CALADIUM at SLAC

Brief installation report (October 27th – 30th, 2015) and status documentation
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Installation and work report

- SLAC safety (RWT) training
- hardware inventory (complete apart from one PMT/Scintillator)
- hardware assembly in counting house (bldg. 60)
- setup computers and infrastructure
    - Telescope DAQ (NI crate): ni-eudaq; OS: NI Win 7
    - SLAC PC (EUDAQ PC): ar-eudaq; OS: SLAC Redhat
- sensor testing (JTAGing)
    - JTAG cables 4 and 5 at distribution board arrived wrongly connected
- EUDAQ event building in autotrigger-mode
- Moving to ESA (bldg. 61)
- EUDAQ event building in gun-trigger-mode with beam
- Handover: Training in hardware and usage with EUDAQ

Problems → Solutions/Outlook

- Access to NI crate → Created a new user
- Compiling EUDAQ on NI crate without internet connection → run all EUDAQ components on ar-eudaq, besides the TLUProducer: "old" binary worked using proper Win libusb driver (To run TLUProducer on ar-eudaq, install the proper libusb-devel.x86_64 version.)
- Setup optimization → Carsten Hast has a ToDo list

Hardware status

- Mimosa (Telescope sensor planes) coordinates:
  Z-axis in beam direction, x-axis to the left and y-axis up
- downstream tower (sensor planes no. 3 to 5):
  ~100pixels = 1.9mm shifted in y-axis related to upstream tower (sensor planes no. 0 to 2)
- Sensor cooling system is assembled in series
- Rarely JTAGging didn't work at the first try → re-try
- Since gun-trigger with proper delay is used, PMT/Scintillators are not used
- PMT power supply at TLU is modified for 5V PMTs (!): see James Botte's documentation

Computing infrastructure

See extra document.

EUDAQ version on ar-eudaq

- in /opt/install/eudaq/eudaq-1.5-dev/ (<EUDAQ_PATH>)
    - bin: binaries
    - conf: config files (*.conf)

- log: log files
- data: linked to /home/???
- to re-compile:
  - cd <EUDAQ_PATH>
  - load gcc4.9:
    newgcc
  - set root environment variable:
    setup_eudaq.sh
  - cd build
  - cmake -DBUILD_tlu=ON -DBUILD_ni_ON ..
  - make install
  - (if failing, rm * in build folder and repeat cmake and make install)

More documentation

- Computing infrasctructer document
- Picture document
- on Desktop of ar-eudaq: START_EUDAQ_README.txt
- telescopes.desy.de (User manual and hardware description)
- Ask questions: telescope-coor@desy.de