HDice Controls Meeting Minutes

10/22/2015

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

- **Hardware Status**
  - Test Station Hardware
    - Started setup of the Fluke Transconductance Amplifier and Krohn-Hite Model 523 calibrator. This instrumentation will be used in the calibration test of the DC Current Transducer provided by CAENels for their Current Transducer-Box.
      - LabVIEW device drivers are needed for the Krohn-Hite Model 523 calibrator.
      - The CAENels DC Current Transducer head was mounted on the Transconductance Amplifier output cables
    - 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
    - An "N" type connector that is specifically manufactured for the RF cable has been found. Currently looking for availability and pricing from vendors.
- **Software Status**
  - Rotation of Target Polarization Program
    - Completed initial software debug of automatic mode using modified code that uses a single power supply for the test.
    - Corrected instabilities in status read back found in the old Oxford power supply VI drivers.
    - The ramp hold function for the Oxford Power Supplies was debugged and tested in automatic and manual modes.
    - Discovered an error in the status message sent by the power supply in manual mode, while fast ramping. The status message says "warning", if the sweep-rate is out-of-limit, rather than the expected message "sweeping-limit". This error is being investigated.
    - Dual supply testing in automatic mode can start upon completion of the shield assembly for the power leads.
    - For the operator panel, it is desirable to set and display ramp speeds in [A/min] rather than I [A/s].
    - In manual mode, requests were made for the following capabilities:
      - To ramp both supplies at the same time.
      - Enable both the "set field" and "set current" functions.
    - Upon the completion of automatic rotation, HDice requests a manual control option to allow the expert operator to make adjustments.
  - NMR Program - CAENels Current Transducer-Box System
    - Developing interface code for the Oxford power supply - Current Transducer-Box test program. This Program will compare power supply output current vs. current measured by the Current Transducer Box.
  - Mathematica analysis code
    - We have sufficient files to work on two of the seven notebooks. A video teleconference meeting with Craig from BNL is scheduled for this week.

- Next meeting: Tuesday, November 3rd at 11:00 AM in DSG Control Room (EEL R121C).