

A User Facility at Advanced Photon Source for Advanced X-ray Crystallography

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Abstract

NSF's ChemMatCARS operates an experimental station (Sector 15ID-B) in the areas of Advanced Small Molecule Crystallography(ASMC), at the Advanced Photon Source (APS), the premier undulator-based synchrotron source of high-brilliance high-energy X-rays in the U.S.A. The instrumentation at ASMC provides structure information that addresses a broad range of issues in chemistry and materials research. NSF's ChemMatCARS has implemented a "rapid setup" crystallography facility that allows us to rapidly switch operation to the single-crystal instrument. The diffractometer is pre-aligned internally and can be moved into the beam when required. This flexibility allows us to take advantage of beam availability at short notice. This capability has been used extensively in user experiments. Techniques Include: Resonance Diffraction, Photo-Crystallography, High-Resolution Charge Density Studies, Structural Dynamics using Single Crystal Diffraction, High-Pressure Single Crystal Diffraction Studies and Microcrystallography.

Biography

Yu-Sheng Chen received the B.S. degree in mechanical and electrical engineering from National Sun Yat-Sen University, Kaohsiung, Taiwan, in 1990, and the Ph. D. In 2008, he moved to the Department of Mechatronic Engineering, National Taiwan Normal University, Taipei, Taiwan, where he is currently a professor.



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