



Contribution ID: 19

Type: **oral presentation**

Towards a realistic calorimeter with SiPM readout

Friday, 30 May 2008 09:00 (20 minutes)

Summary

The CALICE collaboration is developing highly granular electromagnetic and hadronic calorimeters for a future high energy electron positron linear collider. We present a conceptual design for a scintillator tile HCAL with SiPM readout. As a first step, a cubic-meter sized physics prototype has been constructed and operated successfully in the CERN SPS test beam; results have been submitted to this conference. In contrast to the test beam HCAL, a realistic calorimeter has to be compact and must have minimal dead zones. The design presented is based on highly integrated, ultra-low power read-out ASICs embedded in the active detector layers with minimized thickness. A scheme for integrating an optical calibration system without light transmission fibers is also proposed. Mechanical, thermal, electronics and DAQ solutions are discussed, and results for component tests are presented.

Primary author: Prof. WARD, David (University of Cambridge)

Presenter: SEFKOW, Felix (DESY)

Session Classification: Calorimetric Techniques

Track Classification: Calorimetric Techniques