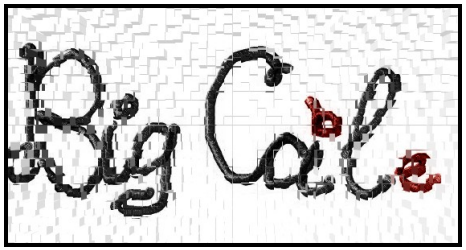
Update on Big Cal



- Main activity: Connecting cables used in the GEN experiment
- Testing the elements of the detector in their final configuration – results, some problems
- Calorimeter trigger
- DAQ activities
- Software
- Monitoring system
- What needs to be done before Spring 2007

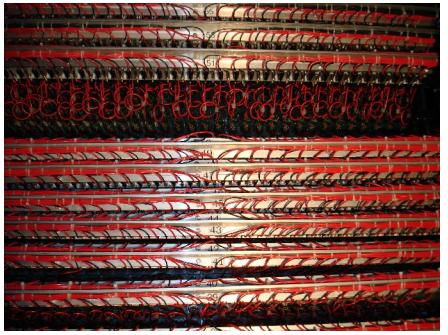
Summer Cabling

- 192 signal cables (100m) for the Protvino part (on cable rack)
- 768 signal cables (100m) for the RCS part (on the floor)
- 296 cables (50m) for the TDC's (on the floor)
- 32 thick HV cables (24 channels each) for the RCS part
- 16 thick HV cables (24 channes each) for the Protvino part

All the signal cabling is finished except 24 flat 50ohm ribbon cables missing (384 channels) – need them asap

All the HV cabling is finished except 36 HV connector boxes missing (567 channels) – will have them only in the hall (G0 HV channels)

