

NP02 DAPHNE DAQ UPDATES

January 24th , 2025

Updates on DAPHNE DAQ

- NP02 DAPHNE configurations for endpoint 107 (currently at the roof) has been created and tested successfully.
- DAPHNE 107 is able to selftrigger in sync with the timing link signal.
- Configuration for DAPHNE 106 (currently at the PDS room) was generated successfully and accepted by the boot process of the DAQ. It was not fully tested given we cannot access the roof to install this DAPHNE.
- The Frontend Felix is able to receive DAPHNE data and the HDF5 file is generated.
- There is still two issues:
 - The SSP is still giving a timeout during the DAQ configuration process. We know the board is ON (we are able to ping it) and the timing fiber is connected correctly since the CLK LED light is stable in the front panel.
 - The Frontend Felix issues a error message complaining that the channel is not aligned. Talking with Wes, we confirmed that indeed these links were not aligned and reset was issued in the DAQ side, aligning links C0_S1_L2 and C0_S1_L3. Nevertheless, after the aligning process the problem persists.
- Although the alignment issue, the HDF5 file is generated and saved correctly (at this point probably with garbage data).

Configuration

- For now, the current development area is:
 - /nfs/sw/dunedaq/dunedaq-fddaq-v4.4.8-dev-vdcoldbox-dev/
- The global config file use is:
 - global_configs/np02_DAPHNE_ssh.json
- The script to perform the various calibrations is ready to be tested:
 - VGAIN Scan
 - BIAS Scan
 - Selftrigger scan
- During the coldbox run, a bug, most likely, in the seed file caused a misconfiguration in the VGAIN parameter sweep, causing it to be fixed for the Cathode modules. The bug affected the Cathode VGAIN scan runs.
- The selftrigger runs used another slightly modified seed file that is able to correctly configure the VGAIN. We recommend to use this seed file as a start point for the technical test of the systems.