

Abstract Submitted  
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**A high-energy x-ray precession camera at the Advanced Photon Source** A. KREYSSIG, D.K. PRATT, M. RAMAZANOGLU, G. TUCKER, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University, Ames, IA, D.S. ROBINSON, L.C. LANG, Advanced Photon Source, ANL, Argonne, IL, R.J. MCQUEENEY, A.I. GOLDMAN, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University, Ames, IA — A key distinguishing feature of the APS is the capability for high-energy x-ray scattering, which has been exploited for numerous powder sample applications. The instrumentation for high-energy single-crystal diffraction measurements at the APS, however, remains underdeveloped. High-energy x-rays offer several advantages: (1) absorption effects are minimized and the entire bulk of the sample is probed and; (2) a large range of reciprocal space can be imaged when used together with even a modestly sized area detector. We have developed a high-energy x-ray precession camera (HEXPC) for imaging of reciprocal-space planes. This technique is highly suited to studies of Bragg and diffuse scattering with its flexibility in dynamic range, resolution and scattering vector range. These capabilities have been demonstrated by studies of single crystals and quasicrystals.

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