

# Status of the AHCAL and First Cosmic Events

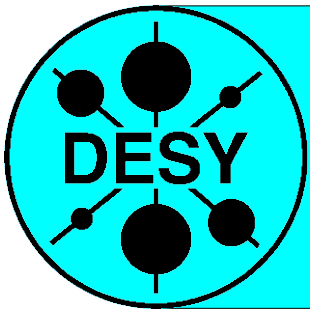


Clemens Guenter

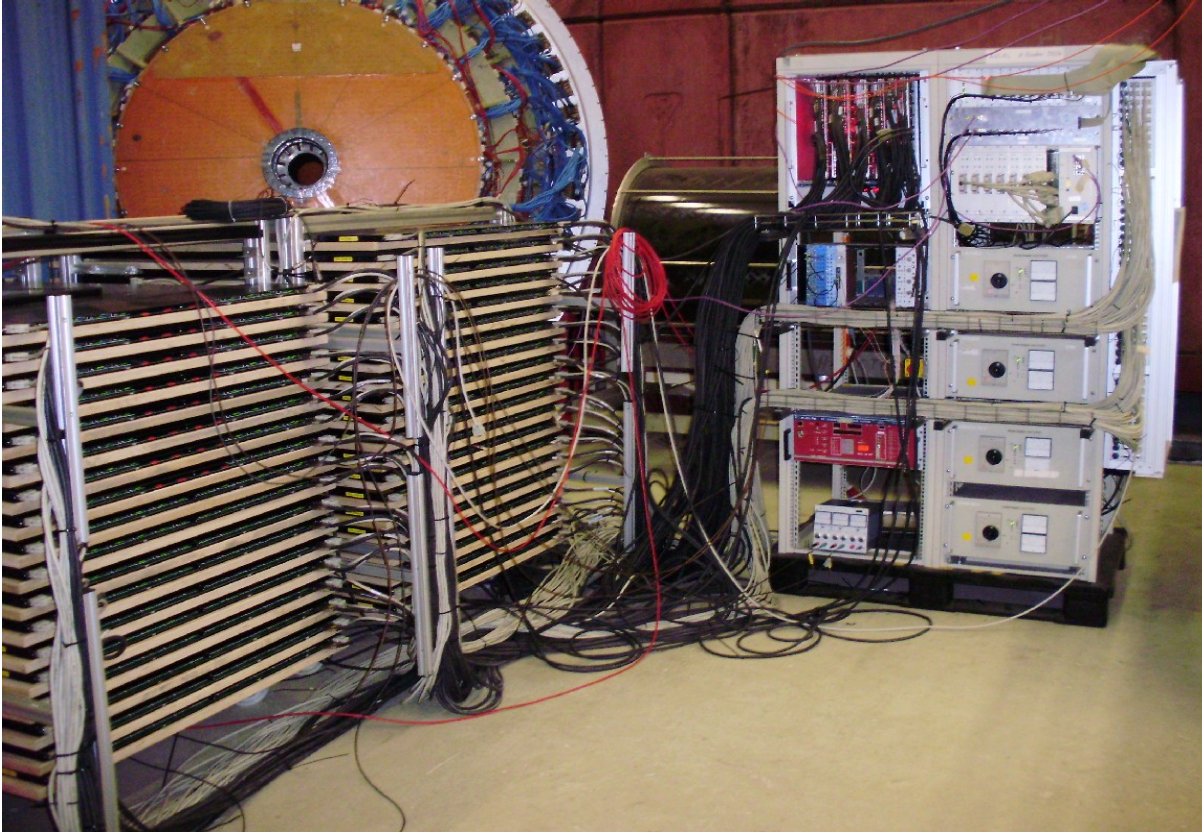
DESY 5.7.2010



conference: CALICE ECAL/AHCAL - EUDET electronics and DAQ - AIDA

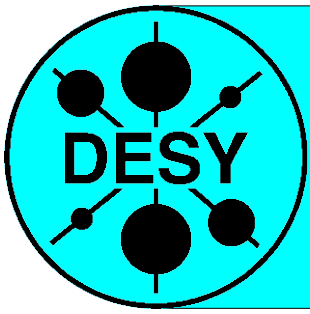


# Status AHCAL



- Active modules fully operational
- 1 CMB (module 30)
- Some stability issues (CMBs)  
(can be solved manually)