Amit, Andrei, Andrew, Christopher, Joseph, Joshua, Kiril, Lubomir, Mark, Mehdi



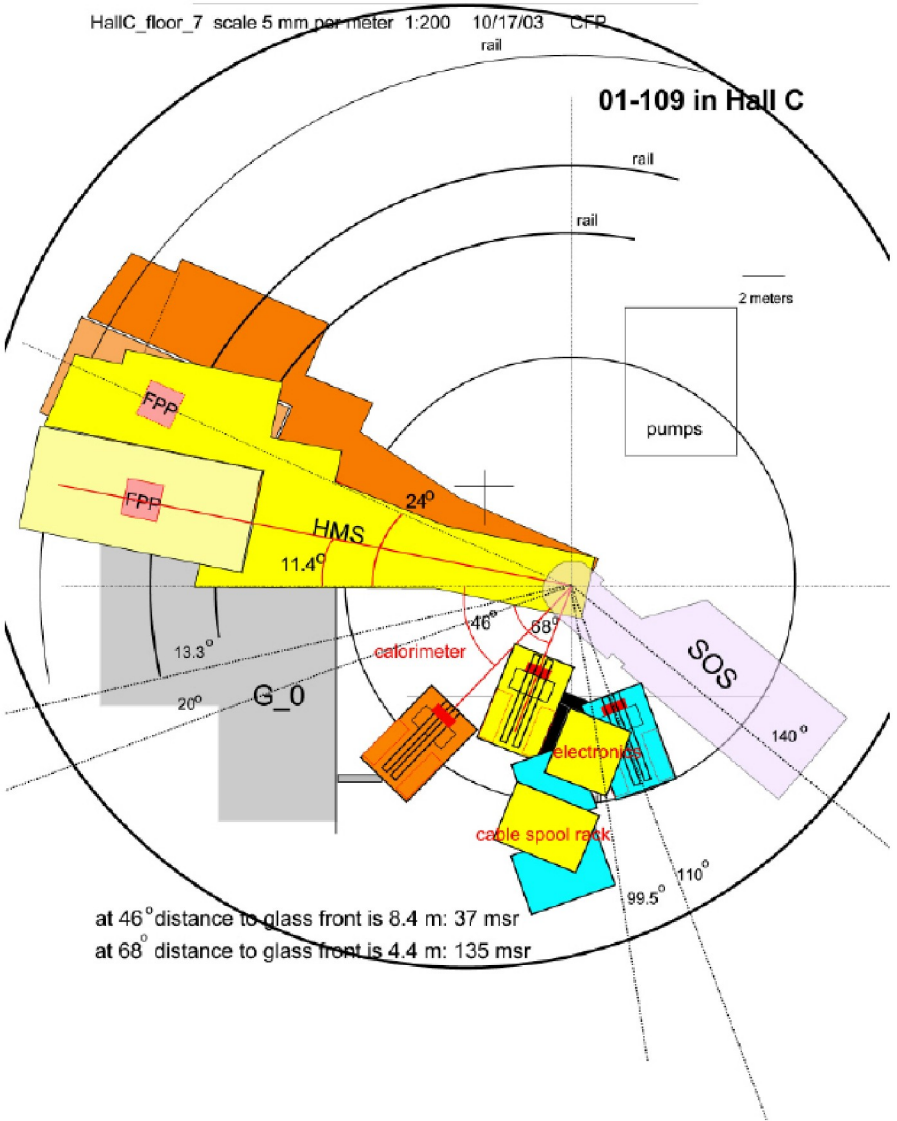
More About Cabling

Signal cables are spooled at the cable rack having:

23m end to the calorimeter

13m end to the electronics platform

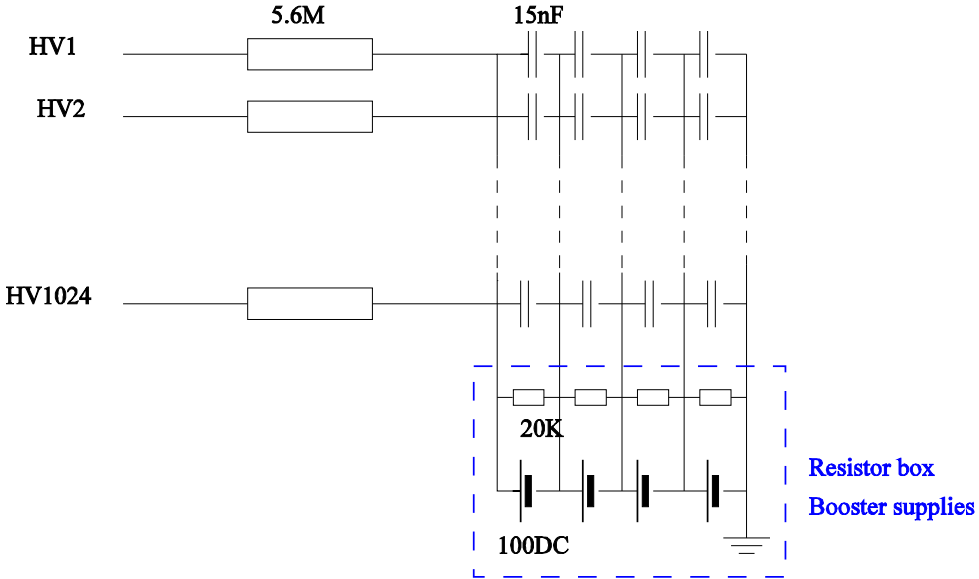
If these lengths are not enough, cables needs to be re- coiled



