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Fast timing and trigger Cherenkov detector for collider experiments

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Analysis of fast timing and trigger Cherenkov detector's design for its use in collider experiments is presented. Several specific requirements are taken into account – necessity of the radiator's placement as close to the beampipe as possible along with the requirement of gapless (solid) radiator's design. Characteristics of the Cherenkov detector's laboratory prototype obtained using a pion beam at the CERN Proton Synchrotron are also presented, showing the possibility of obtaining sufficiently high geometrical efficiency along with good enough timing resolution (50 ps sigma).

Presentation type

Section talk (10+5 min)

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