

# **Trigger/DAQ and Shower Block Test**

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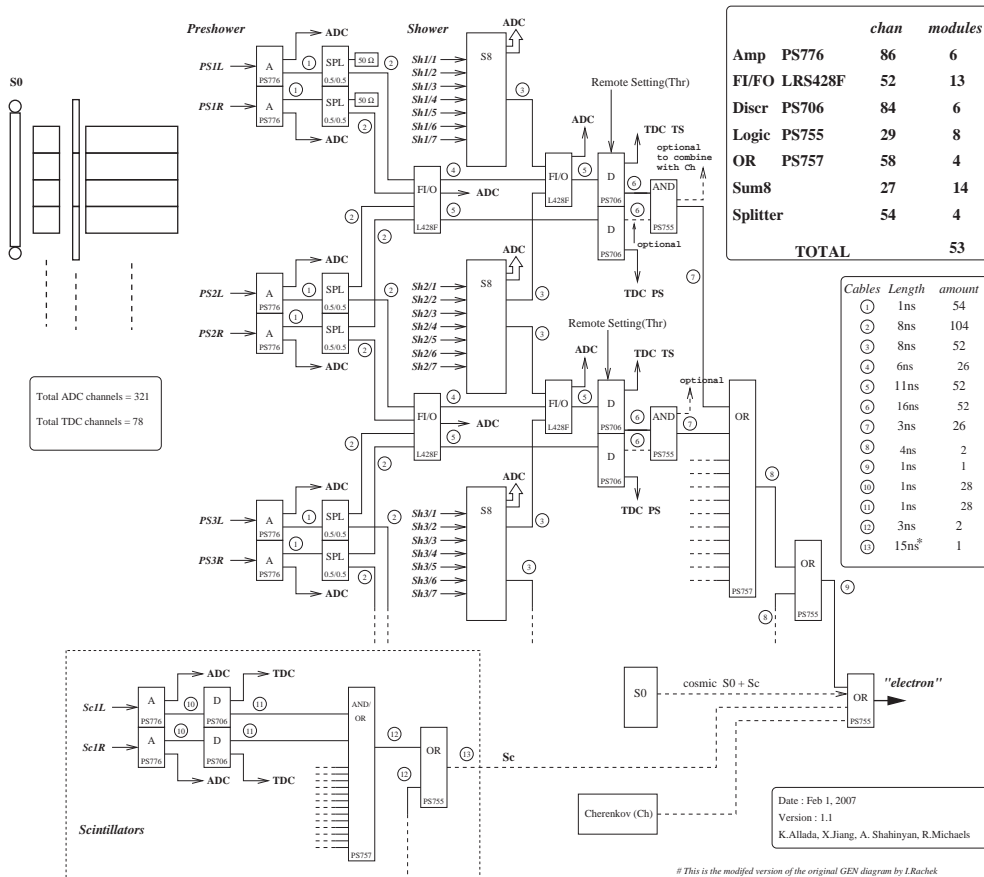
University of Kentucky  
Transversity Collaboration Meeting. May 04, 2007

## Progress on testing the BigBite detector

- BigBite front end trigger is connected and working.
- Preshower blocks are being refurbished.(Albert Shahinyan)
- Completed testing the Shower blocks.
- Wire chambers 1 and 3 test (Xin Qian)
- Wire chamber 2 is in UVA for the upgrade. (Nilanga)
- High voltage control is up and running - GEn style!
- Very good grounding of racks/frame and electronics in the work area.
- Software issues have been solved - can do Gen style replay now.

