

Proposal of new super-compact calorimeter design for the forward physics

Forward rapidity region of the high energy particle collisions affords opportunities for studying more details of physics at small Bjorken- x . Measurement of this region within the existing particle experiments is often restricted due to existing framework and limited space. The aim of our project is therefore to develop new super-compact ECAL for the forward region based on the tungsten-scintillator calorimeter. The active element of the calorimeter was chosen to be longitudinally oriented thin scintillator cards consisting of variable granularity pads with optical readout. Design allows for operation in high multiplicity environment close to $y=4.5$ and due to its compactness provides also possibility to include HCAL part. Optical readout can operate at high trigger rates and system is able to generate L0 trigger.

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