

Atomic Physics Division Fachverband Atomphysik (A)

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Overview of Invited Talks and Sessions

(Lecture halls A-H1, A-H2, and A-H3; Poster P)

Invited Talks

A 2.1	Mon	14:00–14:30	A-H1	Attosecond pulse control with sub-cycle, infrared waveforms — •MIGUEL ANGEL SILVA-TOLEDO, YUDONG YANG, ROLAND E. MAINZ, GIULIO MARIA ROSSI, FABIAN SCHEIBA, PHILLIP D. KEATHLEY, GIOVANNI CIRMIR, FRANZ X. KÄRTNER
A 6.1	Tue	10:30–11:00	A-H1	Synthetic chiral light for control of achiral and chiral media — •NICOLA MAYER, DAVID AYUSO, MISHA IVANOV, OLGA SMIRNOVA
A 14.1	Wed	10:30–11:00	A-H1	Synchrotron radiation experiments with highly charged ions — •JOSE R. CRESPO LÓPEZ-URRUTIA, STEFFEN KÜHN, MOTO TOGAWA, MARC BOTZ, JONAS DANISCH, JOSCHKA GOES, RENÉ STEINBRÜGGE, SONJA BERNITT, CHINTAN SHAH, MAURICE A. LEUTENEGGER, MING FENG GU, MARIANNA SAFRONOVA, JAKOB STIERHOF, THOMAS PFEIFER, JÖRN WILMS
A 17.1	Wed	14:00–14:30	A-H1	Isomer depletion via nuclear excitation by electron capture with electron vortex beams — •YUANBIN WU, CHRISTOPH H. KEITEL, ADRIANA PÁLFFY
A 22.1	Thu	10:30–11:00	A-H1	Optimizing large atomic structure calculations with machine learning — •PAVLO BILOUS, ADRIANA PÁLFFY, FLORIAN MARQUARDT
A 23.1	Thu	10:30–11:00	A-H2	Chemistry of an impurity in a Bose-Einstein condensate — •ARTHUR CHRISTIANEN, IGNACIO CIRAC, RICHARD SCHMIDT
A 24.1	Thu	10:30–11:00	A-H3	Spectroscopy of a Highly Charged Ion Clock with Sub-Hz Uncertainty — •LUKAS J. SPIESS, STEVEN A. KING, PETER MICKE, ALEXANDER WILZEWSKI, TOBIAS LEOPOLD, ERIK BENKLER, NILS HUNTEMANN, RICHARD LANGE, ANDREY SURZHYKOV, ROBERT MÜLLER, LISA SCHMÖGER, MARIA SCHWARZ, JOSÉ R. CRESPO LÓPEZ-URRUTIA, PIET O. SCHMIDT
A 31.1	Fri	10:30–11:00	A-H1	Cavity-enhanced optical lattices for scaling neutral atom quantum technologies — •JAN TRAUTMANN, ANNIE J. PARK, VALENTIN KLÜSENER, DIMITRY YANKELEV, IMMANUEL BLOCH, SEBASTIAN BLATT
A 32.1	Fri	10:30–11:00	A-H2	High-resolution DR spectroscopy with slow cooled Be-like Pb⁷⁸⁺ ions in the CRYRING@ESR storage ring — •SEBASTIAN FUCHS, CARSTEN BRANDAU, ESTHER MENZ, MICHAEL LESTINSKY, ALEXANDER BOROVIK JR, YANNING ZHANG, ZORAN ANDELKOVIC, FRANK HERFURTH, CHRISTOPHOR KOZHUHAROV, CLAUDE KRANTZ, UWE SPILLMANN, MARKUS STECK, GLEB VOROBYEV, REGINA HESS, VOLKER HANNEN, DARIUSZ BANAŚ, MICHAEL FOGLE, STEPHAN FRITZSCHE, EVA LINDROTH, XINWEN MA, ALFRED MÜLLER, REINHOLD SCHUCH, ANDREY SURZHYKOV, MARTINO TRASSINELLI, THOMAS STÖHLKER, ZOLTÁN HARMAN, STEFAN SCHIPPERS

Invited talks of the joint symposium Laboratory Astrophysics (SYLA)

See SYLA for the full program of the symposium.