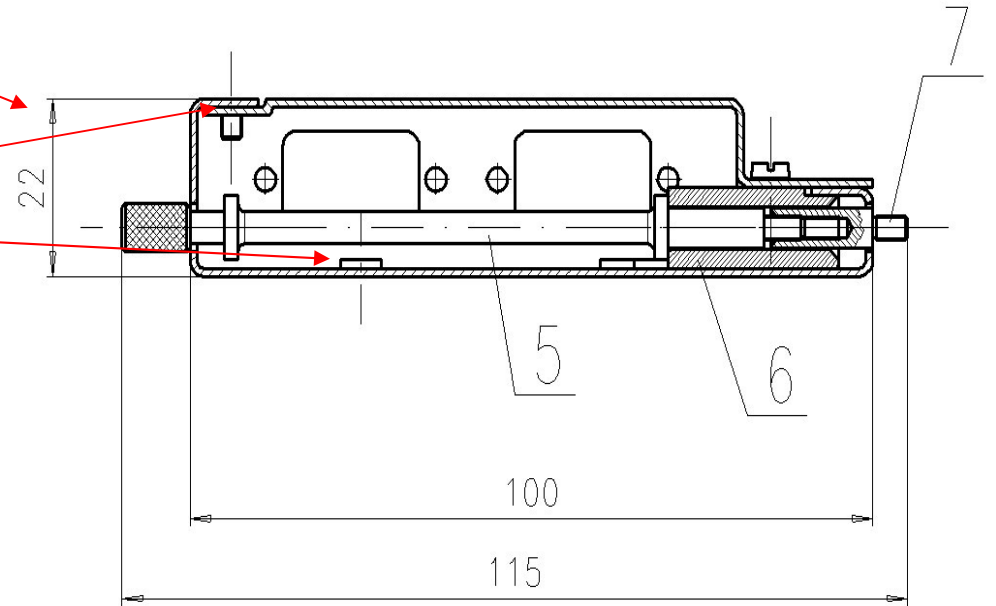
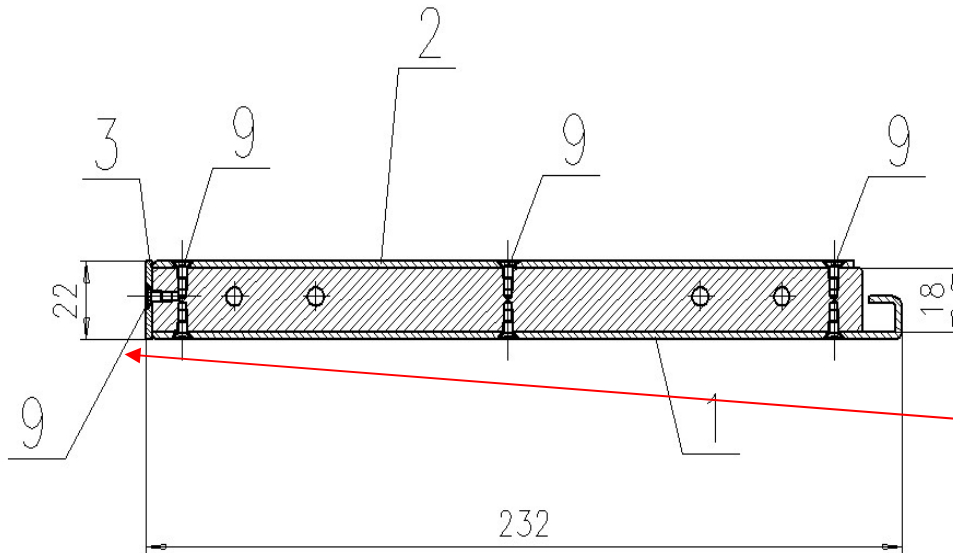
Two stacks with 20 (18) modules and the electronics crate are located at DESY Hall West



