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Single Crystal Diffraction at Pulsed Neutron Sources: Present and Future Capabilities. A.J. Schultz, IPNS, Argonne National Laboratory, Argonne, IL 60493, USA.

The single crystal neutron time-of-flight Laue technique for small molecule crystallography has been very successful at pulsed sources such as the IPNS and at the ISIS (UK) facility. Some examples of recent accomplishments will be presented. For larger macromolecules, the Protein Crystallography Station [1] has been in operation since 2002 at the Los Alamos LANSCE spallation neutron source. Two new sources with much higher flux that will begin producing neutrons either this year or in the near future are the JSNS in Japan and the SNS at the Oak Ridge National Laboratory, USA. At the SNS, the small molecule diffractometer, Topaz, is under construction and will be available for users in 2009. It will allow data collection on “x-ray size” crystals, which is predicted to have a major impact on neutron chemical crystallography. During the past three years we have also developed and optimized the design for a macromolecular neutron diffractometer (MaNDi) which will be capable of collecting complete data sets for macromolecular crystals in as little as one day [2]. DOE has now approved its construction at the SNS and a beam line position has been secured.

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[1] P. Langan *et al.*, *J. Appl. Cryst.* **2004**, 37, 24.

[2] A. J. Schultz *et al.*, *J. Appl. Cryst.* **2005**, 38, 964.