SATELLITE WORKSHOP - Photon Science



High Energy X-ray Diffraction for Physics and Chemistry

Wednesday, 24 January 2024

High energy X-ray diffraction and scattering based techniques play a major role in many scientific fields incl. physics, chemistry, and materials science. In particular, they enable complex in situ and operando experiments and the analysis of local (dis)order on atomic scale. We are going to present and discuss the current and future capabilities available at the high-energy scattering and diffraction beamlines P07-DESY and P21.1 based primarily on the techniques of total scattering, single-crystal diffraction, surface diffraction and x-ray diffraction computed tomography. Reports on key experiments will demonstrate the wide spectrum of scientific applications. This workshop aims at bringing together experienced users, interested researchers, and beamline staff.

Organizers: Ann-Christin Dippel, Martin v. Zimmermann

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PROGRAM			
9:30	Introduction	Martin v. Zimmermann	DESY
9:45	Status and new developments at the high energy X-ray diffraction station P07-DESY	Ann-Christin Dippel`	DESY
10:15	Status and Developments at the High Energy X-Ray Diffraction for Physics and Chemistry beamline P21.1	Fernando Igoa Saldaña	DESY
10:45	Thermal Diffuse Scattering (TDS) of Small Crystals – TDS Experiments Using High Energy X-Rays at Beamline P21.1	Katharina Köhler	Goethe University Frankfurt
11:15	Lunch break (light lunch at seminar room)		
11:15 11:45	Lunch break (light lunch at seminar room) 'Operando XRD-CT study of the MoO ₃ /Al ₂ O ₃ catalyst	Kamila Iskhakova	Karlsruhe Institute of Technology
11:15 11:45 12:15	Lunch break (light lunch at seminar room) 'Operando XRD-CT study of the MoO ₃ /Al ₂ O ₃ catalyst Observing chemical reactions at the liquid-solid interface using time-resolved grazing incidence-PDF: the case of the anodization of aluminum surfaces.	Kamila Iskhakova Nicolas Magnard	Karlsruhe Institute of Technology Leiden University
11:15 11:45 12:15 12:45	Lunch break (light lunch at seminar room) 'Operando XRD-CT study of the MoO ₃ /Al ₂ O ₃ catalyst Observing chemical reactions at the liquid-solid interface using time-resolved grazing incidence-PDF: the case of the anodization of aluminum surfaces. Direct synthesis of CuPd icosahedra supercrystals studied by in-situ high-energy X-ray scattering	Kamila Iskhakova Nicolas Magnard Davide Derelli	Karlsruhe Institute of Technology Leiden University University of Hamburg