Contribution ID: **1201** Type: **Parallel Talk**

Exposing a fibre-based dual-readout calorimeter prototype to beams of electrons

Friday, 8 July 2022 15:00 (15 minutes)

Dual-readout fibre-based calorimeters have been demonstrated to achieve a superior built-in energy resolution, that can be further enhanced by the application of post-processing reconstruction techniques (like particle flow, for example). A prototype built starting from capillary tubes as basic elements has been exposed to test beams with energies ranging from 1 to 100 GeV to measure the electron response and shower shape. The talk will discuss the test beam results and their agreement with the full Geant4 simulation, focusing on the implications for the construction of a full-scale calorimeter prototype. Emphasis will be given to precision measurement of the lateral electromagnetic shower shape, obtained thanks to the high transverse granularity of the calorimeter.

In-person participation

Yes

Primary authors: VIVARELLI, Iacopo (Freiburg); PEZZOTTI, Lorenzo (CERN); POLESELLO, Giacomo (Istituto Nazionale di Fisica Nucleare)

Presenter: POLESELLO, Giacomo (Istituto Nazionale di Fisica Nucleare)

Session Classification: Detectors for Future Facilities, R&D, novel techniques

Track Classification: Detectors for Future Facilities, R&D, novel techniques