Testing the Cabling

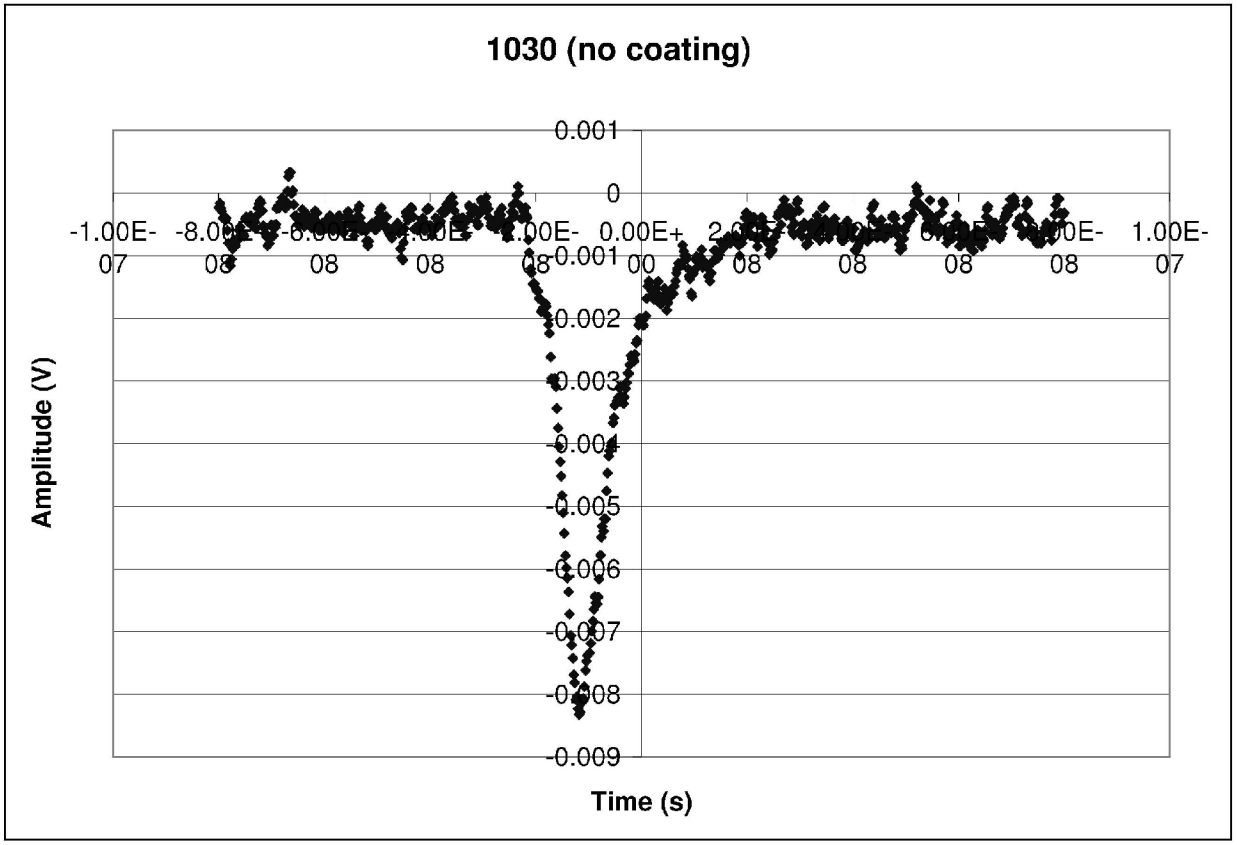
Testing all the connections (signal and HV) channel by channel applying HV only on that channel and looking for the signal just in front of the ADC: all the channels tested (Christopher, Joshua, Kiril, Joseph) and fixed (Andrei) :

- About 30 BNC connectors fixed (in the RCS part only!)
- 2 thick HV connectors (37 pins) fixed
- 3 Adders replaced
- HV problem related (?) to the booster supply (in the Protvino part): 9 HV cards and one HV crate replaced



More about problems

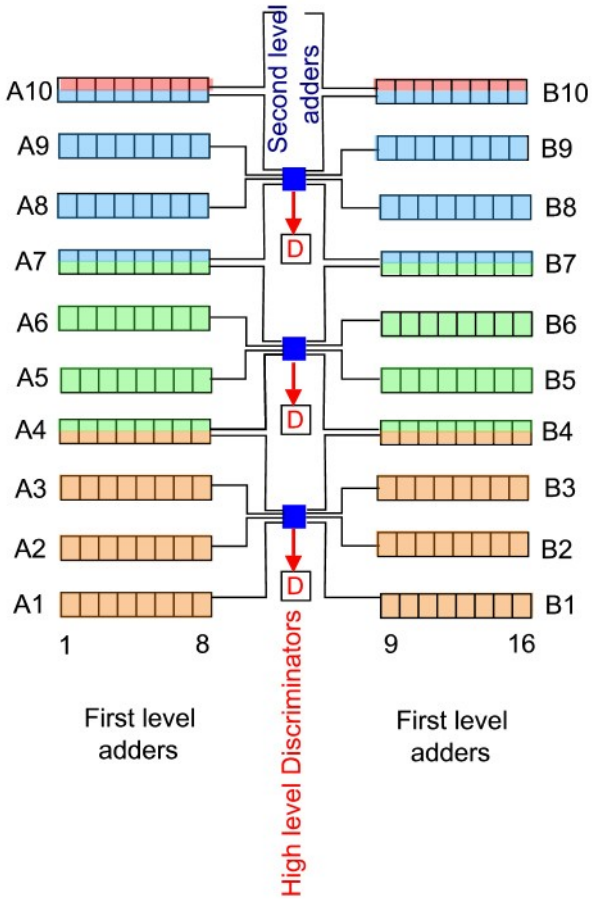
If applying HV and booster on a base disconnected from the phototube there is ~1 HZ cosmics- like signal (suspect discharge)

