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The Structural Biology Center User Program at the Advanced Photon Source

The Structural Biology Center (SBC) at Argonne National Laboratory operates two beamlines as a national user facility for macromolecular crystallography at Sector 19 of the Advanced Photon Source: an insertion device (ID) beamline and a bending magnet (BM) beamline. The very low angular divergent X-rays on ID are fully tunable, making the beamline an excellent choice for large unit cells. Both beamlines have fully integrated robotic sample mounting systems. Diffraction is recorded on a large, fast Pilatus3X 6M detector on ID and an efficient, custom calibrated ADSC Quantum 210 CCD area detector on BM. Data are processed on high-performance, integrated computing systems with advanced control and data analysis software designed specifically for the SBC.

19ID employs a Nelson Air rotary stage and a Rigaku sample mounting robot, with independent sample dewars dedicated to handling either Rigaku or Uni-Pucks. 19BM has a custom designed dewar and end-effector, with a capacity of more than 160 samples. The HKL3000 program suite is used for data processing, structure solution and model building in near real time. Information on the user program and the sector 19 beamlines can also be obtained from the SBC website [www.sbc.anl.gov](http://www.sbc.anl.gov).

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