FVTX Electronics Oversight and Integration

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PHENIX

Electronics Engineer Responsibilities

- Coordinate Electronics Integration into PHENIX
  - Work with PHENIX DAQ group developing:
    - On-line software and system control
    - Run procedures
    - Run databases: (Thresholds, Voltages, etc)
  - Coordinate integration with VTX detector

Electronics Engineer Responsibilities

- Oversight for electronics development
  - Schedule regular sub-group meetings to review status of electronics development.
  - Schedule and run reviews of electronics designs prior to pre-production and production fabrication- based on VTX model.
  - Work with Electronics subsystem manager to resolve time critical issues and ensure that project is “on schedule”
  - Work with PHENIX Management to schedule all required PHENIX/BNL safety reviews

Electronics Engineer Responsibilities

- Work with Subsystem managers to develop Q/A procedures and Benchmarks:
  - Assist developing Q/A plans for pre-production and production modules
  - Verify that electronics meets all PHENIX DAQ requirements
  - Assist with developing and scheduling benchmark tests

Electronics Engineer Responsibilities

- Assist Mechanical Engineer and Integration manager with Electro-mechanical integration
  - Electronics mounting:
    - Enclosure
    - IR Region
    - Rack Room
  - Signal and Power cabling
  - Interlocks and safety issues

Electronics Engineer Responsibilities

- Power systems.
  - Work with electronics subsystem group and PHENIX engineering group to design and implement low voltage and bias voltage systems.
  - Work with the electronics subsystem, the VTX group, and PHENIX engineering group to develop and implement a global grounding plan for the VTX/FVTX detectors.

Electronics Engineer Responsibilities

- Documentation
  - Work with electronics subsystem group to develop and maintain necessary documentation necessary to build, run and maintain the FVTX electronics
  - Work with project manager and deputy manager to ensure that all work meets ES&H requirements.
  - Work with project manager and deputy project manager to provide documentation and presentations for reviews.

Conclusions

- Close Oversight of FVTX integration necessary
  - Closely coupled with the VTX detector
  - Tight space constraints with in the PHENIX IR
- E.J. Mannel (Columbia University) currently assigned this task.
  - Currently has similar role for VTX project
  - Has working knowledge of electronics issues related to the VTX/FVTX detectors
  - Has working relationship with associated VTX/PHENIX groups