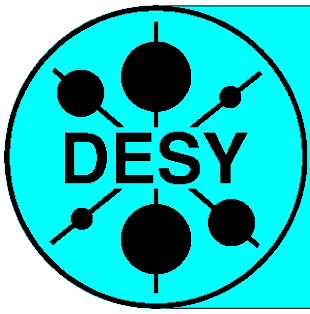
# Mechanical modifications

CMBs: - Height changed to 22mm

- some screw types  
exchanged

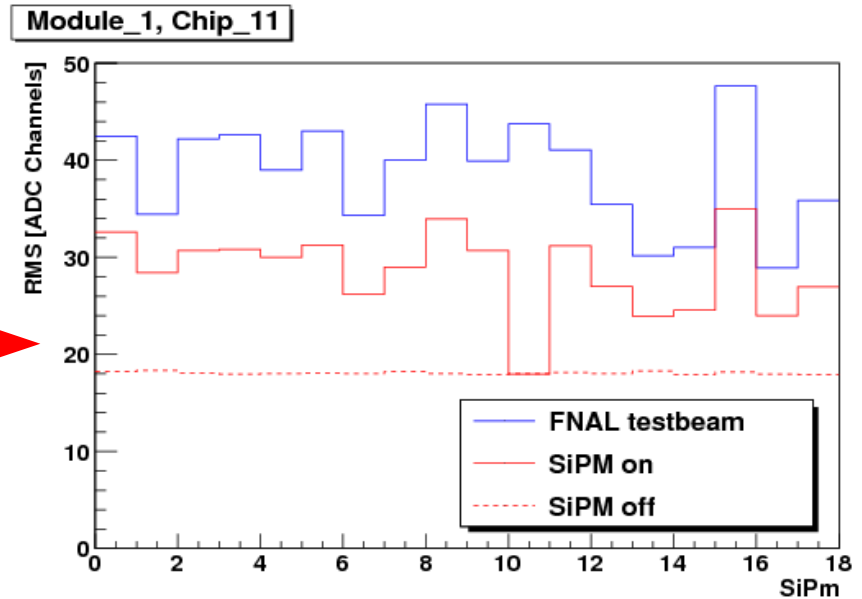
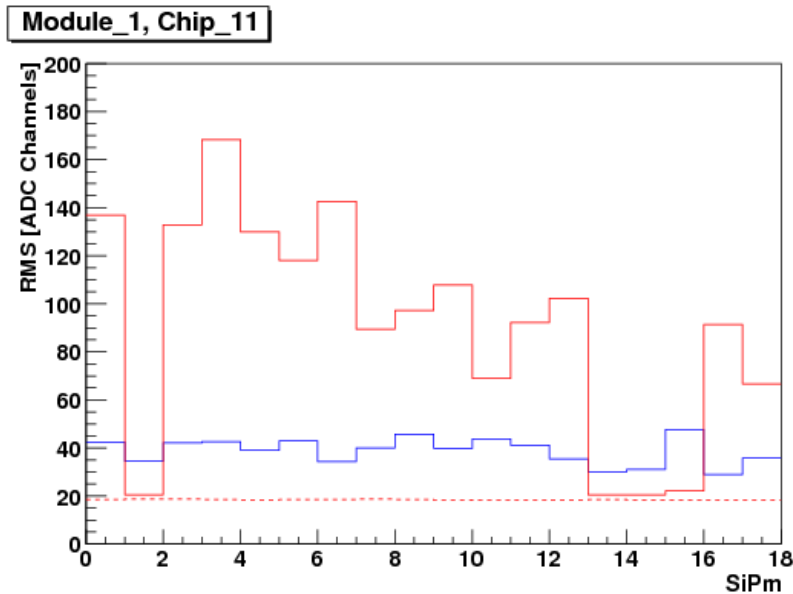


VFE: - Height also changed to 22mm

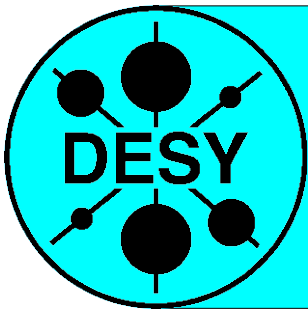


# Repairs

- Global grounding problem solved (loose contact)
- Modules 1 & 2 (B-halfmodule) fixed (grounding of SCSI cables)



