Poster

The SPB/SFX instrument at the European XFEL - capabilities and scientific use cases for room temperature dynamics.

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The Single Particle, Clusters and Biomolecules & Serial Femtosecond Crystallography (SPB/SFX) instrument [1] of the European X- Ray Free-Electron Laser (EuXFEL) is focused on time resolved research using diffraction and scattering methods with an emphasis towards life science. This instrument addresses the needs of the research communitiy for crystallography (SFX), single particle imaging communities (SPI) and as well as other forward-scattering, diffraction and coherent imaging techniques such as small angle scattering in solution (BioSAXS), fluctuation scattering (FXS) and other modalities including MHz microscopy. This talk will describe the major science cases for research in at the SPB/SFX instrument as well as the standard instrument setups, sample delivery and characterisation capabilities, and data analysis approaches (for large data sets) used to undertake successful experiments. Examples of recent results include time resolved SFX, single particle imaging and other diffraction and scattering methods enabling investigation of ultrafast dynamics of systems at room temperature.
More details can be found at the instrument website: https://www.xfel.eu/facility/instruments/spb_sfx/index_eng.hml

[1] Mancuso, A. P., *et al*. J. Synchrotron Rad. **26**, 660-676 (2019).