

**MAXPD: Multi-Anvil X-ray Powder Diffraction --  
COMPRES Partner User Program for High Pressure Studies at 28-ID-2-D at NSLS-II**

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MAXPD (Multi-Anvil X-ray Powder Diffraction) is the downstream endstation of XPD, an insertion device beamline at Sector 28 (28-ID-2-D) of NSLS-II with a 1.8 T damping wiggler source. The MAXPD endstation and General User Program are sponsored by the Consortium for Materials Properties Research in Earth Sciences (COMPRES). This beamline has an 1100-ton hydraulic press installed which is equipped with a unique DT-25 pressure module (differential Kawai geometry). This module can be swapped out for a more standard D-DIA module as desired. MAXPD operates in monochromatic beam mode with a Laue-Laue Si(111) monochromator that can tune the beam energy from 30-70keV. MAXPD makes use of the world-class monochromatic beam available at XPD (usually ~67 keV), with which we collect both angular dispersive X-ray diffraction data and X-radiographic imaging. A Perkin-Elmer area detector with a 200um pixel size is used for the collection of X-ray diffraction data, while a Point Grey CCD camera focused on a scintillating YAG crystal provides us with direct imaging of the samples in our experiments. The first General User experiments took place in March 2018. Final Science Commissioning beamtime took place in August of last year, and the full General User program for MAXPD began in the 2018-3 cycle. General User Proposal deadlines are September 30, January 31, and May 31 for the upcoming year of beamtime cycles. In this presentation, I will give an overview of the endstation, some of its unique capabilities, some representative results from recent experiments conducted over the last two cycles at MAXPD, and where we are looking to go as we look to the future.