Karlsruher Institut für Technologie

Readyness of CKF for Phase II

F2F Tracking Meeting Mainz.

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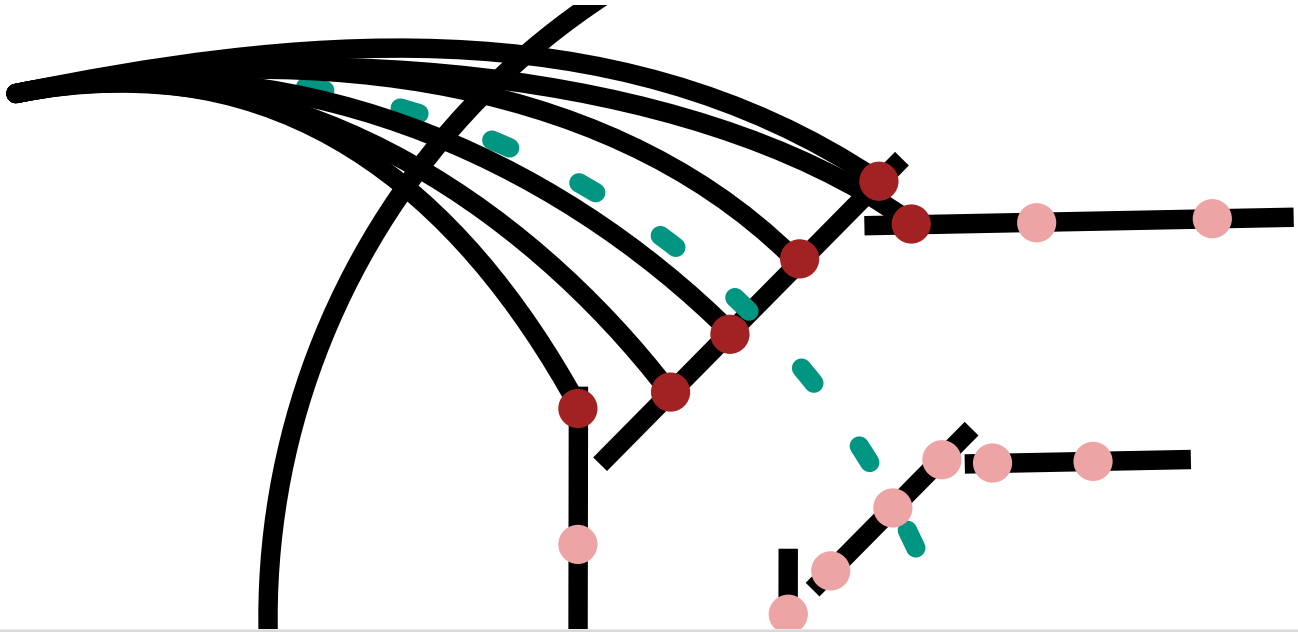
IEKP - KIT



Setup

- Use normal generic $\Upsilon(4S)$ events, but with

```
main.add_module("Gearbox",
                fileName="geometry/Beast2_phase2.xml")
```

- Not including background in the moment, because I have not downloaded it from KEKCC yet (and SVD/PXD Clusterizer fail with normal background)
- Not using any PXD data reduction (without background it is not needed anyway)

CDC Performance

Finding Efficiency (prim)	0.918395
Hit Efficiency (prim)	0.90561
Fake Rate	0.0263158
Clone Rate	0.0606033

- This is lower than I expected - so maybe I am doing something wrong here - but I did not have the time to look into it...
- Will make the CKF worse.

CKF results

	CKF (VXD only)	CKF (all)
Finding Efficiency (prim)	0.759136	0.881321
Finding Efficiency (all)	0.748433	0.81593
Hit Efficiency (prim)	0.848502	0.90516
Hit Efficiency (all)	0.843874	0.866814
Hit Efficiency (PXD)	-	0.625844
Hit Efficiency (SVD)	-	0.784936
Hit Efficiency (CDC)	-	0.910646
Fake Rate	0.290059	0.0192878
Clone Rate	0.001170	0.0400117
Hit Purity	0.995832	0.951602

Note: I can not show VXDTF2 results, as the sectormap is not optimized for this.

Note 2: Also the CKF (and its ”sector map”) is not optimized in the moment...

Discussion

- It kanda works...
- VXDTF2 mixin is missing, because I do not have a trained sectormap
- The CDC performance is actually not as good as expected
- I still need to optimize, but the principle is working
- The problem are maybe ”VXD-entering” tracks