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FLASH HALL (28c) - Seminar Room

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Femtosecond Protein Nanocrystallography

It has recently been demonstrated that crystallographically useful Bragg intensities can be measured when protein nanocrystals, delivered serially by a liquid jet in a "diffract and destroy" methodology, are illuminated by the X-ray beam of the Linac Coherent Light Source (LCLS). The very short duration of the pulses, combined with their phenomenal intensity, leads to new avenues for the circumvention of the specimen damage issues which plague conventional protein crystallography. This talk will describe the procedures for acquisition of many thousands of diffraction patterns in this way, the methods which have been developed to process the large amounts of data which result, and the many possibilities for further development of the technique.