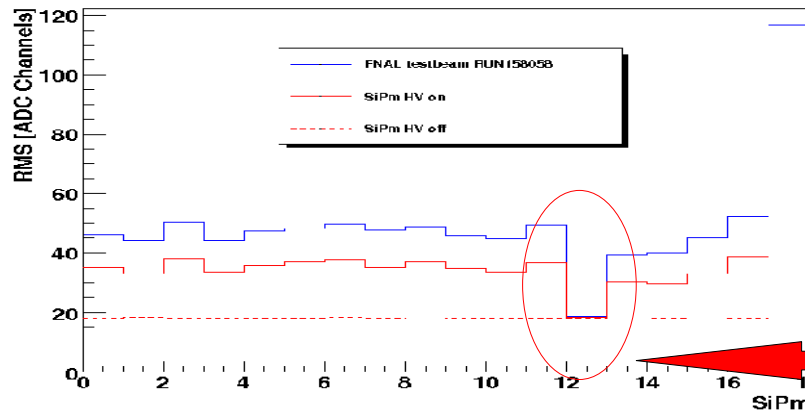
- CMB 12 fixed (mechanical problem repaired by Karsten Gadow)
- CANBus-to-fibre-converter installed



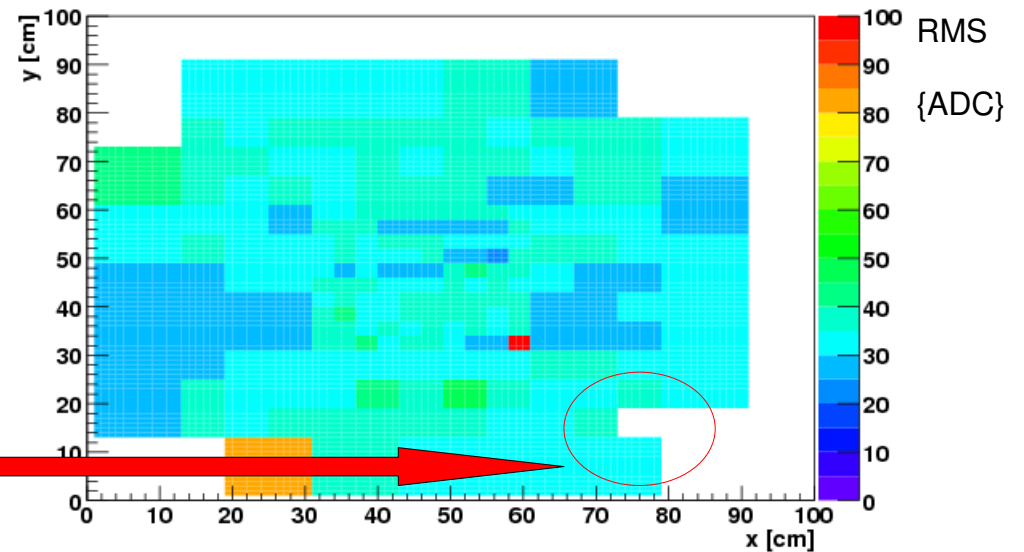
# Dead Channels

Dead channels can be clearly identified!

