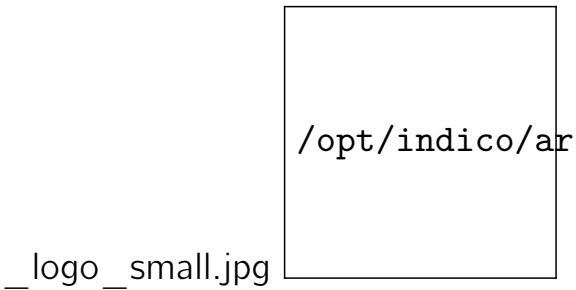

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Sensors for the CMS High Granularity Calorimeter

Wednesday, 1 March 2017 14:30 (0:15)

Content

The Particle Flow Algorithm (PFA) is increasingly used in particle physics as a powerful tool to improve jet energy resolution. Recent technology advances allow to fully exploit PFA by combining precise tracking with fine-grained calorimetry. The CMS experiment is currently developing high granularity calorimeter endcaps for its HL-LHC upgrade (CMS HGCAL). The electromagnetic part, as well as the first layers of the hadronic part, foresees silicon sensors as the active material. This technology is similar to the silicon-based ECAL developed in the framework of the Linear Collider by the CALICE collaboration. In this talk the current status of the HGCAL silicon sensor development is presented. First results of single diode measurements are shown, as well as tests of full 6-inch hexagonal sensor wafers with 135 cells in the laboratory and in beam tests.

Summary

The talk reports on the current status of the HGCAL silicon sensor development and presents first results of single diode measurements, as well as tests of full 6-inch hexagonal sensor wafers with 135 cells in the laboratory and in beam tests

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