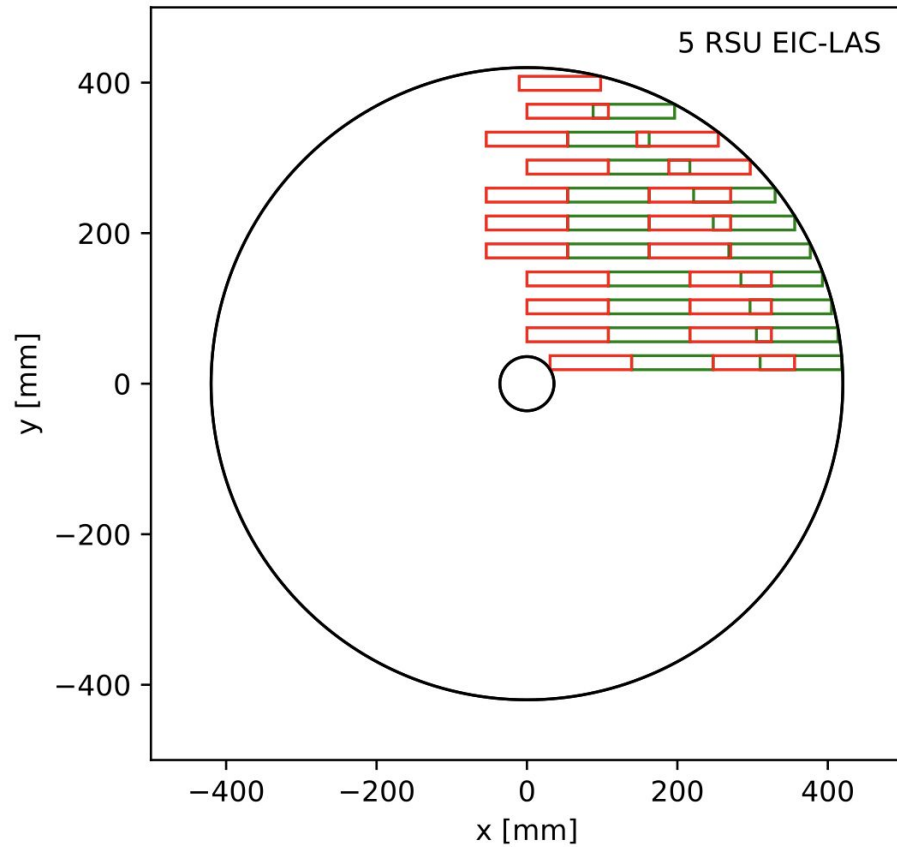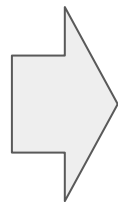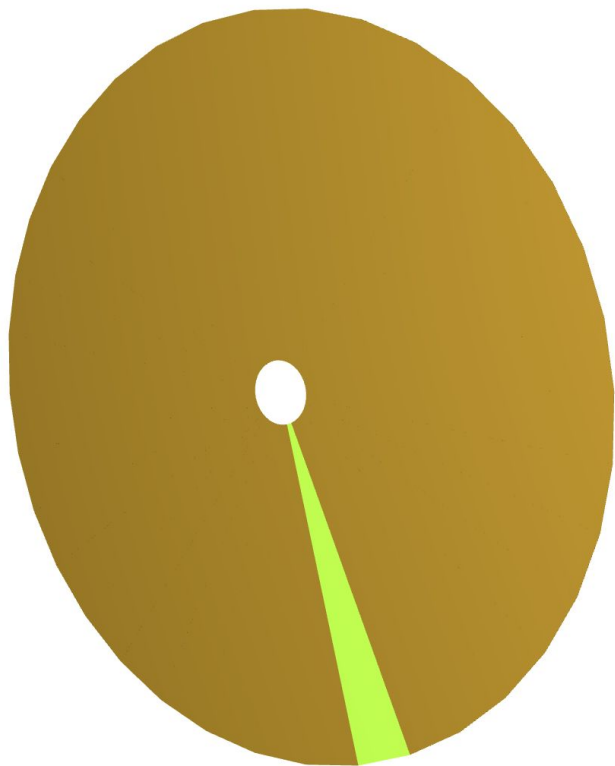
Shujie Li
05. 07. 2024