SYLA 1.1	Mon	14:00–14:30	Audimax	Probing chemistry inside giant planets with laboratory experiments — •DOMINIK KRAUS
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SYLA 1.2	Mon	14:30–15:00	Audimax	Inner-shell photoabsorption of atomic and molecular ions — ●STEFAN SCHIPPERS
SYLA 1.3	Mon	15:00–15:30	Audimax	Molecular Astrophysics at the Cryogenic Storage Ring — ●HOLGER KRECKEL
SYLA 1.4	Mon	15:30–16:00	Audimax	Observing small molecules in stellar giants - High spectral resolution infrared studies in the laboratory, on a mountain, and high up in the air — ●GUIDO W. FUCHS
SYLA 2.1	Mon	16:30–17:00	Audimax	State-to-State Rate Coefficients for NH₃-NH₃ Collisions obtained from Pump-Probe Chirped-Pulse Experiments — ●CHRISTIAN P. ENDRES, PAOLA CASELLI, STEPHAN SCHLEMMER
SYLA 2.4	Mon	17:30–18:00	Audimax	A multifaceted approach to investigate the reactivity of PAHs under electrical discharge conditions — ●DONATELLA LORU, AMANDA L. STEBER, JOHANNES M. M. THUNNISSEN, DANIEL B. RAP, ALEXANDER K. LEMMENS, ANOUK M. RIJS, MELANIE SCHNELL
SYLA 2.5	Mon	18:00–18:30	Audimax	Exploring the Femtosecond Dynamics of Polycyclic Aromatic Hydrocarbons Using XUV FEL Pulses — ●JASON LEE, DENIS TIKHONOV, BASTIAN MANSCHWETUS, MELANIE SCHNELL

Invited talks of the joint PhD symposium Solid-state Quantum Emitters Coupled to Optical Microcavities (SYPD)

See SYPD for the full program of the symposium.

SYPD 1.1	Mon	16:30–17:00	AKjDPG-H17	Fiber-based microcavities for efficient spin-photon interfaces — ●DAVID HUNGER
SYPD 1.2	Mon	17:00–17:30	AKjDPG-H17	A fast and bright source of coherent single-photons using a quantum dot in an open microcavity — ●RICHARD J. WARBURTON
SYPD 1.3	Mon	17:30–18:00	AKjDPG-H17	New host materials for individually addressed rare-earth ions — ●SEBASTIAN HORVATH, SALIM OURARI, LUKASZ DUSANOWSKI, CHRISTOPHER PHENICIE, ISAIAH GRAY, PAUL STEVENSON, NATHALIE DE LEON, JEFF THOMPSON
SYPD 1.4	Mon	18:00–18:30	AKjDPG-H17	A multi-node quantum network of remote solid-state qubits — ●RONALD HANSON

Invited talks of the joint symposium SAMOP Dissertation Prize 2022 (SYAD)

See SYAD for the full program of the symposium.

SYAD 1.1	Tue	14:00–14:30	Audimax	New insights into the Fermi-Hubbard model in and out-of equilibrium — ●ANNABELLE BOHRDT
SYAD 1.2	Tue	14:30–15:00	Audimax	Searches for New Physics with Yb⁺ Optical Clocks — ●RICHARD LANGE
SYAD 1.3	Tue	15:00–15:30	Audimax	Machine Learning Methodologies for Quantum Information — ●HENDRIK POULSEN NAUTRUP
SYAD 1.4	Tue	15:30–16:00	Audimax	Precision Mass Measurement of the Deuteron's Atomic Mass — ●SASCHA RAU

Invited talks of the joint symposium Rydberg Physics in Single-Atom Trap Arrays (SYRY)

See SYRY for the full program of the symposium.

SYRY 2.1	Wed	10:30–11:00	Audimax	Many-body physics with arrays of Rydberg atoms in resonant interaction — ●ANTOINE BROWAEYS
SYRY 2.2	Wed	11:00–11:30	Audimax	Optimization and sampling algorithms with Rydberg atom arrays — ●HANNES PICHLER
SYRY 2.3	Wed	11:30–12:00	Audimax	Slow dynamics due to constraints, classical and quantum — ●JUAN P. GARRAHAN
SYRY 3.3	Wed	14:30–15:00	Audimax	New frontiers in quantum simulation and computation with neutral atom arrays — ●GIULIA SEMEGHINI

SYRY 3.4	Wed	15:00–15:30	Audimax	New frontiers in atom arrays using alkaline-earth atoms — ●ADAM KAUFMAN
SYRY 3.5	Wed	15:30–16:00	Audimax	Spin squeezing with finite range spin-exchange interactions — ●ANA MARIA REY

Invited talks of the joint symposium Quantum Cooperativity of Light and Matter (SYQC)

See SYQC for the full program of the symposium.

