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Prototype test beam results and design of the future Forward Calorimeter in ALICE

Wednesday 23 August 2023 08:50 (20 minutes)

The Forward Calorimeter (FoCal) in ALICE, which is planned to take data in Run 4, covers a pseudorapidity interval of $3.4 < \eta < 5.8$ for probing non-linear QCD dynamics in an unexplored kinematic region at the LHC. In its electromagnetic section, layers of high granularity Monolithic Si pixels are alternated to Si pads for sampling the longitudinal development of the electromagnetic showers, designed to allow for the reconstruction of neutral mesons with high efficiency. Its hadronic section is made from constructing towers by grouping copper capillary tubes filled with scintillator fibers interface by SiPMs. During 2021 and 2022, various ever-improving prototypes of the calorimeter were installed at the Test Beam facilities of CERN to evaluate their performance and compare to simulations.
In the talk, we report on the most recent results of these campaigns and outline the impact on the design of the detector.

Collaboration / Activity

ALICE experiment

Primary authors: ALICE, Collaboration; BEARDEN, Ian (Niels Bohr Institute, Copenhagen, Denmark)

Co-author: GERMAIN, Marie (Subatech, CNRS-IN2P3, France)

Presenter: BEARDEN, Ian (Niels Bohr Institute, Copenhagen, Denmark)

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