

Poster Presentation

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Advanced Crystallographic Program at ChemMatCARS at Advanced Photon Source

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ChemMatCARS, a state-of-the-art synchrotron-based national facility for Chemistry and Materials Science located at the Advanced Photon Source (APS), maintains dedicated advanced crystallographic programs for small molecule which include photo-crystallography, high resolution charge density studies, high pressure (<10 GPa) chemical crystallography using a diamond anvil cell(DAC), ultra-low temperature crystallography using open flow Helium at ~10 K, and element-specific resonant diffraction and diffraction anomalous fine structure (DAFS) (tunable energy from 5 to 70 keV). High throughput micro-crystallography benefits from a new sample preparation environment and a fast data collection strategy to enable measurements on air-sensitive samples in fewer than 5 minutes. This work is typically done by cooling the sample with cryogenic open flow nitrogen or helium. These new capabilities will impact the development of new materials to meet emerging challenges in energy, environment and life sciences. This poster focuses on the above scientific research activities and provides information on how to apply for beam time.

[1] <http://chemmatcars.uchicago.edu/>

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