HDice Controls Meeting Minutes
11/03/2015

Present: Armit Yegneswaran, Xiangdong Wei, Peter Bonneau, Brian Eng, Mary Ann Antonioli.

- **Hardware Status**
  - Test Station Hardware
    - An Oxford IPS-120 Superconducting Power Supply was installed on the HDice Test Station in EEL R121C. This power supply will be used as the axial supply for debugging the dual-supply operation of the Rotation of Target Polarization Program.
      - A shield was constructed to protect the exposed high-current power leads at the rear of the supply.
      - A high-current cable loop was fabricated and installed on the power leads.
      - An AC power adapter was installed to convert the 5-prong wall 208 [V] outlet to a 3-prong power supply plug.
    - For our upcoming work, we should build a RF Splitter / Attenuation box for the test station, which can be used as a spare or for further development. Since some of the components in the box are dated, *we should build one before the parts are no longer manufactured*. The cost for the box is approximately $2500.
  - RF Cable
    - A test cable will be fabricated when the "N" type connectors are received.
      - Due to supply issues in obtaining the proper fitting connectors, the ordered "N" type connectors are oversized for the diameter of the RF cable.
      - An adapter will be fabricated to fit the cable to the "N" connectors.
- **Software Status**
  - Rotation of Target Polarization Program
    - Developed initialization sequence for 1st power-up. This automatic initialization sequence must be done upon turning on the power supplies. By default, the supply remembers the last current / field set point and will ramp to the previous setting in manual mode when the initialization hold function is released.
    - Modified manual mode operation to allow simultaneous ramping of both the Axial supply and the Transverse supply.
    - Wrote code to support requested dual mode set functions for both set field and set current in manual mode.
    - Wrote sub-VIs that support the manual control option upon the completion of automatic rotation. This feature was a request by the HDice group to allow the expert operator to make adjustments at the end of automatic target polarization rotation.
    - Modified front panel operator controls to set and display ramp speeds in [A/min] rather than [A/s].
    - Added graphical representation of the automated rotation sequence to the front panel.

  - Mathematica analysis code
    - The main NMR analysis code is failing due to an outdated library. A video teleconference meeting with Craig from BNL is scheduled for this week.

- Next meeting: Tuesday, November 17th at 11:00 AM in DSG Control Room (EEL R121C).