Preparation of combined test beam with US-DHCAL

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Calice Ecal Meeting
8/2/11

(Rough) schedule

Beam time: 6/4/11 – 3/5/11 at the MTPF at FNAL

Attendees of test beam from in2p3:

- Marc Anduze 30/3/11 – 7/4/11
- Patrick Cornebise 30/3/11 – 11/4/11
- R.P.: 30/3/11 – 18/4/11
- Daniel Jeans 17/4/11 – 5/5/11
- Mickael Frotin 1/5/11 – 5/5/11

Will set up possibility for remote shifts – Watch out for details

Costs:
- Travel, Rental car, detector transport ~10 kEuro -> in2p3
- Per diem ~10kEuro -> ANL

Detector recommissioning

All slabs tested on cosmic test-bench @ LLR

- one chip with no cosmic signal (18 pixels)
- ~15 isolated dead channels
- one slab has high leakage current, however seems usable
- 2 slabs had noise ~50% higher than normal

Detector slabs are OPERATIONAL (but not perfect)

Slow control / HV / LV

(second-hand) replacement for slow control PC
- original PC retired

(second-hand) replacement for Keithley HV supply
- older model than original
- original “lost”

Same LV supplies

Slow control program (Labview) installed on new PC, modified to work with replacement HV module (J-C Vanel)

Optical converters for PC->HV/LV “lost”
- (allows operation over very large distances)
- system works using 30m ethernet cable
  sufficient for FNAL counting room->TB area (?)

SC/HV/LV seems OPERATIONAL

DAQ – Tests and repair of CRC boards

List compiled by Erika, Paul and R.P.

SER001 - At CERN for WHCAL (FE0, FE7 not properly working)

SER003 - At FNAL for DHCAL ok

SER004 - Killed during repair

SER005 - At CERN for WHCAL (all FE ok)

SER006 - At CERN for WHCAL (all FE ok)

SER007 - At LAL for ECAL but doesn't boot reliably, can probably be recovered

SER008 - At LAL for ECAL but unusable

SER009 - At CERN for WHCAL (FE0, FE5 not properly working)

SER010 - At UCL for repair, boots in the mean time but r/o problems!?

SER011 - At CERN for WHCAL (all FE ok)

SER012 - At FNAL for DHCAL ok

SER013 - At CERN for WHCAL (FE0 not properly working)

SER014 - At LAL for ECAL ok

SER015 - At CERN for WHCAL (all FE ok)

SER016 - At LAL for ECAL FE ok, but temperature readout faulty -> usable

SER017 - At CERN for WHCAL (only FE4 working)

SER018 - At LAL for ECAL ok

Debugging of CRCs happens in close collaboration with Paul Dauncey

Discussion of CRC situation

- Situation is critical but managable

Scenario 1: Parallel running at FNAL and CERN
-> Need (at least) one more working CRC to read out entire Ecal (+Trigger)

Scenario 2: No parallel running at FNAL and CERN
Enough CRCs are available

Conclusion:

- Will continue to debug CRCs, board 7 and 10 may be recovered
  Have time until end of march as CRCs can be carried in suitcase

- Prepare to take at least one CRC from CERN

Master solution: Avoid parallel running if possible
CERN schedule?

Schedule towards test beam

- 14/2/11 – 15/2/11 “Full” system test including slabs and all available CRCs

- 25/2/11 Shipment to FNAL for arrival at about 20 days later

- ~20/3/11 Arrival of detector at FNAL

- 30/3/11 Travel of in2p3 crew to FNAL and set-up of detector

In between: - Repair of CRCs or fetch from CERN (during AIDA kick-off?)
Continuing close contact with Paul (and Erika)

- Porting of DAQ s/w to modern computer and operating system (SL5)

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