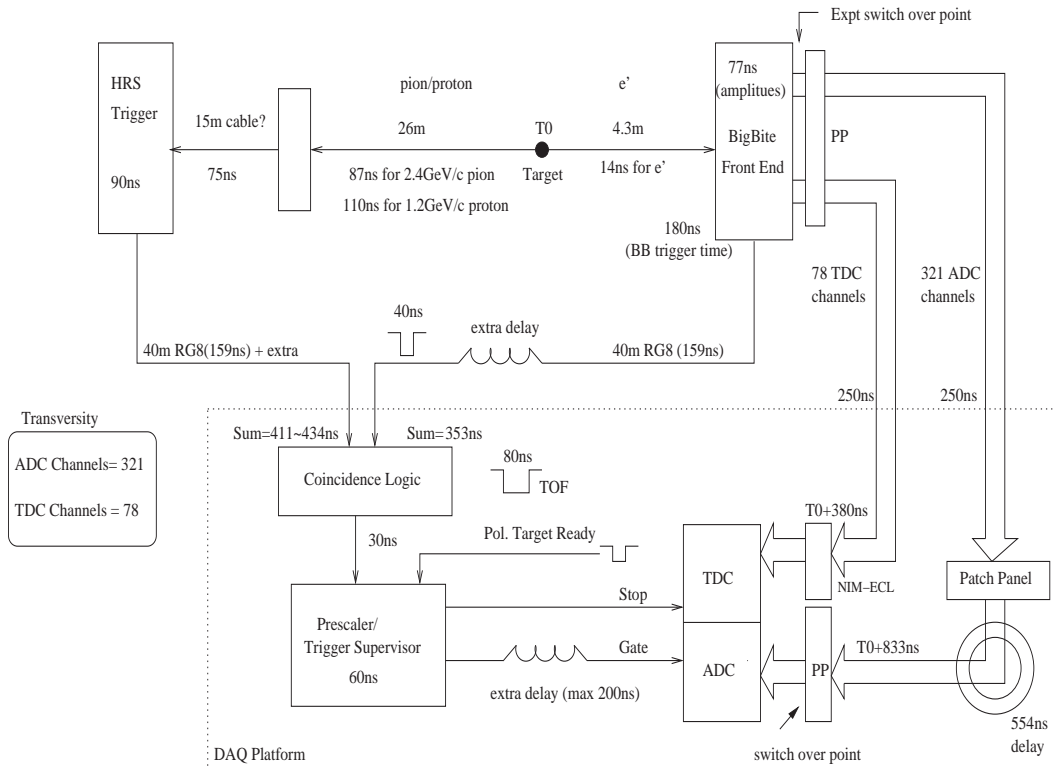
# BigBite front end trigger

BigBite Trigger Logic for Transversity Experiment (Based on GEN)