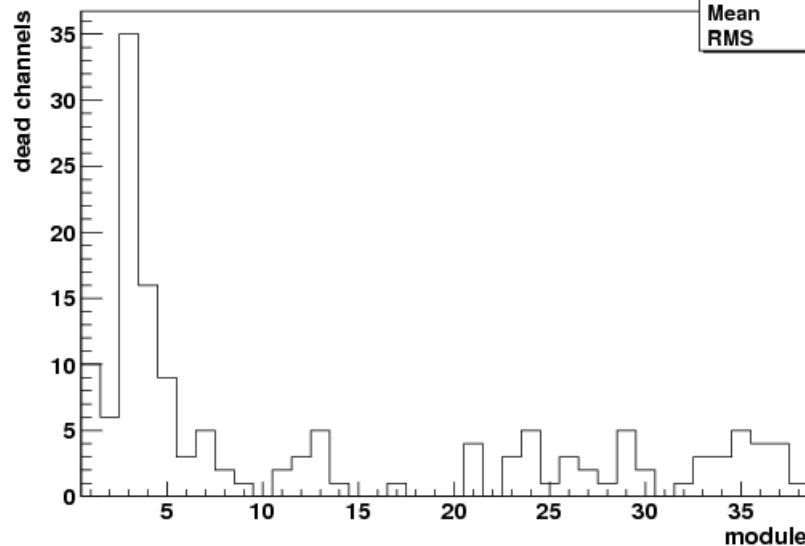
Module\_9, Chip\_11



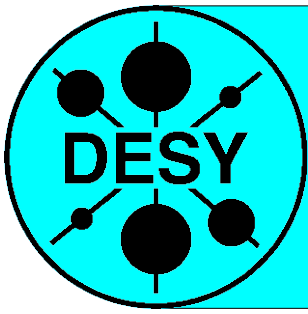
Module\_9



deadPerMod

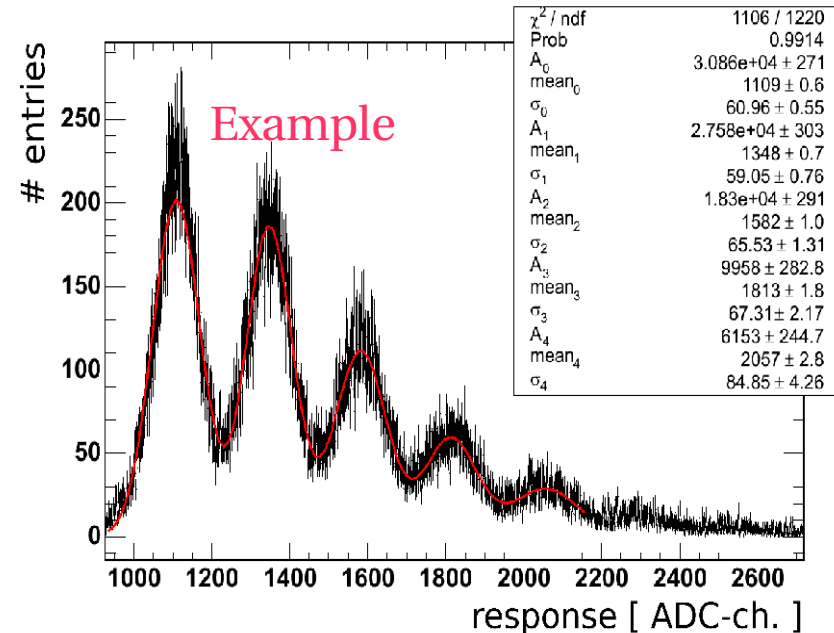


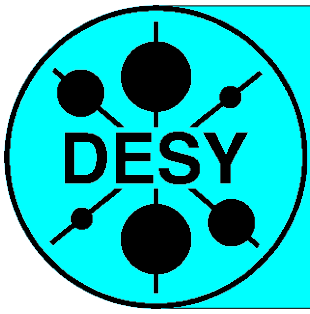
- Approximately 150 dead channels (difference of channel from run 206098 (SiPM on) and runs 206100 (SiPM off))
- Consistent with earlier measurements (approximately 2 % dead channels)