1. Si tracker with sensors

- Done (by Jonathan): pixels with inactive area
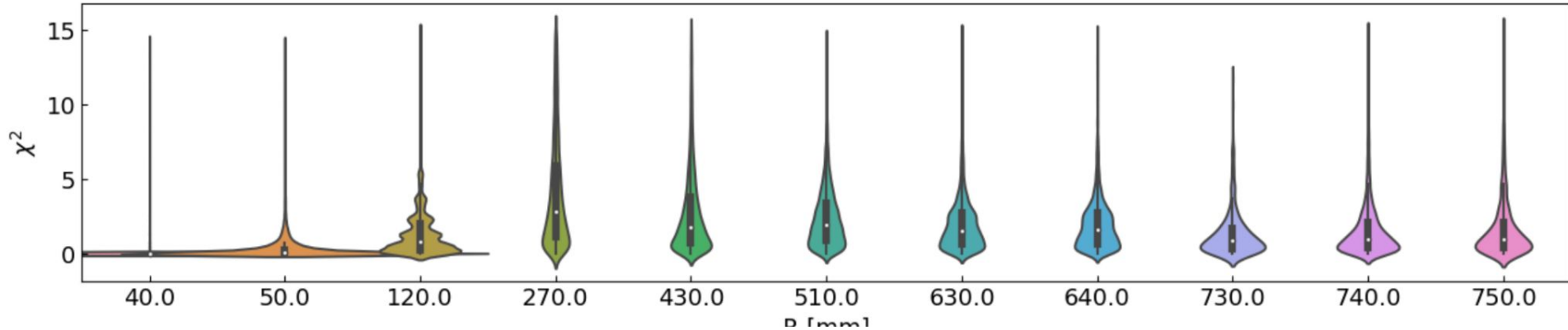- TBD : curved surface

2. Disk from tiles

3. Understand Chi2 distribution

Done:
- Initial cov matrix optimization (Jeet and Barak)

To do:
- Balance the chi2 distribution for each layer. Understand the strange behavior on L2
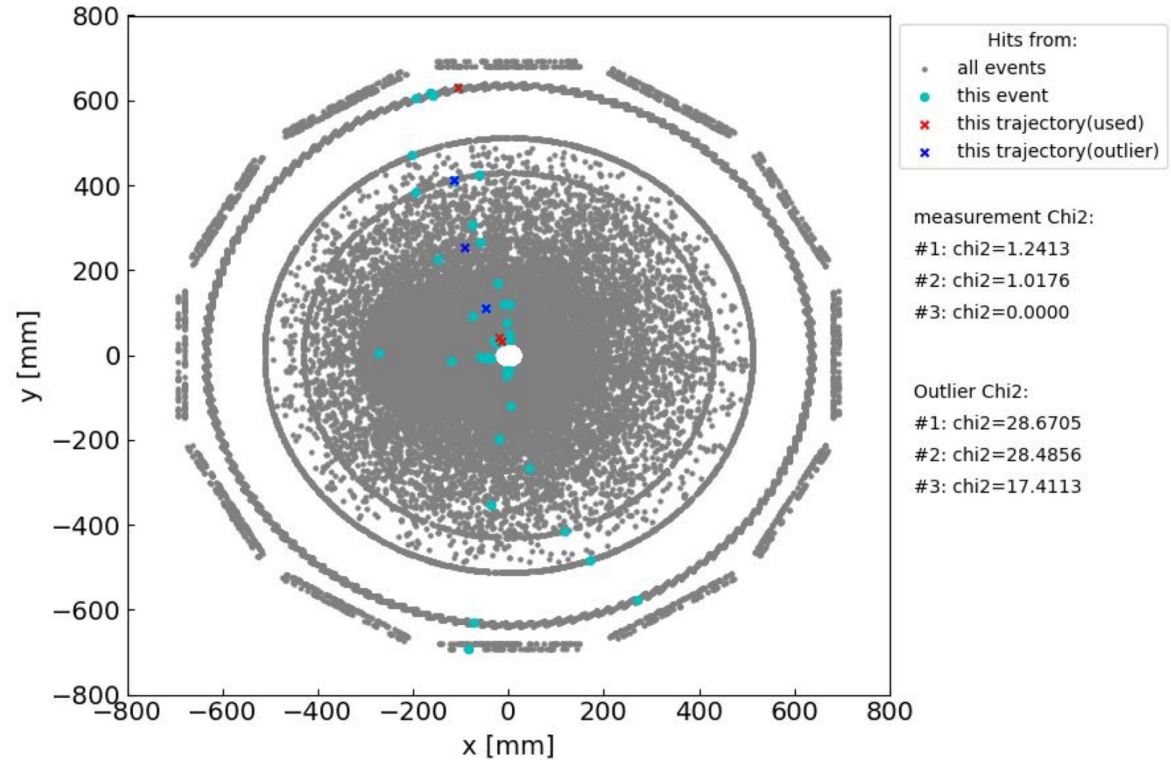
4. Trajectories with holes and outliers

