

Testlab Progress, Transversity trigger and DAQ

Kalyan Allada

University of Kentucky
Transversity Collaboration Meeting. Feb 20, 2007

Outline

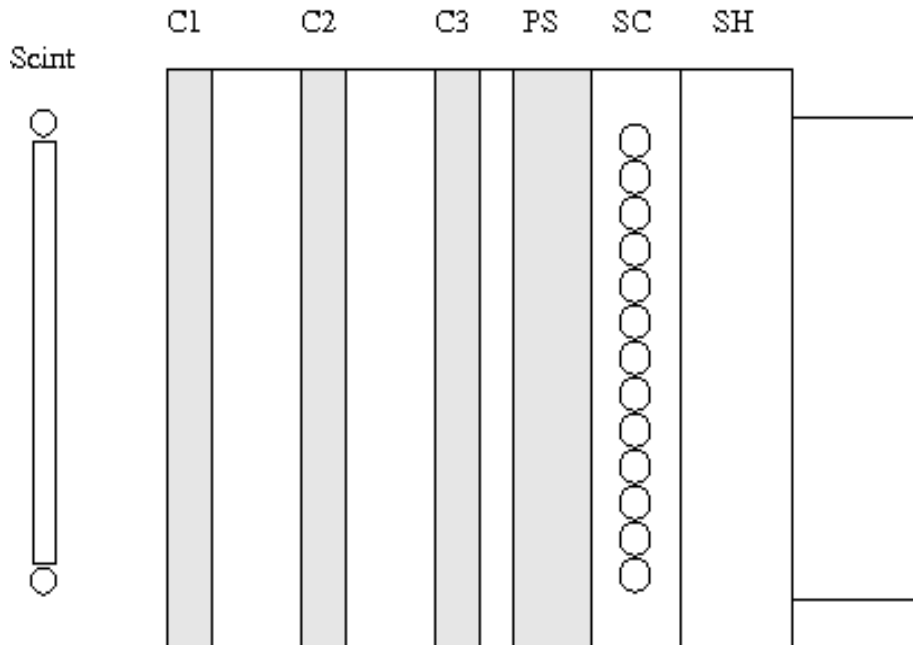
- Progress on testing BigBite detector.
- Transversity trigger and DAQ.
- Tasks to be completed by mid-March.

Testing BigBite Detector – status

- Goal is to connect the BigBite frontend trigger as it is (similar to GEN) and test various components.
- **Wire chambers** – good progress (Xin)
- **Scintillators** – Connected to Fastbus. Cosmics check done – All PMTs looks fine.
- **Preshower** – HV, signal and delay cables are in place. Need to connect the trigger. (will be done this week)
- **Shower** – Not ready to take cosmic data yet. Need help in connecting cables.

