

The Structural Biology Center beamlines at the Advanced Photon Source

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The Structural Biology Center (SBC) at the Advanced Photon Source operates two beamlines — one insertion device (ID) and one bending magnet (BM) — as a national user facility for macromolecular crystallography. These beamlines can deliver small x-ray beams onto micrometer-size crystal samples with very low angular divergence, thereby permitting crystallographers to study, at the highest possible resolution, structures of large and complex molecular systems by using very small crystalline samples. Diffraction from these sample-crystals is recorded on large, fast, and efficient mosaic CCD area detectors and is processed on high-performance, multi-cpu- integrated computing systems with beamline control and data analysis software designed specifically for the SBC. The SBC beamlines represent highly efficient data collection system for protein crystallography. The SBC is carrying out two tasks related to synchrotron radiation: (1) operation of the user facility at the APS Sector 19 and (2) research and development related to beamline operation and maintaining a state-of-the-art beamline facility.

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