

X-ray Raman and other non-resonant Inelastic X-ray Scattering at XFELs

January 23rd, 2023

Location: Building 15, CSSB Auditorium (**DESY, Notkestraße 85, 22607 Hamburg**)

Hybrid Meeting (in-person & Zoom)

Non-resonant Inelastic X-ray scattering is a powerful, photon-hungry technique that has been used at 3rd- and 4th-generation storage rings to probe low-energy excitations in the condensed phase and access light element absorption edges (X-ray Raman) using hard X-rays. These methods have provided new opportunities for in situ and in operando measurements of functional materials, which has proven attractive to a very diverse range of research fields. This satellite meeting will explore the current capabilities at synchrotron sources, along with an overview of the different fields of science being investigated using these methods. The current status and capabilities of hard X-ray spectrometers at the EuXFEL instruments will be presented along with similar projects at other XFELs to better understand the state of the art in the field.

Organiser: Frederico Lima
Simo Huotari (*U. Helsinki*)

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Date			
09:00-09:10	Welcome	Chris Milne	European XFEL
09:10-09:30	Plasmons, Ion-Acoustic waves and bound-free scattering from plasmas - IXS capabilities at HED	Ulf Zastra	European XFEL
09:30-09:50	Hard X-ray Spectroscopy at the FXE Instrument at the European XFEL	Fred Lima	European XFEL
09:50-10:20	<i>t.b.a.</i>	Majed Chergui	EPFL, Switzerland
10:20-10:40	<i>Coffee break</i>	—	
10:40-11:10	<i>t.b.a.</i>	Simo Huotari	U. Helsinki, Finland
11:10-11:40	Recent Upgrades to the GALAXIES Inelastic X-Ray Scattering End-Station: Focus on X-Ray Raman Spectroscopy	James Ablett	SOLEIL, France
11:40-12:10	Inelastic X-ray scattering using the von Hámos approach	C. Sternemann	U. Dortmund, Germany
12:10-12:30	Discussion	—	
12:30-14:00	<i>Lunch</i>	—	
14:00-14:30	Scientific opportunities with inelastic X-ray scattering at LCLS-II-HE	Hasan Yavas	LCLS, USA
14:30-15:00	Beyond-dipole transitions: powerful tool for x-ray spectroscopies	Andrea Severing	University of Cologne
15:00-15:30	Orbital imaging using non-resonant inelastic scattering	Hao Tjeng	MPI-CPfS
15:30-15:45	Preliminary XRS results on liquid samples	W. Gawelda	UAM, Spain
15:45-16:00	<i>Coffee break</i>	—	
16:00-17:00	Round table discussion for users and the instrument	—	