Done:
- Hits to particle association (Barak)
- Initial cov matrix optimization (Jeet and Barak)

To do:
- Understand the holes
- optimize chi2 cuts

Hits from:
- all events
- this event
- ✕ this trajectory(used)
- ✕ this trajectory(outlier)

measurement Chi2:
#1: chi2=1.2413
#2: chi2=1.0176
#3: chi2=0.0000

Outlier Chi2:
#1: chi2=28.6705
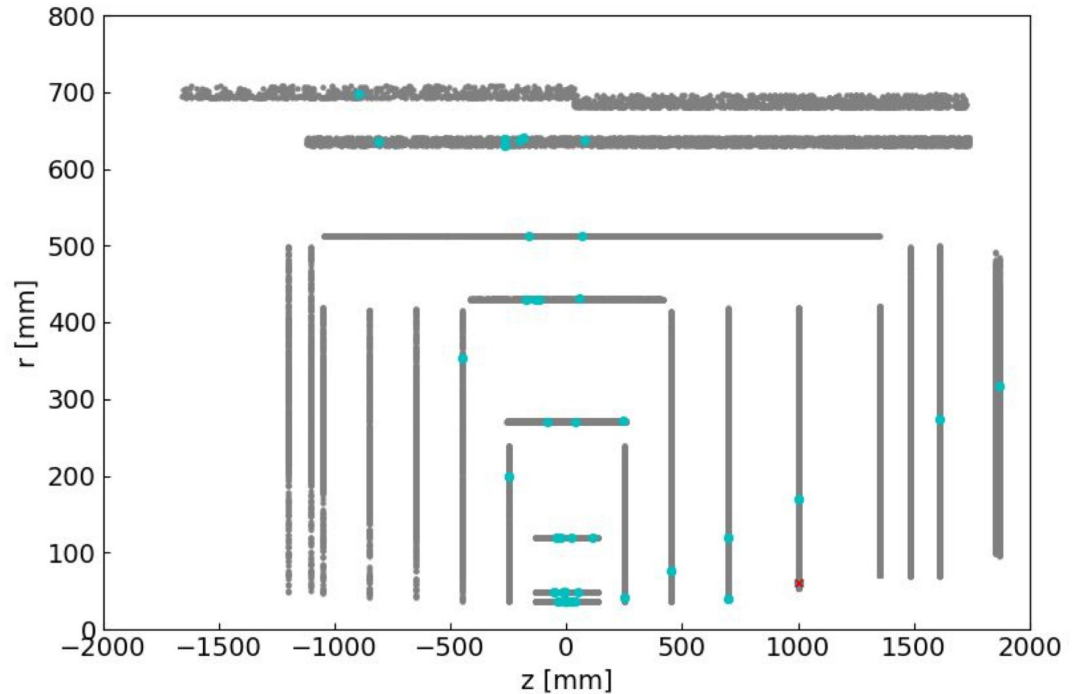#2: chi2=28.4856
#3: chi2=17.4113

5. Trajectories with less than 3 hits

Done:
- Hits to particle association (Barak)

To do:
- Trajectory to seed association (Barak)
- Resolve or remove trajectories with less than 3 hits

6. Tracking performance study

a. Performance with timeframe (see Kolja's talk this Thursday)
b. TDR plots