SDHCAL

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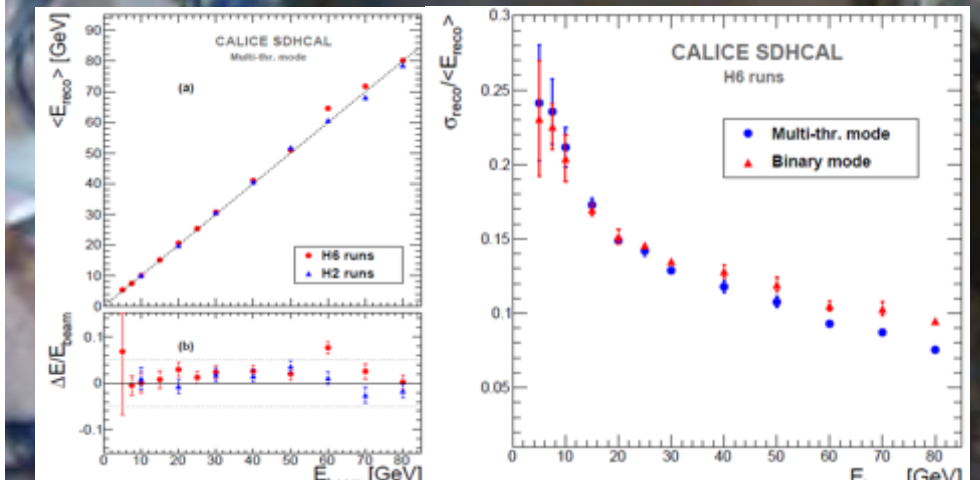
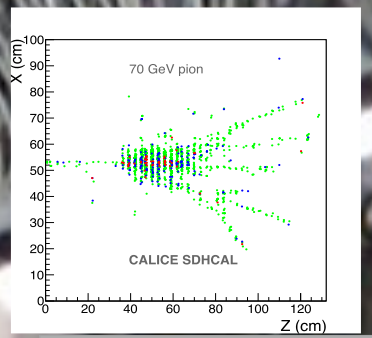
On behalf of
the CALICE SDHCAL groups

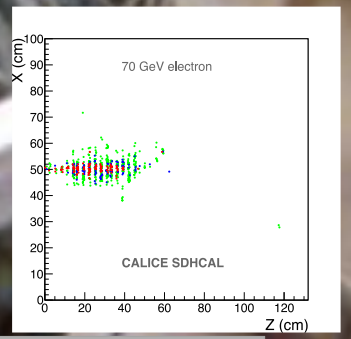
- 48 layers
- 1 cm X 1 cm granularity
  ≅ 3-threshold, 500000 channels
- Power-Pulsed
- Triggerless DAQ system
- Self-supporting mechanical structure

JINST 10 (2015) P10039

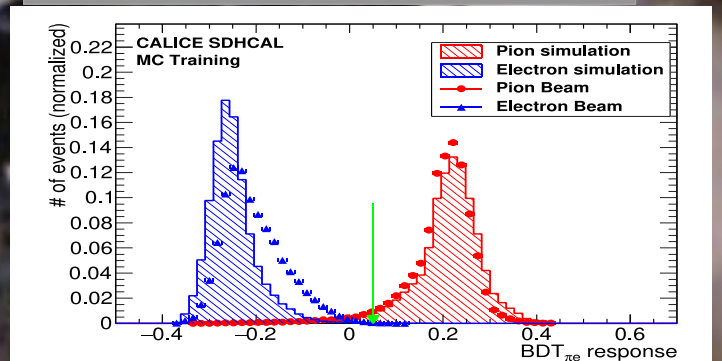
JINST 11 (2016) P04001







JINST 15 (2020) P10009



Beam Test goals

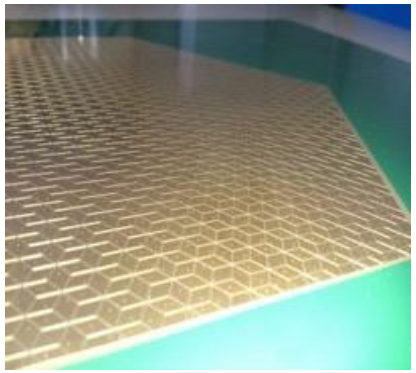
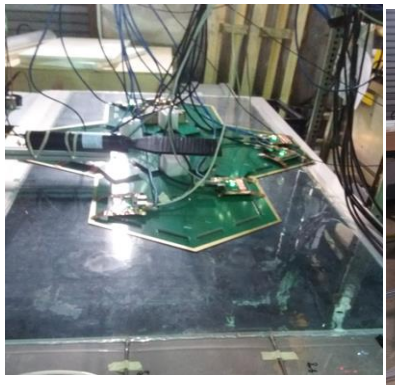
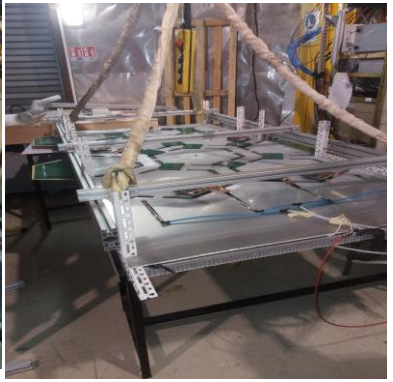
Main goals:

- ❑ Apply a new calibration scheme (based on equalizing the response by applying different threshold value/ASIC) in order to improve on the SDHCAL response homogeneity.

- ❑ Study the difference of hadronic showers produced by protons, pions and kaons in order to exploit their differences in developing new PID techniques.

Other goals:

- ➢ Test SDHCAL with SiW ECAL
- ➢ Test the woven strips scheme
- ➢ Test first timing-SDHCAL layers (AiDAInnova)
- ➢ Test µWell chambers as active layers by replacing a few GRPC

Beam requirements:

- Muons
- Pions, kaons, protons, from 10 to 90 GeV (pure hadrons)
- Low intensity beam (< 1000 particle/cm2/spill)
- Polarity: positive

Additional requests:

Mandatory:
- 2 Cerenkov detectors for particle identification

Necessary:
- Moveable table (Nikhef one)
- Help from gas group (TFE, CO2, SF6)