Scintillators test

Trigger setup in the testlab

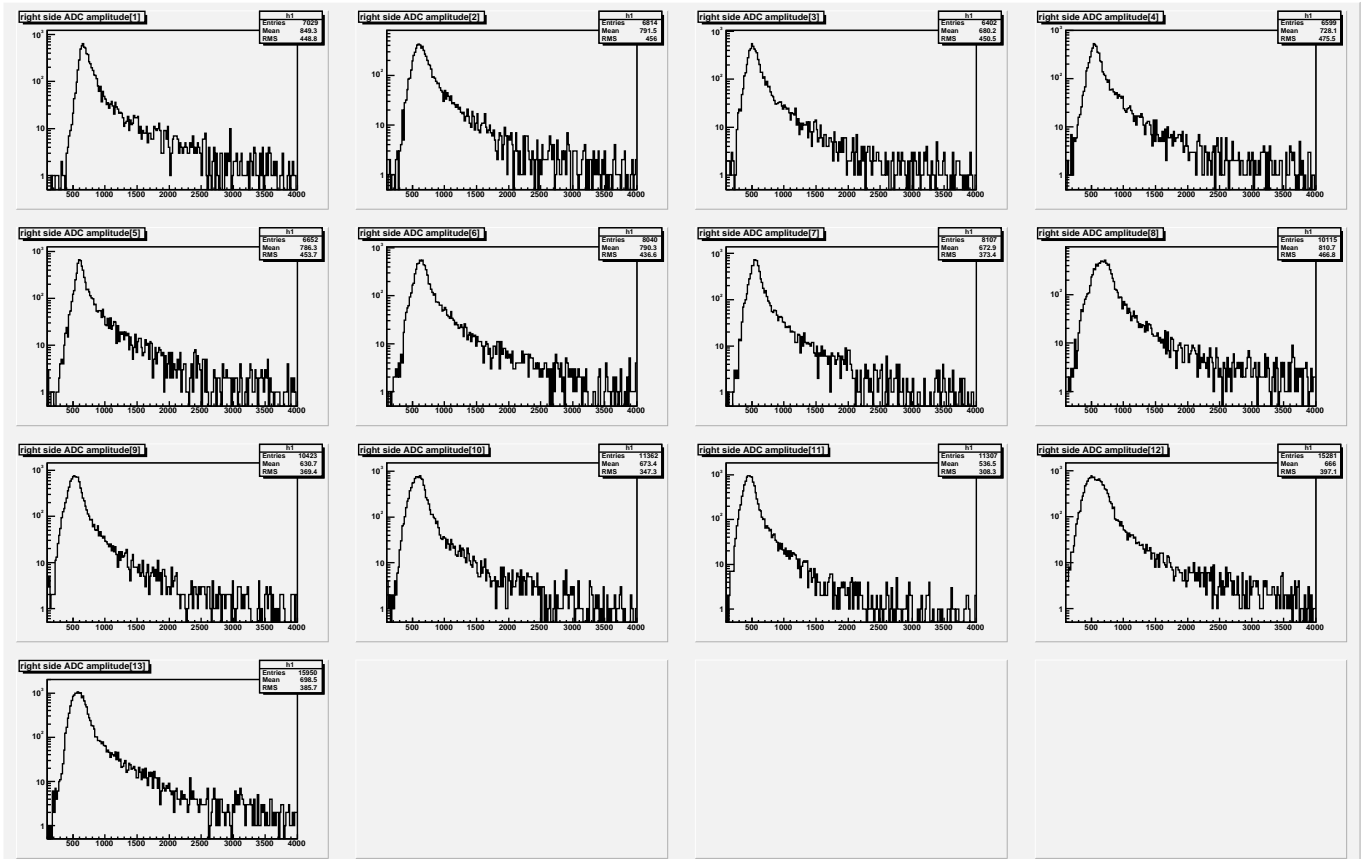


Trigger: Coincidence between front and any one of the back scintillators

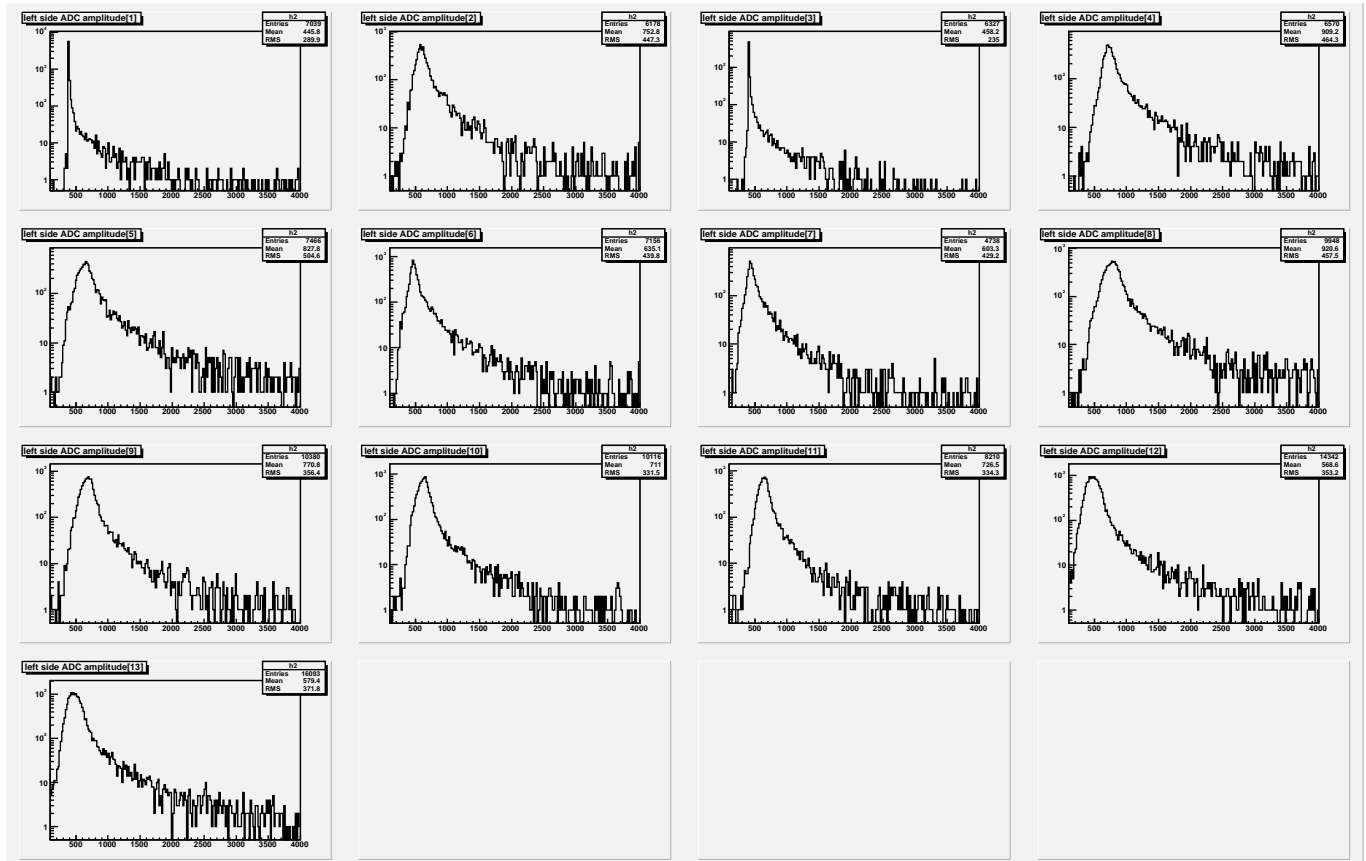
Scintillators test

- Cosmics data have been collected from the scintillator plane.