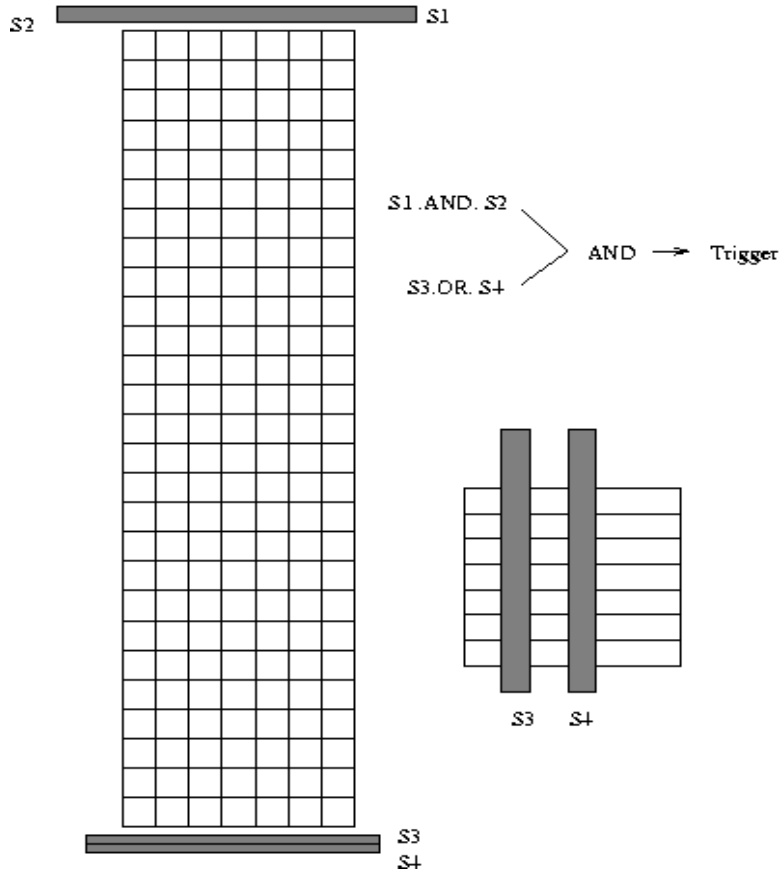


# Transversity trigger setup

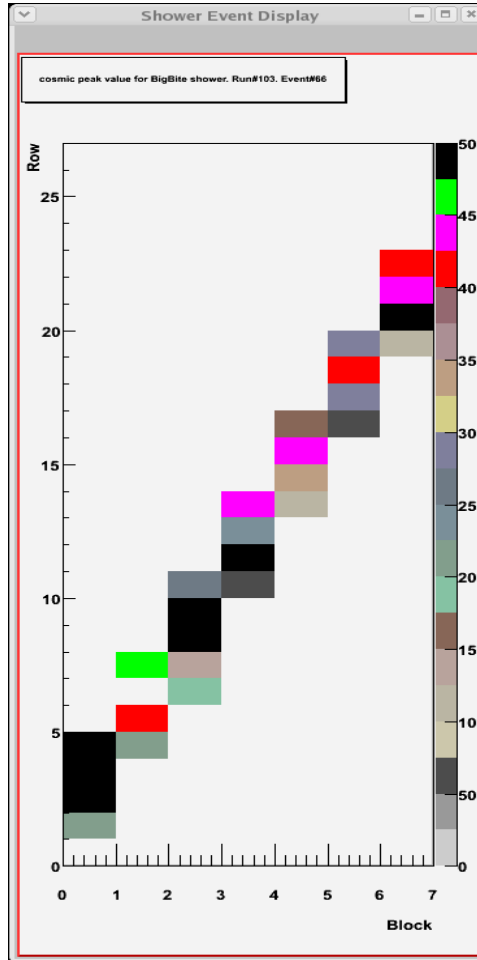
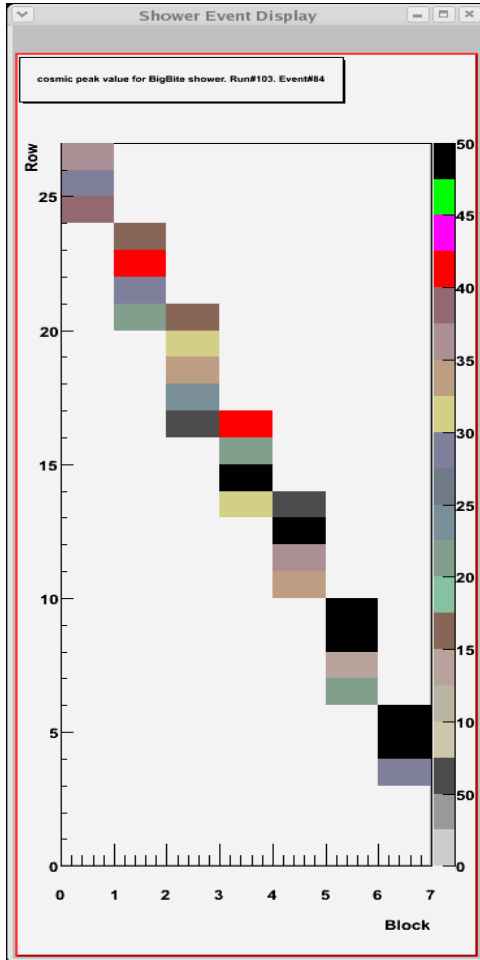
Transversity Experiment Coincidence Trigger Block Diagram