SYQC 1.1	Thu	10:30–11:00	Audimax	Super- and subradiant states of an ensemble of cold atoms coupled to a nanophotonic waveguide — ●ARNO RAUSCHENBEUTEL
SYQC 1.6	Thu	12:00–12:30	Audimax	Cooperative Effects in Pigment-Protein Complexes: Vibronic Renormalisation of System Parameters in Complex Vibrational Environments — ●SUSANA F. HUELGA
SYQC 2.1	Thu	14:00–14:30	Audimax	Quantum simulation with coherent engineering of synthetic dimensions — ●PAOLA CAPPELLARO
SYQC 2.6	Thu	15:30–16:00	Audimax	Quantum Fractals — ●CRISTIANE MORAIS-SMITH

Sessions

A 1.1–1.2	Mon	11:00–13:00	AKjDPG-H18	Tutorial Strong Light-Matter Interaction with Ultrashort Laser Pulses (joint session AKjDPG/A)
A 2.1–2.4	Mon	14:00–15:15	A-H1	Interaction with strong or short laser pulses I
A 3.1–3.6	Mon	14:00–15:30	A-H2	Precision spectroscopy of atoms and ions I (joint session A/Q)
A 4.1–4.9	Mon	14:00–16:15	MO-H5	X-ray FELs (joint session MO/A)
A 5	Mon	16:30–17:00	A-MV	Annual General Meeting
A 6.1–6.5	Tue	10:30–12:00	A-H1	Interaction with strong or short laser pulses II
A 7.1–7.7	Tue	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC I (joint session A/Q)
A 8.1–8.4	Tue	16:30–18:30	P	Atomic systems in external fields
A 9.1–9.5	Tue	16:30–18:30	P	Collisions, scattering and correlation phenomena
A 10.1–10.10	Tue	16:30–18:30	P	Interaction with strong or short laser pulses
A 11.1–11.4	Tue	16:30–18:30	P	Ultra-cold plasmas and Rydberg systems (joint session A/Q)
A 12.1–12.15	Tue	16:30–18:30	P	Ultracold Atoms and Plasmas (joint session Q/A)
A 13.1–13.15	Tue	16:30–18:30	P	Precision Measurements and Metrology I (joint session Q/A)
A 14.1–14.6	Wed	10:30–12:15	A-H1	Interaction with VUV and X-ray light
A 15.1–15.7	Wed	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC II (joint session A/Q)
A 16.1–16.7	Wed	10:30–12:30	Q-H11	Precision Measurements and Metrology IV (joint session Q/A)
A 17.1–17.5	Wed	14:00–15:30	A-H1	Collisions, scattering and correlation phenomena
A 18.1–18.6	Wed	14:00–15:30	Q-H11	Precision Measurements and Metrology V (joint session Q/A)
A 19.1–19.5	Wed	14:00–15:15	A-H2	Precision spectroscopy of atoms and ions II (joint session A/Q)
A 20.1–20.21	Wed	16:30–18:30	P	Precision spectroscopy of atoms and ions (joint session A/Q)
A 21.1–21.9	Wed	16:30–18:30	P	Highly charged ions and their applications
A 22.1–22.7	Thu	10:30–12:30	A-H1	Charged ions and their applications
A 23.1–23.6	Thu	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC III (joint session A/Q)
A 24.1–24.6	Thu	10:30–12:15	A-H3	Precision spectroscopy of atoms and ions III (joint session A/Q)
A 25.1–25.8	Thu	10:30–12:30	Q-H10	Ultracold Atoms and Molecules I (joint session Q/A)
A 26.1–26.7	Thu	14:00–15:45	A-H1	Ultra-cold plasmas and Rydberg systems (joint session A/Q)
A 27.1–27.5	Thu	14:00–15:30	Q-H10	Ultracold Atoms and Molecules II (joint session Q/A)
A 28.1–28.3	Thu	16:30–18:30	P	Interaction with VUV and X-ray light
A 29.1–29.22	Thu	16:30–18:30	P	Ultra-cold atoms, ions and BEC (joint session A/Q)

A 30.1–30.16	Thu	16:30–18:30	P	Precision Measurements and Metrology II (joint session Q/A)
A 31.1–31.6	Fri	10:30–12:15	A-H1	Ultra-cold atoms, ions and BEC IV (joint session A/Q)
A 32.1–32.5	Fri	10:30–12:00	A-H2	Precision spectroscopy of atoms and ions IV (joint session A/Q)
A 33.1–33.5	Fri	10:30–11:45	Q-H14	Rydberg Systems (joint session Q/A)

Annual General Meeting of the Atomic Physics Division

Monday 16:30–17:00 A-MV