- All PMTs appear to be working fine.
- After pulsing is seen in almost all the PMTs.
- About 2 to 3% of the events shows multihits.
- 2nd pulse comes close to the first – around 125ns
- Multihit TDCs will help (unlike GEN).

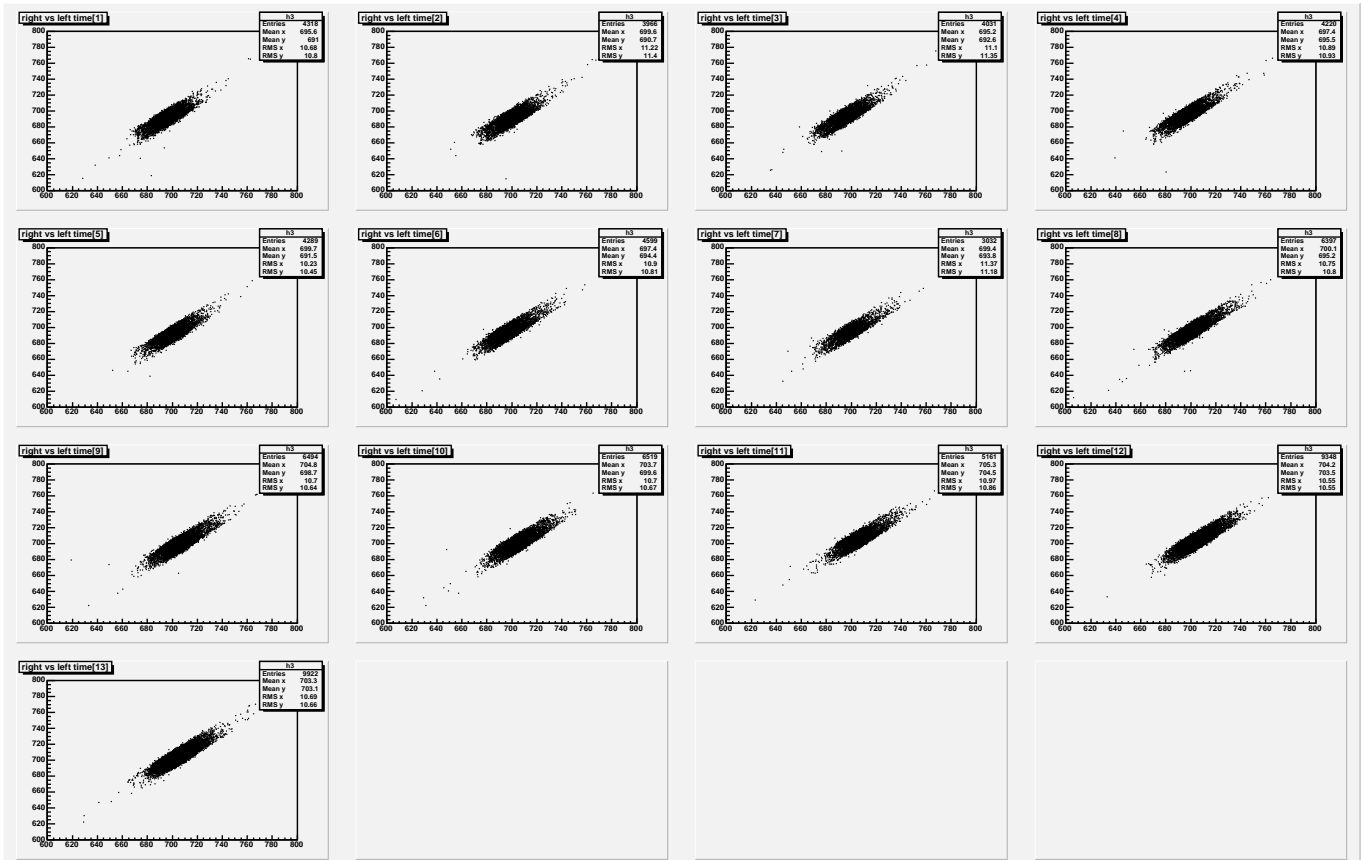
Scintillator ADC amplitude – right side PMTs



