

SNS - HYSPEC Instrument Development Team

MEMORANDUM

Date: February 10, 2012
To: HYSPEC IDT Executive Committee
From: M. Lumsden
Subject: HYSPEC commissioning activities for Feb-Mar 2012

Here's a rough list of commissioning activities in the near future – of course, the times are just our best guesses at this point and are subject to change as things progress.

1. February 14-21: First ~week of cycle is planned to be without neutrons, to check for and fix guide vacuum leaks under the mezzanine in the target building. The reason for this delay was a lack of certain craft resources that were fully occupied during the accelerator outage.
 - a. The degree of success in this section determines whether we check and fix the guide vacuum in 8714 under the T1B/Fermi chopper racks which would cause further delay without neutrons.
 - b. During the time without neutrons, we will study the prompt pulse background – there were shielding changes made at other beamlines during the outage which we hope will greatly reduce this background.
 - c. Fixing detector vessel stage motion and encoding will occur in parallel
2. When we get neutrons:
 - a. Compare December performance for ~1 week (T0 offset, flux, etc.).
 - i. February 29: do another image plate and gold foil test, now that we have the mgpg (monochromator goniometer PG) steering/encoder issue solved. This should give us a good handle on the flux on sample – we will use energies similar to those Igor provided earlier.
 - b. Early March: demo Reciprocal space / UB Matrix code used at SEQUOIA – this should help us to understand the current status of the software and its applicability to HYSPEC.
 - c. March: Begin using the CCR-10 or the HYSPEC CCR with an air-cooled chiller. For this we will be using KTaO3 and other single crystals, and a much larger sample rotation range than in the previous cycle (because it seems we have fixed the hanging of cables on the sample rotation stage!). **If you have specific samples you'd like us to use in these early tests, please let me know – we'd prefer something that has been measured on other neutron instruments for comparison purposes.**
 - d. March: check Heusler and guide field system's polarization using the portable 3-He filter cell and the optical-rail guide fields. This needs to be done at several incident energies.
 - e. Early April: Demo UB Matrix, refined