

The development of a highly granular scintillator-steel hadron calorimeter for the CEPC

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Based on the particle-flow algorithm, a highly granular sampling hadron calorimeter (HCAL) with scintillator tiles as active layers and stainless steel as absorber is proposed to achieve an unprecedented jet energy resolution to address major challenges of precision measurements at future lepton colliders, including the Circular Electron Positron Collider (CEPC). A wide range of R&D efforts are being carried on with a major aim to construct a scalable HCAL prototype for the CEPC. This talk will present the latest progress of the prototype development, with highlights from optimization studies of the HCAL design based on the evolving CEPC Particle Flow Algorithm “Arbor”, characterisations of silicon photomultipliers (SiPMs) from different vendors, testing of a new promising SiPM-readout chip developed within the CALICE collaboration, mass production of scintillator tiles, automated foil wrapping, as well as dedicated test stands for the quality control of scintillator tiles and SiPMs.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

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