Poster Presentation

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Elucidating Chemical Structure at Station 11.3.1 at the Advanced Light Source

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One of the greatest challenges facing crystallographers has always been how to collect good data. This has become especially challenging as chemists are creating more complex compounds and looking to extract new exotic structural information from crystals which are getting smaller and smaller. Often, these crystals produce little or no diffraction on a laboratory diffractometer with long exposures. The past two decades have provided world-class synchrotron facilities to help solve these problems through a combination of high flux and a small focused beam spot size. Station 11.3.1 at the Advanced Light Source is a dedicated chemical crystallography beamline which has been developed and improved over the last decade to provide a global user base with a high flux, focused beam which is capable of doing more than just providing excellent data on weakly diffracting samples. Recent developments on station 11.3.1 include an environmental gas cell for studying of samples under evacuation, up to 1 atm of gasses and mixtures of gasses, and under gas flow; a diamond anvil cell for studying samples under applied pressures up to 10 GPa, a photodiode array for in-situ photocrystallography, as well as a tunable monochromator allowing energies between 6.5 and 22 keV. This poster will showcase the recent changes to station 11.3.1 as well as the future plans for upgrades.

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