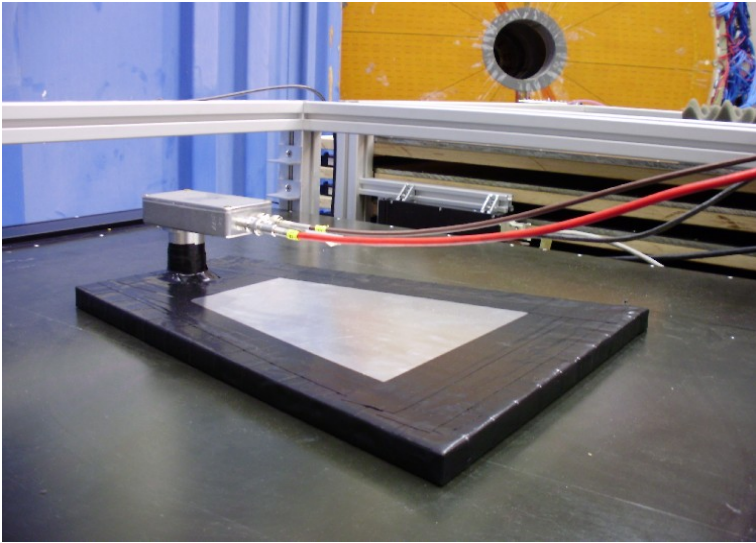
# Gain Calibration

- Data has been taken and converted to LCIO
- Binaries and LCIO files are stored on the Grid
- Software for gain analysis  
not yet running due to  
change from SL4 to SL5  
(work ongoing)



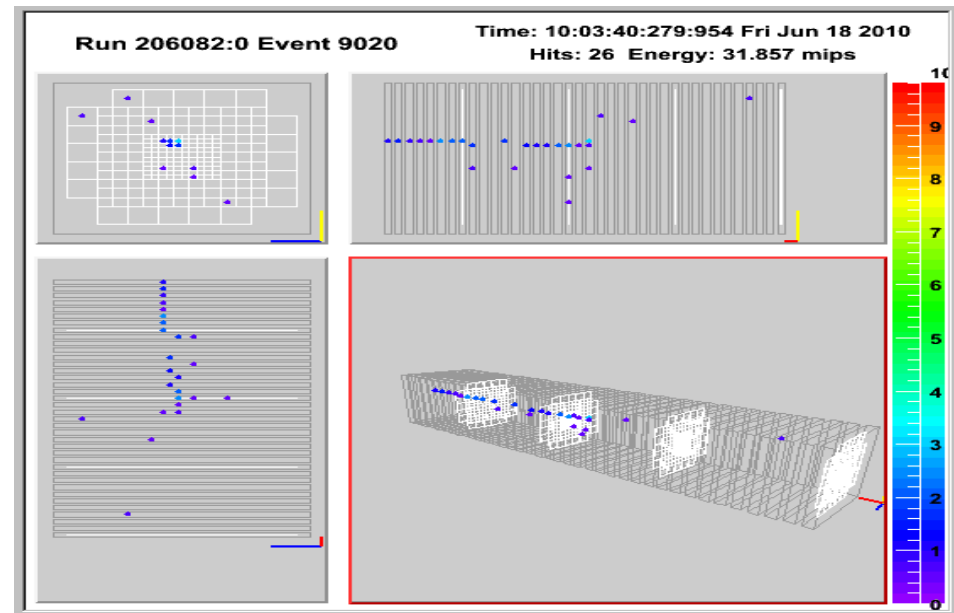


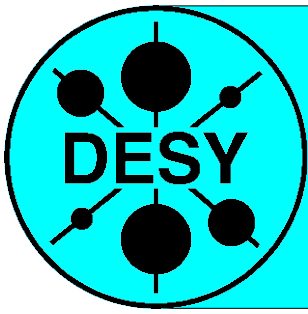
# Cosmics



- Cosmic trigger has been set up
- Only very small trigger available
- Not enough statistics for Mip calibration, but good exercise as preparation

Nevertheless we are able to see tracks from cosmic muons!  
(thx to Nils Feege)





# Outlook

Repairs:

- Fix last CMB
- Modules 3 & 4: resolder SiPM

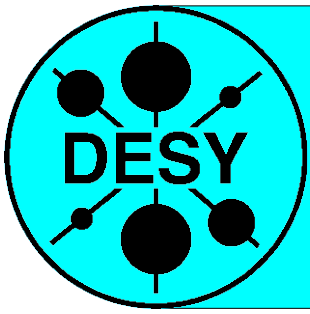
To be organised:

- Computer for upload of data to the Grid
- Replacement or repair of damaged SCSI cables

Analysis:

- Tile crosstalk (*data is taken, code has to be finished*)
- Gain voltage dependence studies (*as soon as gain scripts are running*)
- Maybe Mip and light yield calibration





# Summary

- AHCAL is almost ready (just minor problems remain)
- Dead channels will be fixed this week (only mod 3 & 4)
- Gain scripts need fixing
- Work on Analysis ongoing