

## **REXS2022**

RESONANT ELASTIC X-RAY SCATTERING

## Detailed program

Tuesday 28 <sup>th</sup> of June		
School room 101 - 1 <sup>st</sup> floor of corridor 32-42		
09:00 - 09:40	Steve Collins Introduction to Resonant Elastic X-ray Scattering	
09:40 - 10:20	Yves Joly X-ray Matter Interaction for REXS	
10:20 - 10:50	Break	
10:50 - 11:30	Christophe Lefèvre Contrast methods using REXS	
11:30 - 12:10	Guillaume Beutier & Emmanuelle Jal X-ray Resonant Magnetic Scattering	
12:10 - 12:50	Claudio Mazzoli Evolution, applications and opportunities	
REXS 2022 – Amphitheatre 25		
12:00 - 13:55	Welcome and Lunch	
13:55 – 14:00	Intro	
	Chair: Emmanuelle JAL	
14:00 - 14:35	Stefan Eisebitt REXS accessing magnetization dynamics: Following the birth of topological structures and some surprises when looking into the depth	
14:35 - 15:00	Samuel Flewett, Numerical Treatment of Resonant Elastic X-Ray Scattering – Towards the Understanding of Complex Magnetic Structures	
15:00 - 15:25	Alessandro Bombardi A New Webtool to Simulate Magnetic Scattering	
15:25 - 15:50	Maurizio De Santis In situ resonant x-ray scattering at the French "CRG-IF" beamline at ESRF	
15:50 - 16:20	Break	
	Chair: Stefan EISEBITT	
16:20 – 16:55	Sandra Skjærvø (v) Recurring dynamics of magnetic texture in an artificial square ice close to AFM transition	
16:55 – 17:20	Ryusuke Misawa Magnetic quadrupole order in chiral antiferromagnet probed by circularly-po- larized resonant x-ray	
17:20 - 17:45	Armin Hoell Anomalous Small-Angle X-Ray Scattering: Basic Aspects and Structure Analysis of Bimetallic Nanoparticles	



## Wednesday 29th of June

Oral presentation– Amphiteatre 25		
Chair: Maurizio SACCHI		
09:00 - 09:35	Hiroki Ueda Conical spin order with chiral quadrupole helix in CsCuCl3	
09:35 - 10:00	Xinchao Huang Controlling core-hole state through an X-ray cavity	
10:00 - 10:35	Valerio Scagnoli X-ray three-dimensional magnetic imaging, the future is brilliant!	
10:35 - 11:05	Break	
Chair: Thorsten HESJEDAL		
11:05 – 11:30	Gloria Subias-Peruga Complementary Neutron and Resonant Magnetic X-ray Scattering Study to Reveal the Magnetic Ground State of $La_{1.5}Ca_{0.5}CoO_{4\pm\delta}$	
11:30 - 12:05	Yvonne Soldo In Situ Surface Resonant X-Ray Diffraction Coupled With Ab Initio Calculations: A New Method To Unravel The Charge Distribution At The Electrochemical Interface	
12:05 – 12:30	Yvonne Grunder In-situ surface resonant x-ray diffraction elucidating the charge Reorganization at the Adsorbate Covered Electrode Surface	
12:30 - 14:00	Lunch	
	Visit to SOLEIL	
14:00 - 14:35	Transfert to SOLEIL	
14:35 – 16:00	Visit of the Beamlines	
16:00 - 16:30	Break	
16:30 – 18:00	<ul> <li>Tutorials</li> <li>FDMNES by Yves Joly</li> <li>DYNA by Stéphane Grenier &amp; Emmanuelle Jal</li> <li>MagStREXS by Pablo Bereciarta</li> </ul>	
18:30	Dinner at SOLEIL	



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RESONANT ELASTIC X-RAY SCATTERING

Thursday 30 <sup>th</sup> of June - Oral presentation– Amphiteatre 25		
	Chair: Nicolas JAOUEN	
09:00 - 09:35	Thorsten Hesjedal 3D skyrmions in In-Plane Fields	
09:35 - 10:00	Boris Vodungbo Laser-induced ultrafast demagnetization and perpendicular magnetic anisotropy reduc- tion in a Co88Tb12 thin film with stripe domains	
10:00 - 10:35	Felix Büttner <i>Time-Resolved Coherent X-Ray Imaging: Resolving Emergent Dynamics at the Nanometer</i> <i>Scale</i>	
10:35 - 11:05	Break	
	Chair: Valerio SCAGNOLI	
11:05 - 11:30	Mahesh Ramakrishnan Observation of Magnetoelectric Octupoles in h-YMnO\$_3\$ by Resonant Soft X-ray Diffraction	
11:30 - 12:05	Jochen Geck Resonant reflectivity studies of the LaAlO3/SrTiO3 interface	
12:05 - 12:30	Paul Steadman Measuring Hysteresis With Soft X-ray Scattering: A Word Of Caution	
12:30 - 14:00	Lunch	
	Chair: Guillaume BEUTIER	
14:00 - 14:35	Matteo Pancaldi Light and Magnetic Vortices: The Experimental Evidence of Magnetic Helicoidal Dichroism	
14:35 - 15:00	Daniel Schick Laser-driven resonant magnetic scattering in the soft-X-ray range	
15:00 - 15:25	Marein Rahn Topology, Colossal Magnetoresistance, and Complex Magnetic Domains in Eu5In2Sb6	
15:25 - 15:50	Emmanuelle Jal Unravelling the Transient Depth Magnetic Profile of an Iron Thin Film thanks to X-ray Resonant Magnetic Reflectivity	
15:50 - 16:20	Break	
	Chair: Felix BÜTTNER	
16:20 - 16:55	Margaret McCarter (v) Structural Chirality of Polar Skyrmions and Vortices Probed by Resonant Elastic X-ray Scattering	
16:55 – 17:20	Cyril Léveillé Synthetic Antiferromagnet Materials Studied by Soft X–ray Magnetic Resonant Scattering	
17:20 – 17:55	Alexei Maznev Transient Gratings Or Impulsive Stimulated Scattering Spectroscopy: From Acoustics and Thermal Transport To Dynamics Of Nanoscale Magnetization Patterns	
19:30 - 23:00	Cruises Social dinner	

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Friday 1 <sup>st</sup> of July		
Oral presentation– Amphiteatre 25		
Chair: Yves JOLY		
09:00 - 09:35	Matteo Mitrano Probing the Finite-Momentum Spectrum of a Light-Induced Superconductor	
09:35 - 10:00	Xiaocui Wang Ultrafast manipulation of the NiO antiferromagnetic order via sub-gap opti- cal excitation	
10:00 - 10:35	Yingying Peng Observation of charge order beyond superconducting regions of cuprates and orbital order in 1T-TiSe2	
10:35 - 11:05	Break	
Chair: Matteo PANCALDI		
11:05 - 11:30	Didier Wermeille XMaS Reborn	
11:30 - 12:05	Jennifer Sears Resonant X-ray Measurements of Magnetism in RuCl3	
12:05 - 12:30	Guillaume Beutier Coherent diffraction imaging at space-group forbidden resonant reflections	
12:30 - 14:00	Conclusions and Lunch	