



Contribution ID: 116

Type: Oral presentation using Zoom

Development of highly granular scintillator strip electromagnetic calorimeter

Wednesday, 27 October 2021 14:15 (20 minutes)

Highly granular electromagnetic calorimeter based on scintillator strip with SiPM readout (Sc-ECAL) is under development in the framework of the CALICE collaboration for future electron-positron colliders such as ILC and CEPC. The detection layers with scintillator strips ($45\text{ mm} \times 5\text{ mm} \times 2\text{ mm}$ each) coupled to SiPMs are stacked alternately in an orthogonal orientation. This technique achieves an effective transverse segmentation of $5 \times 5\text{ mm}^2$, and allows to significantly reduce the number of readout channels. After the validation of the concept with the physics prototype, the fully integrated technological prototype with 32 layers has been constructed to demonstrate the performance of Sc-ECAL with more realistic technical implementation. The assembly of the prototype has been completed, and the calibrations for the detection layers are in progress using the cosmic-ray and LED. The performance of the prototype is evaluated using the cosmic-ray shower, and test beam which is planned at the IHEP. The status and prospects of the R&D of Sc-ECAL will be reported.

1st preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

2nd preferred time slot for your oral presentation

13:00-15:00 JST (6:00-8:00 CEST, 0:00-2:00 EDT, 21:00-23:00 PDT)

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Session Classification: B-1: Calorimeters

Track Classification: Parallel sessions: Detectors: Session B: Calorimeters