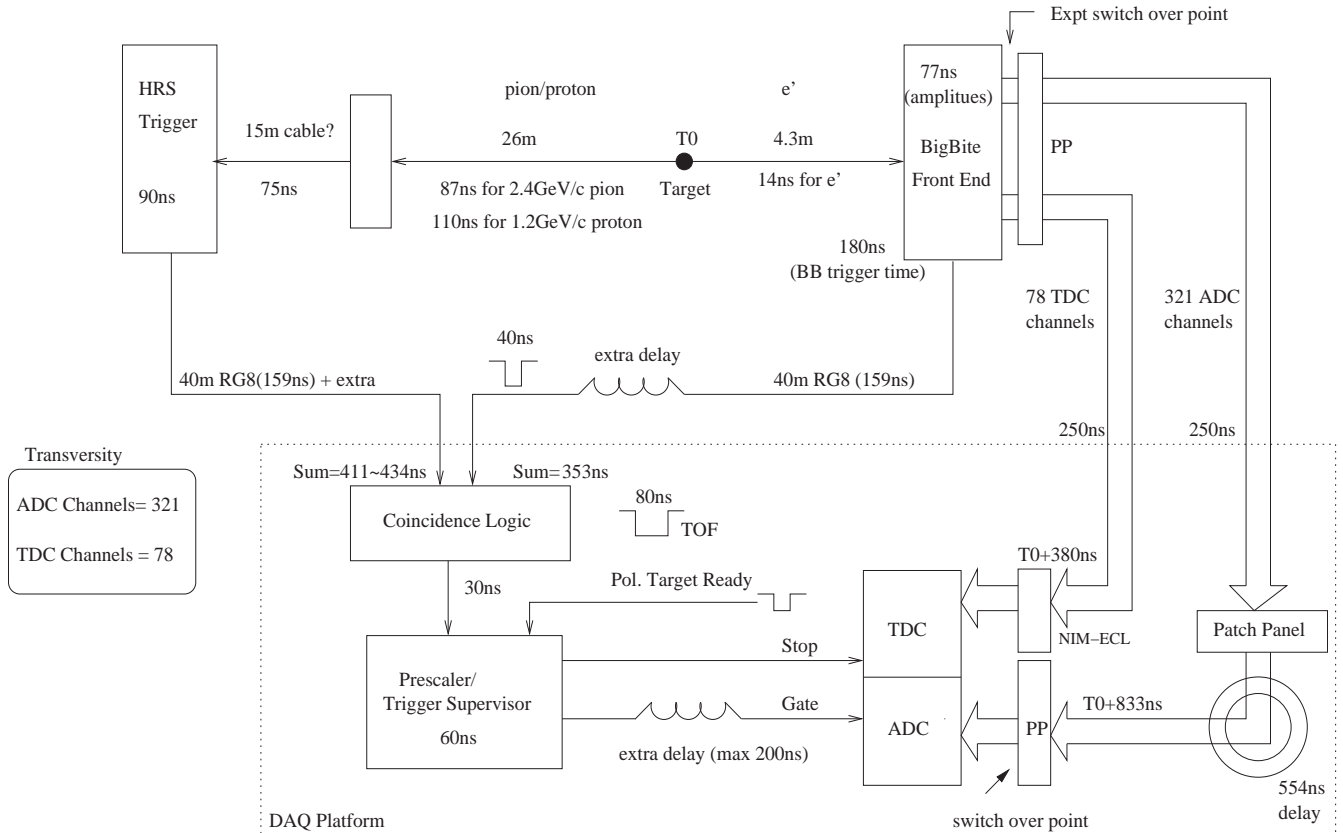
Scintillator ADC amplitude – left side PMTs



