

Institute of Spintronics and Quantum Information

Faculty of Physics

Adam Mickiewicz University, Poznań

Symposium on Spintronics and Quantum Information

2024

PROGRAMME

The Będlewo Palace

Research and Conference Centre of the Polish Academy of Sciences

January 11-13, 2024

THURSDAY, JANUARY 11	
Time	Event
12:00 – 14:15	REGISTRATION & RECEPTION
14:15 – 14:30	OPENING
	SCIENTIFIC SESSION 1 Chair: Maciej Maška
14:30 – 15:05	Invited: <i>Quantum simulation of non-standard Hubbard models</i> Tobias Grass
15:05 – 15:25	<i>Excitation of high-frequency short-wavelength spin waves</i> Maciej Krawczyk
15:25 – 15:45	<i>Hinge states of second-order topological insulators as a Mach-Zehnder interferometer</i> Nicholas Sedlmayr
15:45 – 16:00	<i>Short quantum spin chains in quantum information processing</i> Ryszard Stagraczyński
16:00 – 16:15	<i>Softening of spin waves in thin magnetic films with perpendicular magnetic anisotropy</i> Paweł Gruszecki
16:15 – 16:30	<i>Pure dephasing of light-matter systems in the ultrastrong and deep-strong coupling regimes</i> Shilan Abo
16:30 – 17:00	Coffee break
	SCIENTIFIC SESSION 2 Chair: Adam Sajna
17:00 – 17:35	Invited: <i>Sensitivity versus selectivity in entanglement detection via collective witnesses</i> Vojtěch Trávníček
17:35 – 17:55	<i>Exposing Hypersensitivity in Quantum Chaotic Dynamics</i> Paweł Kurzyński
17:55 – 18:10	<i>Quantum-coherent manipulation and detection of individual atomic spins with the use of spin-polarized STM</i> Piotr Busz
18:10 – 18:25	<i>Quantum Walk with Stochastic Reset</i> Jan Wójcik
18:25 – 18:40	<i>Having fun with simulations: On numerical modelling of charge population decay in perovskite solar cells</i> Krzysztof Szulc
19:00 – 23.00	Conference banquet

FRIDAY, JANUARY 12

Time	Event
8:00 – 9:00	<i>Breakfast</i>
	SCIENTIFIC SESSION 3 Chair: Vojtěch Trávníček
9:00 – 9:35	Invited: <i>Large velocity approximation to the digitized-counterdiabatic protocol in spin systems</i> Adam Sajna
9:35 – 9:55	<i>Non-linear subdiffusion defeats ordinary diffusion in shortening the mean time of reaching a target by harmonically trapped particle</i> Przemysław Chełmiński
9:55 – 10:15	<i>Spin dynamics in magnetic nanojunctions – hybrid quantum-classical approach</i> Martin Žonda
10:15 – 10:30	<i>Underscreened Kondo cloud in an s-wave superconductor</i> Anand Manaparambil
10:30 – 10:45	<i>Spin wave localization induced by superconducting strip</i> Julia Kharlan
10:45 – 11:00	<i>Signatures of Kondo-Majorana interplay in ac response</i> Krzysztof Wójcik
11:00 – 11:30	<i>Coffee break</i>
	SCIENTIFIC SESSION 4 Chair: Tobias Grass
11:30 – 12:05	Invited: <i>Ultrafast X-ray induced magnetization dynamics in Co and Ni</i> Victor Tkachenko
12:05 – 12:25	<i>Imaginary time dynamics impact on strongly correlated boson systems</i> Tomasz Polak
12:25 – 12:40	<i>Defect-induced changes in the propagation of spin waves in ferromagnetic waveguide</i> Katarzyna Kotus-Kozyra
12:40 – 12:55	<i>Experimental hierarchy of the nonclassicality of single-qubit states via potentials of entanglement, steering, and Bell nonlocality</i> Josef Kadlec
12:55 – 13:15	<i>Spin cross-correlation measurements of entangled electrons in quantum dot Cooper pair splitters</i> Jan Martinek
13:15 – 13:20	<i>Conference photo</i>
13:20 – 14:30	<i>Lunch</i>
	SCIENTIFIC SESSION 5 Chair: Tadeusz Domański
14:30 – 15:05	Invited: <i>Theoretical approaches to correlated quantum dots coupled to superconducting leads</i> Tomáš Novotný

