Contribution ID: **543**   Type: **Parallel session talk**

Operation and Performance of Belle II Aerogel RICH Counter

Tuesday 25 May 2021 06:06 (18 minutes)

Belle II experiment at SuperKEKB is a B factory experiment aiming at collecting 50 times more data than Belle. One of the key components in the experiment is the particle identification (PID), especially the separation of kaons and pions. In the Belle II spectrometer, a proximity focusing ring imaging Cherenkov detector using aerogel as a radiator (ARICH) is equipped for the PID at the forward endcap. In this counter, a total of 420 of hybrid avalanche photo-detectors (HAPDs) with 144 channels are used as position-sensitive photon detectors that work inside the 1.5 T magnetic field. Belle II started the physics run with full detectors from 2019, and accumulated 90 fb^{-1} of collision data. We report on the operation of ARICH, including the fraction of dead channels, stability of HAPDs, and possible problems. We also report the PID performance of ARICH estimated with using $D^{*+} \to D^0 \pi_{\text{slow}}^+, D^0 \to K^- \pi^+$ control sample with the initial data.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

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