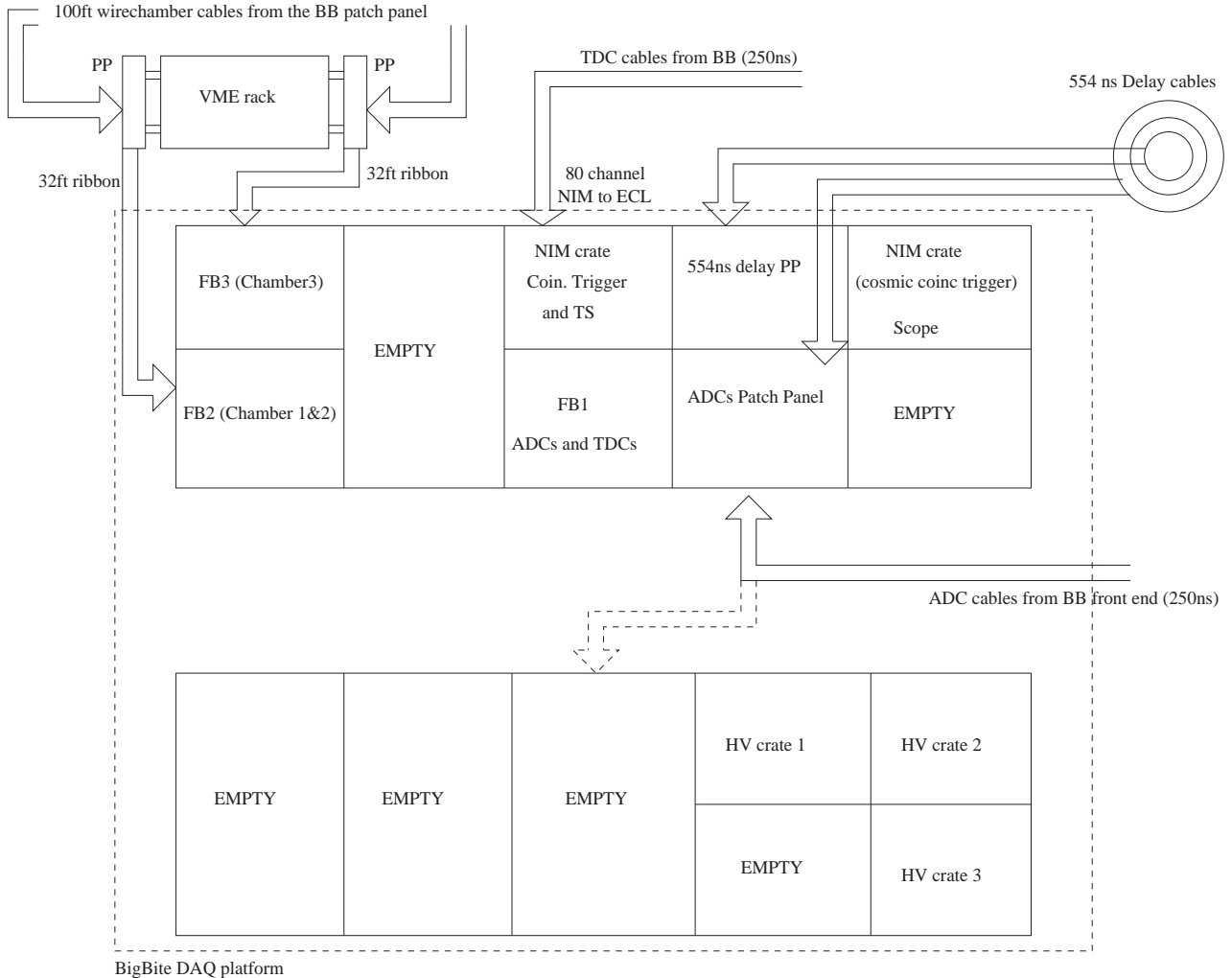
Scintillator TDC 1st hit time – right vs left PMT



Transversity Experiment Coincidence Trigger Block Diagram



Transversity DAQ Setup



Tasks to complete...

- Preshower detector cosmic check (very soon).
- Connect Shower package to the BigBite trigger– hope to complete it by March 15th (provided we have enough man power for laying cables)
- Keep timing as close as possible to the real experiment.
- Chamber2 upgrade will not interfere with this work.
- Test chamber2 and 3 and understand the issues involved.

Thanks to ...

- Bob Michaels for helping with setting up Fastbus crate.
- Brad Sawatzky for helping with setting up VME crate.
- Brandon Craver for helping with wirechamber issues.
- Xiaodong Jiang and Xin Qian for discussions.