

### **SER-CAT: The Advanced Photon Source's Latest Protein Crystallography Facility**

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SER-CAT, Sector 22 APS ([www.ser-cat.org](http://www.ser-cat.org)), provides both an insertion device (22ID) and a bending magnet (22BM) beamline for macromolecular crystallography. Beamline 22ID ( $6 \times 10^{11}$  photons/sec over  $100 \times 100 \mu\text{m}^2$ ), hosts a MAR 300 CCD detector and a custom Rosenbaum kappa goniometer. Beamline 22BM ( $2 \times 10^{11}$  photons/sec over  $60 \times 80 \mu\text{m}^2$ ), hosts a MAR 225 CCD detector and an ALS style sample auto mounter and is being developed as a fully automated beamline with remote user participation access capability. Both beamlines are MAD/SAD capable. The current operational envelopes are  $0.5\text{\AA}$  to  $2\text{\AA}$  with a  $\Delta E/E$  of  $5 \times 10^{-5}$  using Si 220 for 22ID and  $0.62\text{\AA}$  to  $20\text{\AA}$  with a  $\Delta E/E$  of  $2 \times 10^{-4}$  using Si 111 for 22 BM.

SER-CAT's goal is to provide its members with immediate access to one of the most modern synchrotron data collection facilities in the world. This is done by the continued integration of new technologies and methodologies, and by providing its users with outstanding user support. Since October 2003, 22ID has hosted more than 410 investigators from its 23 member institutions. Over 7000 data sets have been collected, 110 structures have been deposited in the PDB and 90 papers have been published. Beginning January 1, 2005 SER-CAT began hosting general users on 22ID.

**Keywords:** SER-CAT, synchrotron, remote user participation