

High Pressure Workshop



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Recent advances on the SNAP diffractometer

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The SNAP diffractometer at the Spallation Neutron Source (Oak Ridge, TN) is unique in providing routine access to a diamond anvil cell (DAC)-based neutron diffraction program. These capabilities underpin SNAP's broader micro-diffraction program, routinely handling sample volumes ranging from 0.03 to 0.3 mm³. This enables neutron diffraction studies of materials across a wide range of extreme conditions and provides a useful point of reference for planned diffraction capabilities at the European Spallation Source (ESS). This contribution presents an overview of recent developments on SNAP, including current operational DAC capabilities and details of how the program has been implemented. Topics include data reduction and correction strategies, an assessment of the current limitations, recent initiatives aimed at broadening access for underserved research communities (including experiments at extreme temperatures or with isotopically challenging samples), and an outlook on future developments and challenges for high-pressure neutron diffraction.

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