



STREAMLINE

EBS workshop on Quantum Materials

ESRF, Grenoble, France

ESRF auditorium



PROGRAMME

Wednesday 5th October 2022

08:15 - 09:15	Registration in the ESRF Central Building entrance hall and welcome coffee	
09:15 - 09:30	Welcome and introduction by N. Brookes	
09:30 - 10:30	Session 1 Chair: N. Brookes	
09:30 - 10:05	The Use of Synchrotron Radiation to reveal Some Quantum Properties in Hydrogen under Pressure: Past, Present and Future	P. Loubeyre , CEA Bruyères-le-Chatel, France
10:05 - 10:30	Magnetic Imaging at High Pressure inside Diamond Anvil Cells using Ensembles of Nitrogen-Vacancy Centers	L. Toraille , CEA Bruyères-le-Chatel, France
10:30 - 11:00	Coffee break	
11:00 - 12:30	Session 2 Chair: P. Loubeyre	
11:00 - 11:35	Quantum materials in and beyond equilibrium	C. Rüegg , PSI Villigen, Switzerland
11:35 - 12:00	Quantum Simulation of Spin-charge Separation by Inelastic Scattering Experiments	B. Wehinger , ESRF Grenoble, France
12:00 - 12:25	Bose-Einstein Condensate of Dirac Magnons	J. Schaltegger , Yale University New Haven, USA
12:30 - 14:00	Lunch at the EPN campus restaurant	
14:00 - 15:25	Session 3 Chair: P. Bruno	
14:00 - 14:35	Do Quantum Worms order into a Crystal? Quantum Spin Ice in a [100] Magnetic Field	O. Sikora , Cracow University of Technology, Poland
14:35 - 15:00	Investigation of New $S_{\text{eff}} = \frac{1}{2}$ Pyrochlore Antiferromagnets: Structural and Magnetic Properties of NaCdM_2F_7 ($M = \text{Cu}^{2+}, \text{Co}^{2+}$)	A. Kancko , Charles University Prague, Czech Republic
15:00 - 15:25	Ab Initio Study of Random Hexagonal Close-Packed Phase in Platinum - Workshop on Quantum Materials	L. Burakovsky , Los Alamos National Laboratory, USA
15:30 - 16:00	Coffee break	
16:00 - 17:00	Session 4 Chair: O. Sikora	
16:00 - 16:35	Narrow Bands and Dissipation in Quantum Materials	F.M. Grosche , Cavendish Laboratory Cambridge, UK
16:35 - 17:00	Singularity and Magnetism Engineering – the role of structure-property relationships in controlling quantum materials	A.W. Rost , Laboratory University of St Andrews, UK
17:30 - 19:00	Poster session with drinks followed by dinner at the EPN campus restaurant	

Thursday 6th October 2022

09:00 - 10:25	Session 5 <i>Chair: G. Garbarino</i>	
09:00 - 09:35	Materials Science and Crystallography: from the Gigapascal to the Terapascal	D. Laniel , <i>University of Edinburgh, UK</i>
09:35 - 10:00	Imaging Dilute Antiferromagnetic Spin Textures in a Single Shot Geometry using Resonant Coherent X-ray Diffraction	R. Basak , <i>University of California San Diego, USA</i>
10:00 - 10:25	5f Electron Occupancy and Hybridization in the UTe₂ Superconductor from XANES and XMCD Studies	F. Wilhelm , <i>ESRF Grenoble, France</i>
10:30 - 11:00	Coffee break	
11:00 - 12:15	Session 6 <i>Chair: N. Brookes</i>	
11:00 - 11:25	Proximity Induced Novel Cu-CDW and Cu-magnons in Epitaxial YBa₂Cu₃O₇/ Nd_{1-x}(Ca_{1-y}Sr_y)_xMnO₃ Interface	S. Sarkar , <i>University of Fribourg, Switzerland</i>
11:25 - 11:50	Undamped Spin Waves in the Intermetallic Antiferromagnet CeCo₂P₂	G. Poelchen , <i>ESRF Grenoble, France</i>
11:50 - 12:15	Extreme Conditions Studies at the EBS-ESRF	G. Garbarino , <i>ESRF Grenoble, France</i>
12:30 - 14:00	Lunch at the EPN campus restaurant	
14:00 - 15:30	Beamline Visits (ID12, ID27, ID28, ID32)	
15:30 - 16:00	Coffee break	
16:00 - 17:30	Session 7 <i>Chairs: N. Brookes and M. Mezouar</i>	
16:00 - 16:45	Summary on Novel Experimental Capabilities	M. Mezouar, A. Rogalev and T. Schulli , <i>ESRF Grenoble, France</i>
16:45 - 17:30	Discussion on Future Experiments and Development of Novel Capabilities	
20:00 - 22:30	Workshop dinner at the Restaurant Pèr'Gras, La Tronche	

Friday 7th October 2022

09:00 - 10:25	Session 8 <i>Chair: B. Wehinger</i>	
09:00 - 09:35	Interacting Electrons in Layered Materials - shall we go to Extremes?!	J. Geck , <i>TU Dresden, Germany</i>
09:35 - 10:00	Uncovering the S = 1/2 Kagome Ferromagnet within a Family of Metal-organic Frameworks	S. Ivko , <i>University of Birmingham, UK</i>
10:00 - 10:25	Resolving Emergent Structure States in 2D Systems by High-energy X-ray Diffraction	V. Petkov , <i>Central Michigan University, USA</i>

10:30 - 11:00	Coffee break	
11:00 - 12:15	Session 9 Chair: C. Sahle	
11:00 - 11:25	Uniaxial Pressure Tuning of Charge-stripe Order in La-based Cuprates	Q. Wang , <i>Universität Zurich, Switzerland</i>
11:25 - 11:50	Charge and Spin Excitations in Infinite-layer Superconducting Nickelates	L. Martinelli , <i>Politecnico di Milano, Italy</i>
11:50 - 12:15	Closing remarks by J. Geck	
12:15 - 14:00	Lunch at the EPN campus restaurant	