

W0662

The ALS Sector 5 Macromolecular Crystallography Beamlines. C.B. Trame, S.A. Morton, J.M. Dickert, J.R. Taylor, P.D. Adams, BCSB, Lawrence Berkeley National Lab, 1 Cyclotron Rd, Berkeley, CA 94720.

Berkeley Center for Structural Biology operates a suite of three high-throughput PX beamlines consisting of a central MAD beamline flanked by two fixed energy (1Å) stations. All three have recently undergone major upgrades yielding dramatic increases in flux, performance and automation.

The MAD beamline was recently equipped with a new LN cooled mono; increasing the flux up to 100x. This mono is tunable from 4-15keV (from Ca or U to above Br). Flux above 13keV will increase even more with replacement of the pre-mirrors in Oct 06. This will also significantly increase flux on the 1Å beamlines. All three beamlines are equipped with automated beam steering, optimization, and feedback systems to maintain optimal beam at all times.

The beamlines are equipped with robotic sample handling for up to 96 crystals stored in Dewars. Recent upgrades to this system have improved its speed and reliability and it is now used heavily. Progress has also been made in auto-centering; users can store the centered position of each crystal for automated overnight data collection. We also offer a service crystallography option and remote data collection will soon become available. All users benefit from 24hr on-site support.

Please contact Gari Kloss (MKloss@lbl.gov) for information on becoming a user.