Contribution ID: **345** Type: **Oral**

Exposing a dual-readout fibre calorimeter to beams of electrons.

Wednesday, 29 May 2024 09:30 (20 minutes)

We will present the testing of a prototype dual-readout calorimeter employing brass capillary tubes surrounding scintillating and clear plastic optical fibers. Particle beams with energies ranging from 10 to 100 GeV, generated by the CERN SPS, were utilized for experimental testing. The detector's performance was characterized in terms of linearity, energy resolution, and lateral granularity. The obtained experimental results are compared with predictions from a Geant4-based simulation. These results confirm the tube-based mechanical design and SiPM readout as a promising configuration for future developments. The talk will conclude by discussing the outlook of fiber-based capillary tube technology for dual readout in upcoming e+e- colliders.

Collaboration

Dual Readout/ECFA DRD6 collaboration

Role of Submitter

The presenter will be selected later by the Collaboration

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Session Classification: Calorimetry - Oral session

Track Classification: T4 - Calorimetry