W0078

GM/CA: A New NIH-funded Sector for Protein Crystallography at the APS Will Provide Two Independent Undulator Beamlines. W.W. Smith[a], R.F. Fischetti[a], J.L. Smith[b], R. Benn[a], S. Stepanov[a], S. Xu[a], A. Urakhchin[a], O. Makarov[a] , R. Sanishvili[a], [a]Biosciences Div., Argonne National Laboratory, Argonne, IL 60439, [b]Biology Dept., Purdue Univ., West Lafayette, IN 47907.

The National Institute of General Medical Sciences and National Cancer Institute have established the GM/CA-CAT at the Argonne National Laboratory to build and operate a national user facility for crystallographic structure determination of biological macromolecules at the APS. In collaboration with ACCEL Instruments GmbH, we have designed and are constructing a facility at Sector 23 consisting of three beamlines; two on independently-tunable canted-undulator sources and one on a bending magnet. Crystallographic data will be collected for structure determinations of proteins and other biological macromolecules, with an emphasis on streamlined, efficient throughput for a variety of sample types, sizes and qualities. The scientific and technical goals of the CAT address problems at the cutting edge of structural biology research, as well as targeted programs of the sponsoring institutes in structural genomics and structure-based drug design. Beamline controls are being developed based on EPICS, and BluIce will provide automation of user tasks.