Acquisition Software

Status overview - October 26, 2020

Developed and prepared by Petr Mánek and Lukáš Meduna

Reminder: June 23 goals

- Katherine Timepix3 acquisition:
  - GUI to control acquisition, view and store results
  - Energy calibration, timewalk correction and clustering
  - Support for all modes of TPX3 (ToA & ToT, ToA only, Event count & iToT)
- Framework goals:
  - Live preview window
  - Save data to file as hits or clusters in text or binary format (MM format)
  - Reading / saving of configuration (incl. copying of Burdaman settings)

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Current state

- Katherine + Timepix3 HWlib is fully functional
- File read is implemented and tested for:
  - MMFormat (both binary and text mode, including files from Cluster-Viewer)
    - We support file writing too
  - Burdaman text files
  - Recognition of input format (fully automated)
- Random data simulator
- Multiplatform deployment tested and working (macOS, Linux, Windows)

ATLAS - specific adjustments

- Multi-threading support for parallel DAQ
- DIP publisher plugin compatible with DCS
- High-flux monitoring and response
- Data storage facility logistics —> TBD

To determine

- Any upgrades in DCS infrastructure (A. Polini, T. Billoud)
- Mode of network control and supervision (internally)

Next steps

- GUI to control acquisition, view and store results
- Polish and complete GUI
- Test and validate
  - i.e. high-flux data from x-ray tube, SW stability etc.

Questions? Suggestions?

- We appreciate your feedback

Thank you for listening!