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**A State-of-the-Art Undulator Beamline for Time-Resolved Laue and Monochromatic Crystallography at BioCARS.** T. Graber\*, F. Westferro, M. Meron, P. J. Viccaro, R. W. Henning, V. Srajer, R. Pahl, S. Anderson, P. Anfinrud<sup>1</sup>, K. Moffat, Consortium for Advanced Radiation Sources, The Univ. of Chicago, Chicago, IL 60637 and <sup>1</sup>National Institutes of Health, Bethesda, MD 20892, \* Corresponding author

BioCARS, a national facility for macromolecular and time-resolved x-ray crystallography located at the Advanced Photon Source, is in the process of upgrading their undulator beamline. Both monochromatic as well as highly focused pink-beam capabilities are being developed. A cryogenic Si (111) (Kohzu) monochromator with a variable offset of 15-25 mm and an energy range of 6-20 keV is presently being commissioned. Pink and monochromatic beam will be focused using a KB mirror pair (Oxford/SESO) with a vertical demagnification ratio of 5:1 and a horizontal demagnification of 8:1. Additionally, a dual in-line undulator configuration will be installed with periods of 23 and 27 mm. These undulators are designed to give continuous first-harmonic coverage with a 6.8-20 keV energy range. The expected monochromatic flux is  $\sim 5 \times 10^{13}$  photons/sec into a 46 (V) by 75(H)  $\mu\text{m}^2$  focal spot. For time-resolved Laue experiments, the critical specification is the number of photons delivered to the sample from a single storage-ring electron pulse or bunch; this number is expected to be  $\sim 10^{10}$  photons.

To apply for beamtime or for more information about the BioCARS facility, visit: <http://biocars.org>.