Contribution ID: **180** Type: **Poster**

Operation of the Belle II ARICH detector

Tuesday, 3 February 2026 17:20 (2 minutes)

The Aerogel Ring Imaging Cherenkov (ARICH) detector is located in the forward endcap of the Belle II detector to identify charged particles, with the main goal of separating kaons from pions over the full kinematic range. The detector works by collecting Cherenkov light emitted by fast charged particles with Hybrid Avalanche Photo-Detectors (HAPDs). ARICH has been successfully operated from the beginning of the Belle II experiment. We report on the status of ARICH operation, including the stability of HAPDs, and efforts to increase higher DAQ efficiency. We also mention problems that occurred during the operation. In addition, we also report on the study to improve the performance by studying the difference in the expected and observed number of Cherenkov photons arising mainly from gaps between aerogel tiles. To study this effect, we compare photon yields obtained from simulated high-energy muons and real muon data across the detector plane. This comparison allows us to map the tile gaps, quantify their impact on photon yield, and apply corrections to improve the performance of the ARICH detector.

Position

PhD

Affiliation

IIT Hyderabad

Country

India

Authors: CHETRI, Hridey; KORPAR, Samo; NISHIDA, Shohei; PAWAR, Nihar; SANDILYA, Saurabh (Indian Institute of Technology Hyderabad); SANTELJ, Luka (Jozef Stefan Institute); SPENKO, Kristof (Jozef Stefan Institute (SI))

Presenters: CHETRI, Hridey; PAWAR, Nihar

Session Classification: Poster session

Track Classification: Particle Identification