

CALICE SiW ECAL - Development and first beam test results of detection elements using Chip-on-Board Technology

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A highly granular silicon-tungsten electromagnetic calorimeter (SiW-ECAL) is the reference design for the ECAL of the International Large Detector (ILD) concept, one of the two detector concepts for the detector(s) at the future International Linear Collider. Prototypes for this type of detector are developed within the CALICE Collaboration.

The contribution will report for the first time on the development of beam test results obtained with detection elements (combination of ASIC, PCB and Si Wafers) that are based on a PCB type, called Chip-on-Board (COB), that features wire-bonded ASICs. This latter design keeps the height of the PCB as thin as 1.2 mm compared to a height of about 3 mm for a variant using BGA packaging. The tight space constraints leave little room for extra components such as decoupling capacitances, accordingly, particular emphasis will be put on the performance in terms of noise sensitivity.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

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