

3rd Workshop on the Simultaneous Combination of Spectroscopies with X-ray Absorption, Scattering and Diffraction Techniques



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Time-resolved Powder Diffraction at the SLS Materials Science beamline

Thursday, 5 July 2012 10:30 (1h 30m)

The Materials Science beamline - Powder station of the Swiss Light Source synchrotron is equipped with a state-of-the-art Mythen II detector, designed for simultaneous acquisition of up to 2X30720 channels covering 120 deg with 0.0037 deg resolution with double-layer sensors for higher efficiency at high energies; a second detector placed at up to 5 m from the sample allows the simultaneous acquisition of SAXS patterns. The U14 undulator source, together with advanced optics, guarantees a thin, brilliant, monochromatic X-ray beam, continuously tunable in the range 5 to 40 keV. This setup is able to record patterns in real time with sub-millisecond acquisition time and < 0.1 ms lag time and with good signal strength. Therefore it offers an ideal setup for in-situ powder diffraction studies of irreversible transitions and phenomena happening on the few-millisecond scale. The detectors accept gating, so strobing methods can be employed for reversible phenomena.

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