

NPS Collaborator's Meeting

Date: August 27, 2020

Time: 9:00AM – 10:00AM

Attendees: Arshak Asaturyan, Vladimir Berdnikov, Marie Boer, Aaron Brown, Carlos Munoz-Camacho, Alexandre Camsonne, Rolf Ent, David Hamilton, Tanja Horn, Charles Hyde, Ho San Ko, Paulo Medeiros, Hamlet Mkrtchyan, Jacob Murphy, Julie Roche, Vardan Tadevosyan, Bogdan Wojtsekhowski

1. Detector Frame Assembly (Carlos Munoz-Camacho)

- 1.1. PCB assembly within the detector frame has begun.
- 1.2. VM2000 reflective film to wrap the crystals received at JLab
- 1.3. Heat exchangers and chillers are in-hand (Orsay)
- 1.4. Cooling plates received and are being tested
- 1.5. There is a presentation about the frame assembly on the NPS wiki page.
 - 1.5.1. Documents detailing testing of PCBs and cables are available on the wiki page.

2. Cable Fabrication and HV Rating Concerns (Aaron Brown, Carlos Munoz-Camacho)

- 2.1. DSG discussed procurement of components for HV multi-conductor cable fabrication
 - 2.1.1. Forty Radiall 52-pin connectors, one extraction/insertion tool, and one crimper tool ordered from CAEN
 - 2.1.2. Forty-two 42-conductor cables precut to 142' ordered from General Wire Products
- 2.2. Components still to be ordered: IPD-15-D-K, IPBD-08-D-K
 - 2.2.1. Plans are to use these SAMTEC connectors on the end of the 42-conductor cables, but the connectors are rated for 424 VDC
 - 2.2.2. **DSG will not procure these items until informed that they are safe to use**
- 2.3. DSG presented an HV schematic which shows all components and voltage ratings for said components in the HV path.
 - 2.3.1. Many components are not rated for an assumed operating voltage from 800 VDC to 1100 VDC (operating voltage has not yet been confirmed)
 - 2.3.2. Steve Wood will check with Chris Cuevas about testing the SAMTEC connectors at JLab to ensure safety

3. DSG Work Update (Aaron Brown)

- 3.1. DSG is developing Controls & Monitoring screens
 - 3.1.1. Environment Monitoring screen, Voltage/Current Control & Monitoring screens
- 3.2. CAEN voltage stability testing is ongoing
 - 3.2.1. All 34 modules have been tested using GECCO 2020
 - 3.2.1.1. All channels of 12 modules passed testing
 - 3.2.1.2. Eighteen modules have at least one problem channel
 - 3.2.1.3. Four modules have major issues
 - 3.2.2. Twenty-two of 34 modules tested using EPICS
- 3.3. HV divider cable fabrication is ongoing: 700 of 1100 completed

4. Crystals (Vladimir Tadevosyan)

- 4.1. Crystals arriving at JLab each month; no problems so far