STATUS OF ICEBERG

PD in ICEBERG meeting 10/28/19   Carlos Escobar

A careful examination of the Iceberg electrical power system was carried out by Shekhar, Linda, Theresa Shaw and others. The main findings point out to violations of the DUNE grounding rules by the PD setup: (from Shekhar)

Summary

- ICEBERG DAQ is connected to cryostat only through optical fiber.

- **CE Detector Electrical:** We have not found any inconsistency in the DUNE grounding rules, documents submitted and as found at ICEBERG.

- **PD Electrical:** Three differences have been found

    - DAPHNE and SSP: There exists a 11kOhm resistance between the Detector Ground and +/- 2.5 V power supply return

    - SSP: When switching to SSP readout the Ground Jumper cable between the 48 V and +/- 2.5 V power supplies was not removed.

    - SSP: The SSP document submitted and as found, differ in ground connection.

        - SSP Circuit common (Power Ground, Analog Ground, PCB Ground) is directly connected to Detector Ground.

- **Purity Monitor:** No inconsistency found.

- **Cryogenic Control:** No inconsistency found but drawing needs updating (as attached earlier).

🔷 Fermilab DUNE

The net result of this investigation is that we will stop trying to run the SSP because of the above findings.

Another consequence is that we will power DAPHNE and the ganging circuit for the PD with Wiener power supplies. We need to data log the power supply information and this we can not do now with the available power supplies. This should also eliminate the 11 kΩ existing between the op-amp power supply and detector ground.

Cryogenics of ICEBERG: From Katherine Cipriano:

Schedule

- Cryostat top plate removed (estimating early next week) – 10/30
- 20-micron sintered metal condenser filter arrives – 12/02
- Calculations completed – 10/30
- Start preparing internal filter for modifications
- Sintered metal for internal filter ordered - 10/30
- Sintered metal for internal filter arrives – 12/06
- Install sintered metal in internal filter – 12/09
- Pressure test internal filter, update documentation
- Regenerate internal filter – 12/23

RUN 2C will not start before 2020.