Planning M1

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VDPDS CE Meeting - 09/02/2024

Status

- Cathode extraction (Manuel):

  - Plan A: disconnect FCFC connectors and cut zipties. Then elevate the cathode using wooden blocks ~15cm more. From the bridge, reach down below C1 in order to open the electronics box and disconnect the fibers

  - Plan B: if previous plan fails, will need to use the crane to place the cathode vertical.

- "Potsmortem" on C3 and C4: travels foreseen towards end of february. Will require the equipment in the PDS room and LAr for testing the electronics and inspection of fibers.

- Data analysis on-going:

  - Matteo/Henrique: cathode LED data (SNR, linearity, receiver debugging – on-going)

  - Ajib: mostly looking at membrane data, on-going

  - Laura Zambelli has been looking at CRP+DAPHNE… could someone work with her?

  - .. sorry if I miss someone..feel free to speak up :)

- Schedule: to be defined with CRP7 by Wednesday next week

  - Aim mid march? Seems hard to have a team at CERN earlier.

Activities

- Fibers:

  - On-going evaluation of possibility to have full 40m fibers on all modules
    - Which feedthrough would be used?

  - Baseline plan: replace all four C3 fibers and one fiber in C4.
    - Are these elements already in hand?

- Electronics:

  - C1 and C2 electronics not to be touched

  - C3 and C3 electronics replaced by non-CMOS SoF boards
    - In hand at Fermilab except "grand daughter card", to be finalized and tested

  - Further tuning of VD membrane electronics with FBK SiPMs?

- Modules that have their electronics replaced need to go through the test-stand again.

DAQ

- Proposal to document in an accessible website (wiki?) the different possible files for data conversion and analysis and information on how analysis is done (denoising techniques, integration windows).
- More experts are needed on certain items / need to make things more accessible

    – Script to start run selecting a few DAPHNE parameters?

    – Conversion of hdf5 files to root files

- Discuss before the start of the run what data we need to take

- Implement a more organized data taking

    – Each day define list of data to take each day

    – Spreadsheet to complete with information on each run

    – 2nd spreadsheet to complete with summary of analysis results

- FYI some info already compiled in the M1doc