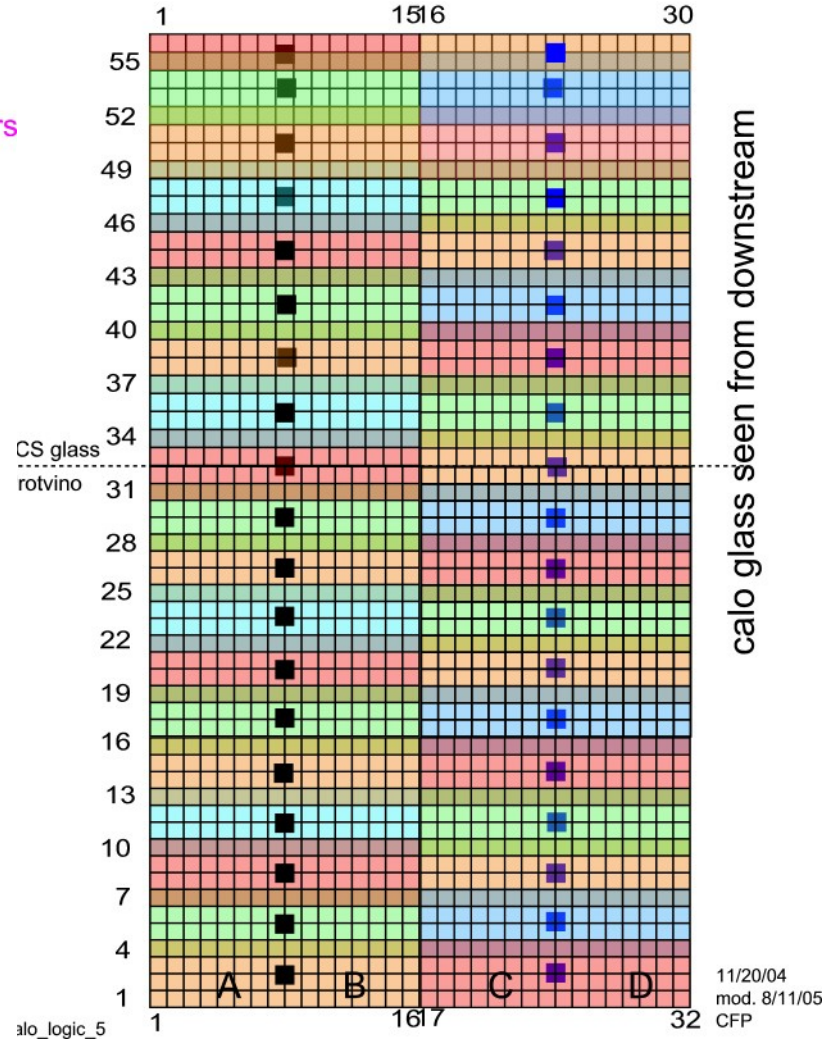


Calorimeter Trigger

- Built (Andrew, Joshua),
  but not fully tested

First and second level Adders, high level Discriminators

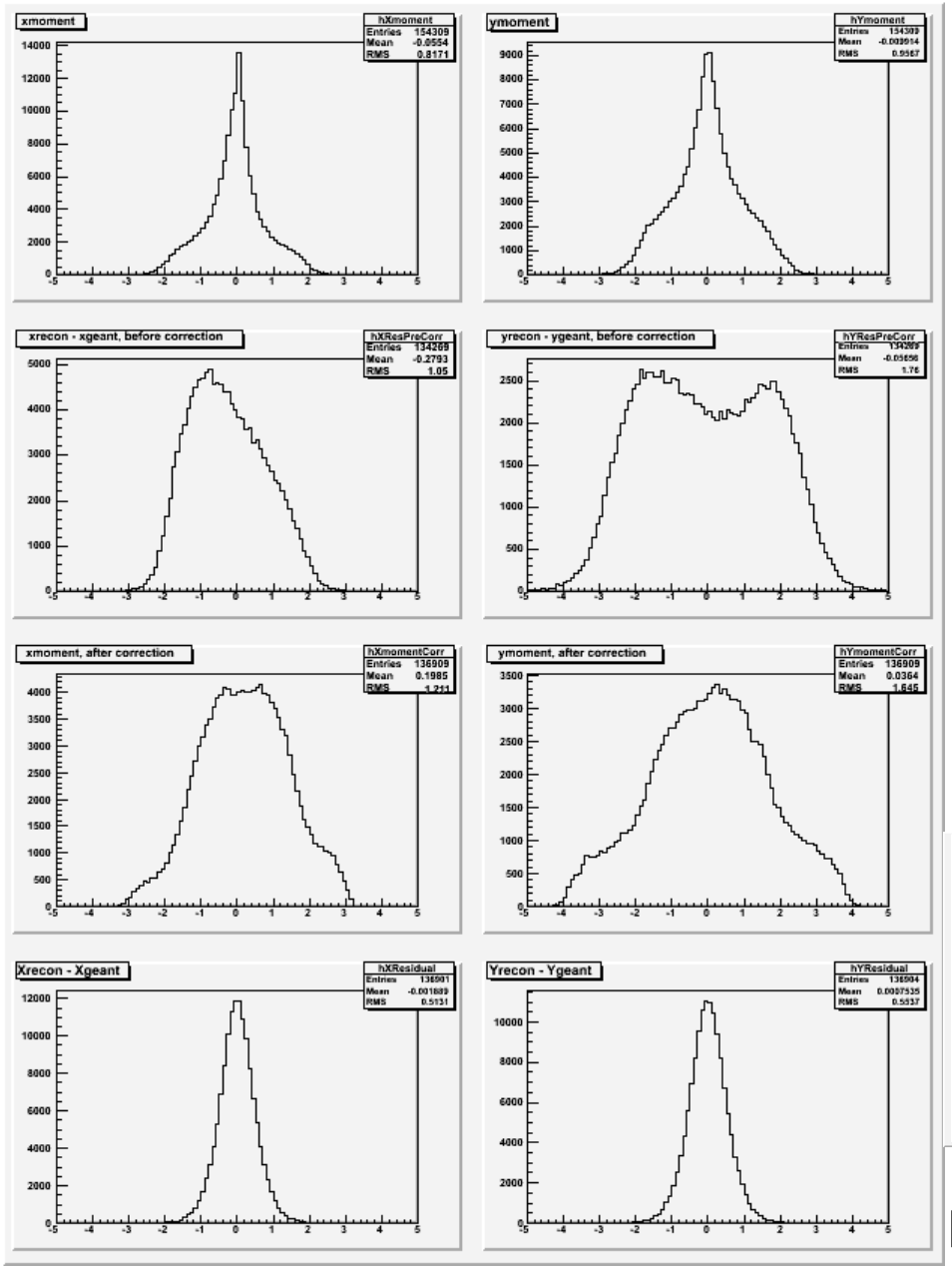




DAQ

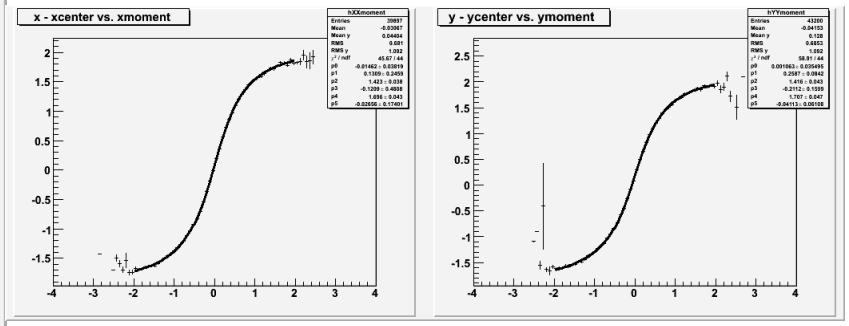
- Second Fastbus crate installed (Joe), but not in operation (small technical problems)
- DAQ restored in its old configuration (one crate) on a new computer – Mark, Frank, Steve, Lubomir
- Roman installed first version of the Slow Control System – to set and reset HV, reset Fastbus, will be used later also for setting the trigger thresholds remotely