Time	Event
15:05 – 15:25	<i>Blockades in optical and opto-mechanical systems</i> Anna Kowalewska-Kudłaszyk
15:25 – 15:45	<i>Proximity Induced Electron Transfer in Hybrid Molecular Magnets</i> Piotr Kozłowski
15:45 – 16:00	<i>Multimodal waveguide for spin waves based on a magnonic Bragg mirrors</i> Grzegorz Centała
16:00 – 16:15	<i>Multi-terminal interacting-quantum-dot-based devices</i> Peter Zalom
16:15 – 16:30	<i>Spin-Wave Beam Inelastic Scattering On Localized Modes For Spin-Wave Beam Frequency And Trajectory Control</i> Krzysztof Sobucki
16:30 – 17:00	<i>Coffee break</i>
	SCIENTIFIC SESSION 6 Chair: Tomáš Novotný
17:00 – 17:35	Invited: <i>Josephson junctions: platform for exotic superconducting phases</i> Tadeusz Domański
17:35 – 17:55	<i>Edge and interface modes in 1D artificial crystals</i> Jarosław W. Kłos
17:55 – 18:10	<i>Low-energy model for superconducting impurity systems</i> Vladislav Pokorný
18:10 – 18:25	<i>Thermoelectric effects in a quantum dot attached to ferromagnetic metal and topological insulator</i> Piotr Trocha
18:25 – 18:40	<i>Enhancing Collective Entanglement Witnesses Through Correlation With State Purity</i> Katerina Jirakova
19:00 – 20:00	<i>Dinner</i>
20:00 – 23:00	POSTER SESSION

SATURDAY, JANUARY 13	
Time	Event
8:00 – 9:00	<i>Breakfast</i>
	SCIENTIFIC SESSION 7 Chair: Oleksandr Dobrovolskiy
9:00 – 9:35	Invited: <i>Topological superconductivity in one-, quasi-one- and two-dimensional spin structures</i> Maciej Maška
9:35 – 9:55	<i>Nonlinear Conductivity and Vortex Dynamics in Superconductor MgB₂ Films</i> Clemens Schmid
9:55 – 10:15	<i>Breaking the equivalence between LEP and HEP in a semiclassical system</i> Grzegorz Chimczak
10:15 – 10:30	<i>Detection of parametrically pumped spin waves by Mie-enhanced Brillouin light scattering</i> Dominik Pavelka
10:30 – 10:45	<i>Efficient spin transport in commercial chemical vapor deposited graphene</i> Jaganandha Panda
10:45 – 11:00	<i>Unidirectional propagation of zero-momentum magnons in synthetic antiferromagnets</i> Jakub Holobrádek
11:00 – 11:30	<i>Coffee break</i>
	SCIENTIFIC SESSION 8 Chair: Victor Tkachenko
11:30 – 12:05	Invited: <i>Nonreciprocal Magnon Fluxonics</i> Oleksandr Dobrovolskiy
12:05 – 12:25	<i>Liouvillian exceptional points of non-Hermitian systems via quantum process tomography</i> Karol Bartkiewicz
12:25 – 12:40	<i>Zero-field spin-wave steering in corrugated waveguides</i> Jan Klíma
12:40 – 12:55	<i>Modelling of the micro-focused Brillouin light scattering signal and enhancement of the maximal detectable wave-vector</i> Ondrej Wojewoda
12:55 – 13:15	<i>New directions in the search and design of selected materials for sustainable industrial development</i> Bogdan Idzikowski
13:15 – 13:30	SYMPOSIUM CLOSING
13:30 – 14:30	<i>Lunch</i>
since 14:30	TRANSFER TO POZNAŃ