

Abstract Submitted
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High Pressure X-ray Spectroscopy at HP-CAT¹ YUMING XIAO, PAUL CHOW, ERIC ROD, HPCAT, Carnegie Institute of Washington, CURTIS KENNY-BENSON, ARUN BOMMANAVAR, GUOYIN SHEN, HPCAT, Carnegie Institute of Washington — The high-pressure experimental end-station 16-IDD (HP-CAT) at the Advanced Photon Source at Argonne National Laboratory employs a number of spectroscopy techniques to measure properties of materials in diamond anvil cells. We will give an overview of the techniques that we use including: nuclear forward scattering, nuclear resonant Inelastic scattering, X-ray Raman, X-ray emission (resonant and non-resonant), and as well as measurements of electronic excitations, absorption and fluorescence at high pressure. For some of these measurements, we also take diffraction patterns to assess the structure of the sample at the same time spectroscopy measurements are taken. We will briefly discuss the instrumentation and scientific highlights of these techniques.

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