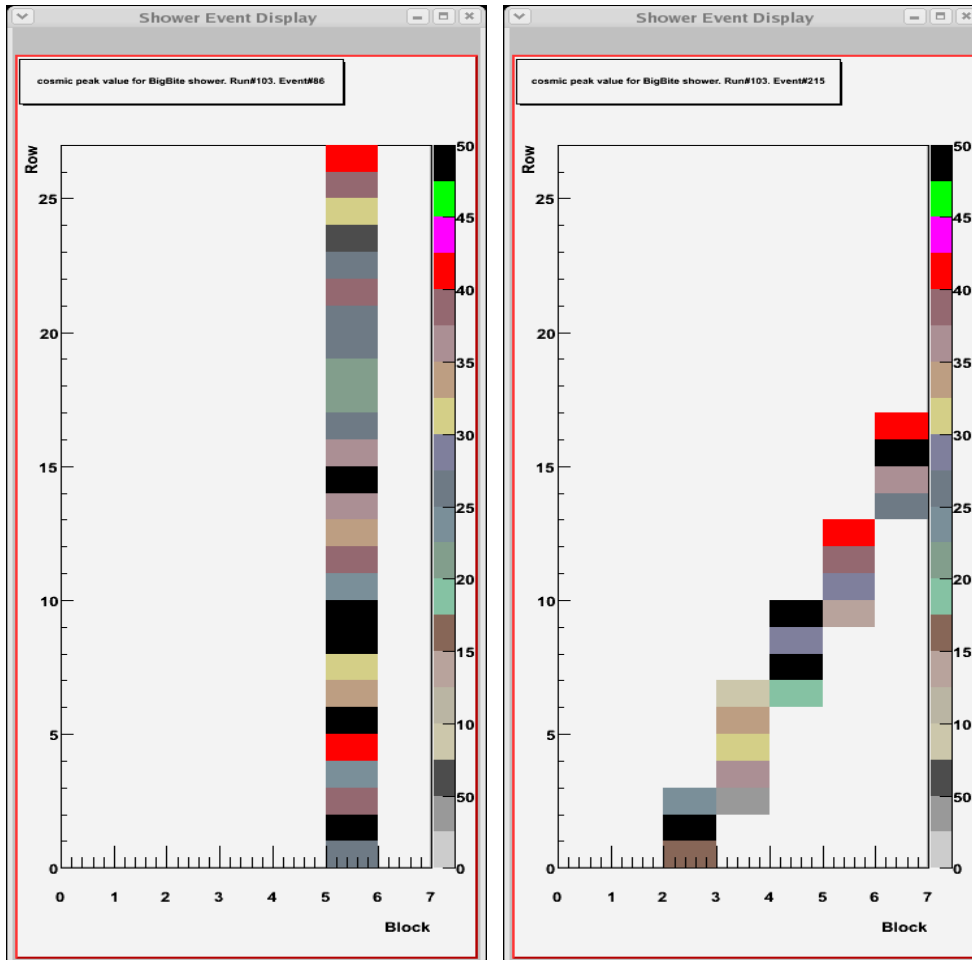
# Trigger setup for the test



# Shower event display

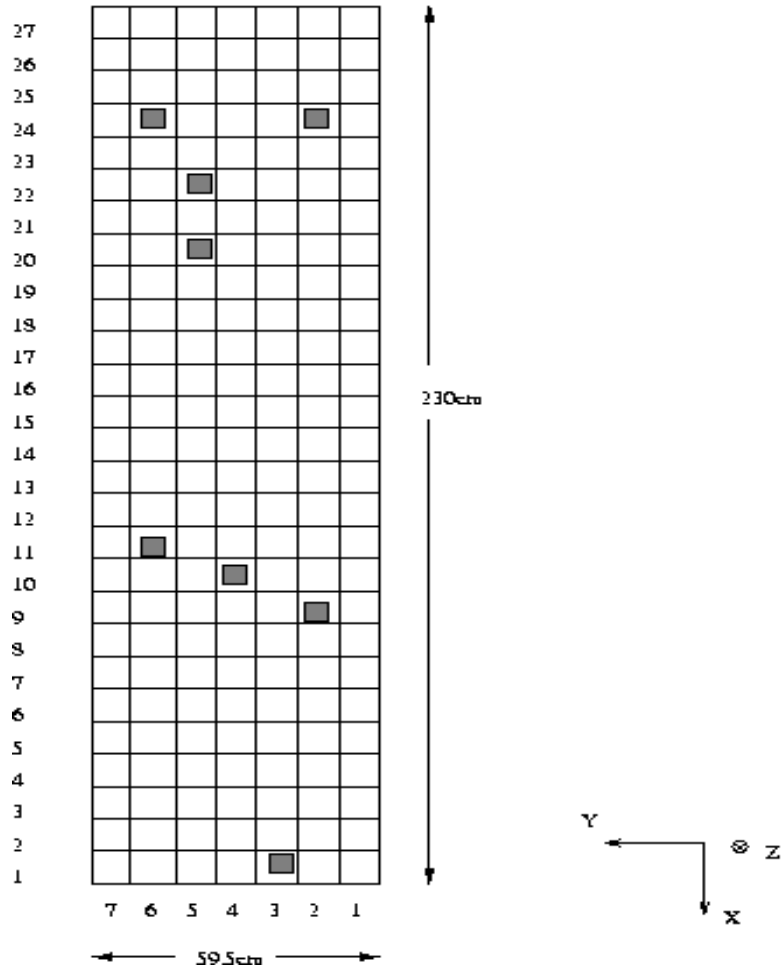


some more events...



Thanks to Sergey for providing the code

# Geometrical position of the blocks





## Test conclusion

- Can see clear vertical tracks - trigger is working.
- About seven channels show low signal - six of them are same, as found in the previous test.
- One channel do not have any signal on the detector- completely dead?
- Need to open the detector and check and all these channels.(Albert)
- Decide on replacing these with new PMTs if found bad(?)

## Issues

- One of the three HV crates is unstable - trips once in a day or two. This is providing HV for all the shower channels.
- We still see some noise on the shower signals - may not be big issue!

## Work need to be done in the summer

- Calibration of the refurbished preshower+shower blocks with the cosmics.
- Make 24feet ribbon cables for connecting wirechambers to the fastbus.
- Need high resolution TDC for the scintillators - LeCroy 1875
- Setup trigger supervisor to read wirechambers and scintillators together on the fastbus.
- Setup scalers to read the raw hits on various channels.
- Come up with next (detailed)version of the coincidence trigger scheme for the experiment.