S30-3 SPring-8 Structural Biology Beamlines

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Structural Biology group of SPring-8/JASRI manages and maintains two public beamlines, BL38B1 (bending magnet source) and BL41XU (undulator source), and supports users of the beamlines. Moreover, we operate and maintain the pharmaceutical industry beamline, BL32B2. By these works, we are conducting the utilization and support of macromolecular crystallography (MX) experiments using synchrotron radiation.

To user-friendly operation in MX experiments, we construct a integrated control system for most beamline components and devices. Users can perform the experiments only using the beamline control software “BSS.” Moreover, at BL38B1, the developments and installation of the automatic sample changer robot “SPACE” and the Web database system for data collection “D-Cha” enables the “Mail-in” system, where users perform data collection routinely with a beamline operator at their home laboratories via Internet, prompting use from distant places.

At BL41XU, the flagship beamline in SPring-8 MX beamlines, high precision and rapid data collection system is developed for difficult-to-solve samples with the utilization of high brilliance X-ray from an undulator. In particular, ultra-high resolution data collection using shorter-wavelength X-ray and microcrystalline diffraction experiment using the high brilliance and stable microbeam are special features of BL41XU.

In this talk, the present status and utilization of the beamlines will be presented.