

W0564

The SSRL Macromolecular Crystallography Facility. A. Cohen, P. Dunten, A. Gonzalez, D. Harrington, I. Mathews, M. Soltis, representing the SMB group, Menlo Park, CA.

The SSRL Structural Molecular Biology group operates 5 crystallography beam lines, BL1-5, BL9-1, BL9-2, BL11-1, and BL11-3. BL7-1, which has been upgraded to fully utilize the SPEAR3 source including a new wiggler and x-ray optics, will be commissioned later this year. Users of these beam lines have the option to conduct experiments while remaining at their home institution and in 2006 nearly half of experiments were conducted remotely. Using the Stanford Auto-Mounting system and the Blu-Ice control system, remote users have the ability to mount, center, and screen samples, and collect diffraction datasets. Data collected during sample screening are automatically analyzed and the results, which include the number of spots, Bravais lattice, unit cell, estimated mosaicity, and resolution, are visible through Web-Ice and Blu-Ice. To address the needs of remote experimenters, new automated capabilities have been released including sample washing, sample annealing, and an improved sample illumination system. Additionally, work is in progress to expand the scientific capabilities of the beam lines. Users will be able to conduct single crystal UV-visible microspectrophotometry experiments during diffraction data collection. BL12-2, a new undulator station optimized for data collection with small crystals, will be completed in 2007.