

W0265

MacCHESS: A World-class Facility for Crystallography at Cornell. David Schuller, M. Cook, U. English, R. Gillilan, Q. Hao, C. Heaton, I. Kriksunov, W. Miller, D. Szebenyi, MacCHESS/Molecular Biology & Genetics, Cornell Univ., 209 Biotech Bldg, Ithaca, NY 14853 USA.

MacCHESS ("Macromolecular diffraction at CHESS") supports users of the Cornell High Energy Synchrotron Source, and carries out research to improve the facility.

STATIONS - One MAD and two monochromatic stations provide doubly-focused wiggler beam for crystallography. Other CHESS stations are available for special experiments.

USER SUPPORT - Staff provide extensive training in data collection, and are on call 24/7 to help with data processing, resolve problems, and provide crystallographic advice.

DATA COLLECTION - The ADX data collection package, customized for CHESS, is robust and easily modified for special experiments. Semi-automated crystal centering is available, and automatic crystal mounting is under development. F-1 has a two-detector system giving a large flat or V-shaped area.

DATA PROCESSING - the DPS/Mosflm/CCP4 data reduction interface is supported by MacCHESS, as are other programs such as SAPI and FSEARCH. Most commonly used crystallographic packages are installed.

MICROCRYSTALLOGRAPHY INITIATIVE - Developments at F-1 allow collection of good data from ever smaller crystals.

OTHER RESEARCH - Projects include molecular envelope determination using SAXS, narrow-bandpass Laue diffraction, reference beam phasing, etc.