

# DAQ related work to be done for PRad experiment

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# Outline

- DAQ
  - HyCal
  - GEM
- EPICS
- Software

# DAQ - HyCal

- Manpower
  - Chao, Li
- To do
  - Implement different types of triggers: pedestal, LMS, physics, tagger
  - Setup scalars for measuring DAQ live time
  - Finalize data structure for HyCal
    - Pedestal events
    - LMS events
    - Physics events
    - Tagger events
    - Live time scalar counts
    - EPICS information?
  - Tagger crate setup

# DAQ - GEM

- Test with GEM chambers after Bryan finish the development
  - Krishna, Xinzhan, Li
- Algorithm for zero suppression on software level
  - Kondo
- Algorithm for reconstruct hits on GEM
  - Xinzhan

# EPICS

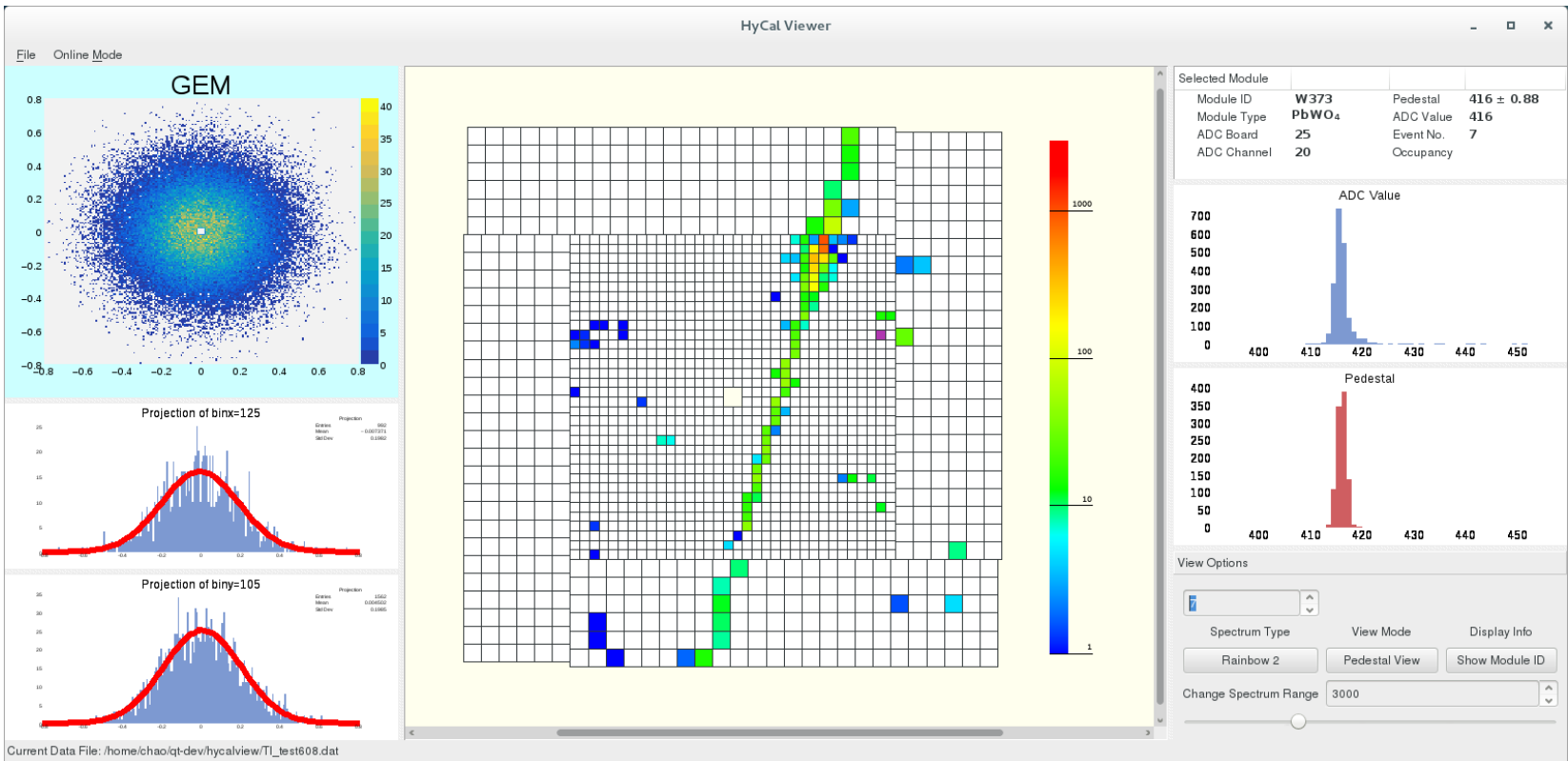
- How is EPICS information saved?
  - Should it be saved in the data file? (modify readout list)
- What we need to do for EPICS?
  - Should someone get some training to use the Hall B EPICS system?
- Might be implemented
  - Temperature
  - Chiller
  - Boosters

# Software

- Online monitoring software
  - Online viewer for both HyCal and GEM
    - Rough reconstruction of online events from Event Transfer
    - Information on occupancy (HyCal, GEM), total deposit energy (HyCal)
  - High Voltage control and monitor
  - Other monitoring programs
    - Temperature and chiller
    - Boosters
    - Target
    - DAQ electronics

# New Online viewer

- A newly developed event viewer integrating both HyCal and GEM



# New Online viewer

- HyCal online mode test
  - Chao
- GEM status visualization
  - Weizhi
- GEM hit reconstruction and online mode test
  - Xinzhan, Weizhi
- Update event file parser after the DAQ is finalized and data structure determined
  - Chao



# High Voltage Control and Monitor

- Several programs from PrimEx
  - HV\_init, initialize the HV for all crates
  - HV\_setchan, set the HV to specific channel, necessary for calibration
  - HV\_monitor, monitor all the crates, check if there are errors
  - PrimExHV, remotely control all the crates
- All these programs are working, but we may need test and modify
  - HV\_init, update the HV database according to current setup
  - Xinzhan is working on this

# Other monitoring programs

- Temperature and chiller
  - Temperature monitor
  - No monitor for chiller
  - Add to EPICS?
- Boosters
  - Html based remote control and monitor
- Target
  - Provided by target group?
- DAQ electronics
  - CODA?