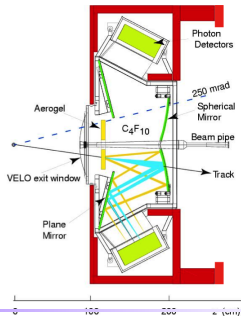
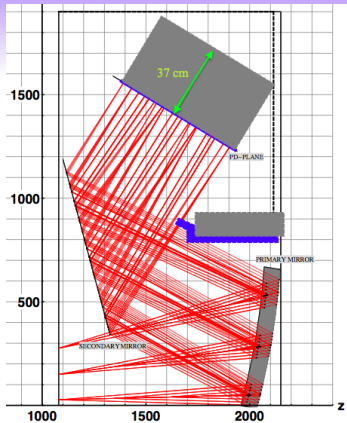


The upgraded LHCb RICH detector: status and perspectives

Roberta Cardinale on behalf of the LHCb RICH Collaboration

- The LHCb experiment at LHC is dedicated to probe New Physics in CP violation and rare decays of b and c quarks
- Particle identification is provided by two Ring Imaging Cherenkov Detectors (RICH)
- An upgrade phase of the current LHCb detector is foreseen in 2018 to fully exploit LHC flavour physics potential
- In order to cope with the higher luminosity and the higher trigger rate, an optimization of the optical layout of the RICH detectors and the change of photodetectors is necessary





RICH-1 upgrade optical layout optimised using a ray tracing software. The new layout improves the PID performance in the high occupancy upgrade environment.

Replace silicon Hybrid Photodetectors (HPD) with Hamamatsu MaPMT R11265 and Flat Panel H12700 including its external front end electronics

- Photodetectors have been fully characterized in laboratory
- Test of the full opto-electronics chain of the prototype housing and FE assemblies at testbeams

Recorded Cherenkov rings with the full readout chain!

