

## W0220

**Progress Toward Thermal Neutron Laue Diffraction at the NCNR.** B.H. Toby<sup>1</sup>, C.Y. Jones<sup>1</sup>, A. Santoro<sup>1</sup>, P.C. Brand<sup>1</sup>, E. Prince<sup>1</sup>, T.D. Pike<sup>1,2</sup>, NIST Center for Neutron Research, D.L. Jacobson<sup>3</sup>, <sup>1</sup>NIST Center for Neutron Research, National Institute for Standards & Technology, Gaithersburg, MD 20899-8563 USA, <sup>2</sup>Dept. of Physics & Astronomy, Johns Hopkins Univ., Baltimore, MD 21218 USA, <sup>3</sup>Physics Laboratory, National Institute for Standards & Technology, Gaithersburg, MD 20899-8461 USA.

A test station is being developed to explore small molecule single-crystal neutron diffraction using a thermal neutron beam ( $\lambda = 0.9 \text{ \AA}$  to  $2.5 \text{ \AA}$ ) from the CNBS thermal column. Detection for this simple and compact prototype will be performed by activating dysprosium foils, and replicas of the resulting activation patterns will be recorded on image plates. In concert, novel algorithms are being developed for data analysis from these Laue diffractograms. The goal of this project is to make maximal use of the full thermal spectrum and correspondingly reduce the crystal size needed for data collection.