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Status of high granular scintillator calorimeter for future electron positron colliders

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Several future Higgs factories are planned for the precision Higgs physics to search for the new physics. The highly granular calorimeters play a crucial role on the precision Higgs measurement. The highly granular Sc-ECAL is based on a scintillator strip readout by a SiPM to realize the 5 mm × 5 mm cell size by aligning the strips orthogonally in x-y configuration. In order to demonstrate the performance of the Sc-ECAL and the scalability to the full-scale detector, the technological prototype has been developed with full 32 layers. In 2022 and 2023, the combined beam test of the Sc-ECAL and the CEPC-AHCAL, which is the scintillator based HCAL designed for the Circular Electron Positron Collider, is conducted at CERN SPS and PS beam lines to demonstrate the full calorimeter performance and the per-channel calibrations and performance demonstration are successfully done. This presentation describes the status the Sc-ECAL analysis of the combined beam test.

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