

Study of 144 Channel Multi-Anode Hybrid Avalanche Photo-Detector for the Belle II RICH Counter

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New hybrid avalanche photo-detector has been developed as a photon sensor for the Belle II RICH counter. Single-photon response was investigated in the presence of a magnetic field and excellent performance was demonstrated. In addition, the radiation damage was studied in detail.

By building a prototype consisting of 6 photo-detectors, a test beam experiment was carried out. We successfully obtained a clear Cherenkov image and potential pi/kaon separation power is expected to be more than 4 sigma at 4 GeV/c.

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