Software



Software group (Mark, Andrew, Amit, Ed, Vladimir, Lubomir) working on different programs:

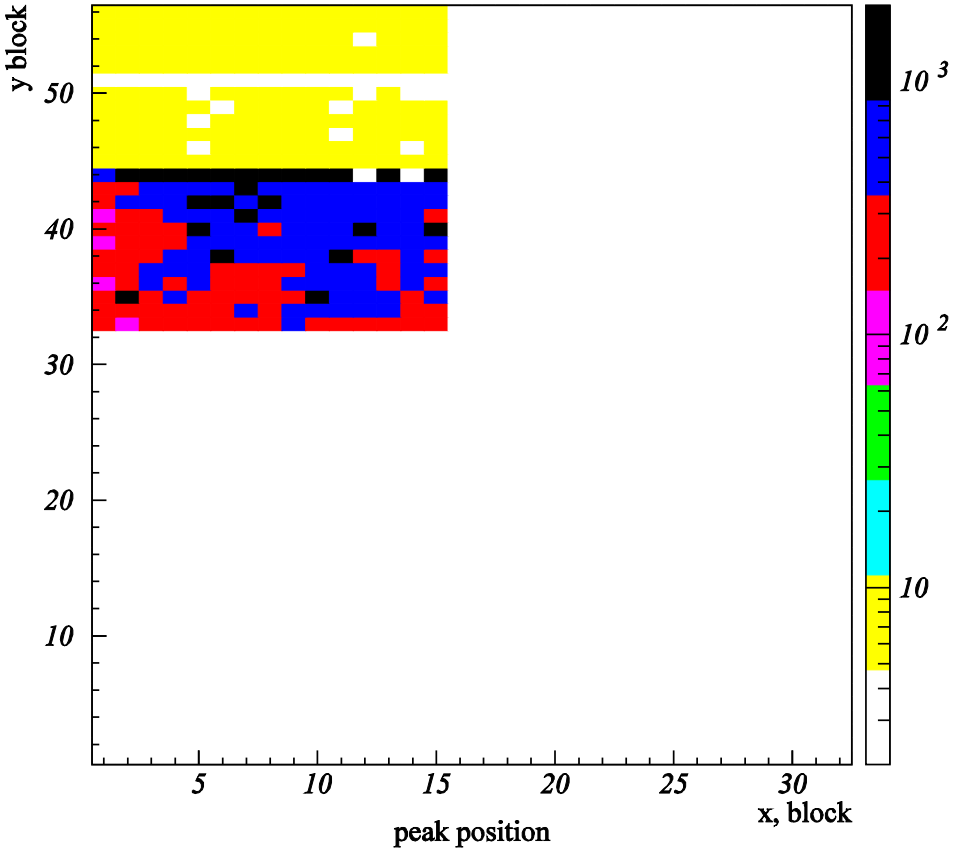
- calorimeter simulations
- hit reconstruction
- calibration software
- cosmic track reconstruction



Hit reconstruction - Andrew's results

Monitoring system

The prototype system (lucite 40 x 70”) still in place used as a trigger during the tests



Problem: using HV after calibration with cosmics (all channels peak at 30+/- 5 ADC channels) gives some spikes – different calibration if using cosmics or monitoring system

List To DO Before Spring 2007

- Set up DAQ system in its final configuration (2 Fastbus crates, Trigger Supervisor)
- Connecting all the missing cables (except HV boxes – 567 channels)
- Design and installation of the final monitoring system
- Performing test/calibrations using 3 different triggers – cosmics, calorimeter, monitoring system
- Improving slow control system (remote control of the trigger discrminator thresholds)
- Software