

## Atomic Physics Division Fachverband Atomphysik (A)

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### Overview of Invited Talks and Sessions (Lecture halls H1; Poster P)

#### Invited Talks

A 1.1	Mon	10:45–11:15	H1	<b>Time-resolved X-ray Imaging of Anisotropic Nanoplasma Expansion</b> — ●CHRISTIAN PELTZ, CHRISTOPH BOSTEDT, MATHIAS KLING, THOMAS BRABEC, ECKART RUEHL, ARTEM RUDENKO, TAIS GORKHOVER, THOMAS FENNEL
A 1.2	Mon	11:15–11:45	H1	<b>Scattering of twisted x-rays from a crystal</b> — ●ANTON PESHKOV, STEPHAN FRITZSCHE, ANDREY SURZHYKOV
A 3.1	Tue	10:45–11:15	H1	<b>Probing electronic wavefunctions and chiral structure using all-optical attosecond interferometry</b> — ●MICHAEL KRÜGER, DORON AZOURY, OMER KNELLER, SHAKED ROZEN, BARRY D. BRUNER, ALEX CLERGERIE, BERNARD PONS, BAPTISTE FABRE, YANN MAIRESSE, OREN COHEN, OLGA SMIRNOVA, NIRIT DUDOVICH
A 3.2	Tue	11:15–11:45	H1	<b>Highly nonlinear ionization of atoms induced by intense HHG pulses</b> — BJÖRN SENFFTLER, MARTIN KRETSCHMAR, ANDREAS HOFFMANN, MARIO SAUPPE, JOHANNES TÜMLER, INGO WILL, TAMÁS NAGY, MARC J. J. VRACKING, DANIELA RUPP, ●BERND SCHÜTTE
A 3.3	Tue	11:45–12:15	H1	<b>Towards fast adaptive resonant x-ray optics</b> — MIRIAM GERHARZ, ●JÖRG EVERS
A 3.4	Tue	12:15–12:45	H1	<b>Control of complex Fano resonances by shaped laser pulses</b> — CAMILO GRANADOS, NICOLA MAYER, EVGENII IKONNIKOV, MISHA IVANOV, ●OLEG KORNILOV
A 4.1	Tue	14:00–14:30	H1	<b>Reducing their complexity and miniaturise BEC interferometers</b> — ●WALDEMAR HERR, HENDRIK HEINE, ALEXANDER KASSNER, CHRISTOPH KÜNZLER, MARC C. WURZ, ERNST M. RASEL
A 4.2	Tue	14:30–15:00	H1	<b>Dynamics of a mobile hole in a Hubbard antiferromagnet</b> — ●MARTIN LEBRAT, GEOFFREY JI, MUQING XU, LEV HALDAR KENDRICK, CHRISTIE S. CHIU, JUSTUS C. BRÜGGENJÜRGEN, DANIEL GREIF, ANNABELLE BOHRDT, FABIAN GRUSDITZ, EUGENE DEMLER, MARKUS GREINER
A 4.3	Tue	15:00–15:30	H1	<b>Interaction-induced lattices for bound states: Designing flat bands, quantized pumps and higher-order topological insulators for doublons</b> — ●GRAZIA SALERNO, GIANDOMENICO PALUMBO, NATHAN GOLDMAN, MARCO DI LIBERTO
A 14.1	Wed	10:45–11:15	H1	<b>Improving the scaling in many-electron quantum dynamics simulations</b> — ●MICHAEL BONITZ, NICLAS SCHLÜNZEN, JAN-PHILIP JOOST, IVA BREZINOVA
A 14.2	Wed	11:15–11:45	H1	<b>Imaging anisotropic dynamics in superfluid helium nanodroplets</b> — ●B. LANGBEHN, K. SANDER, Y. OVCHARENKO, C. PELTZ, A. CLARK, M. CORENO, R. CUCINI, A. DEMIDOVICH, M. DRABBELS, P. FINETTI, M. DI FRAIA, L. GIANNESSI, C. GRAZIOLI, D. IABLONSKYI, A. C. LAFORGE, T. NISHIYAMA, V. OLIVERÁLVAREZ DE LARA, P. PISERI, O. PLEKAN, K. UEDA, J. ZIMMERMANN, K. C. PRINCE, F. STIENKEMEIER, C. CALLEGARI, T. FENNEL, D. RUPP, T. MÖLLER
A 14.3	Wed	11:45–12:15	H1	<b>Fragmentation of HeH<sup>+</sup> in strong laser fields</b> — ●FLORIAN OPPERMANN, PHILIPP WUSTELT, SAURABH MHATRE, STEFANIE GRÄFE, GERHARD G. PAULUS, MANFRED LEIN

A 15.1	Wed	14:00–14:30	H1	<b>Laser spectroscopy of the heaviest actinides</b> — ●PREMADITYA CHHETRI, DIETER ACKERMANN, HARTMUT BACKE, MICHAEL BLOCK, BRADLEY CHEAL, CHRISTOPH EMANUEL DÜLLMANN, JULIA EVEN, RAFAEL FERRER, FRANCESCA GIACOPPO, STEFAN GÖTZ, FRITZ PETER HESSBERGER, MARK HUYSE, OLIVER KALEJA, JADAMBAA KHUYAGBAATAR, PETER KUNZ, MUSTAPHA LAATIAOUI, WERNER LAUTH, LOTTE LENS, ENRIQUE MINAYA RAMIREZ, ANDREW MISTRY, TOBIAS MURBÖCK, SEBASTIAN RAEDER, FABIAN SCHNIEDER, PIET VAN DUPPEN, THOMAS WALTHER, ALEXANDER YAKUSHEV
A 15.2	Wed	14:30–15:00	H1	<b>Status update of the muonic hydrogen ground-state hyperfine splitting experiment</b> — ●A. OUF, R. POHL ON BEHALF OF THE CREMA COLLABORATION
A 15.3	Wed	15:00–15:30	H1	<b>Coupled ions in a Penning trap for ultra-precise <math>g</math>-factor differences</b> — ●TIM SAILER, VINCENT DEBIERRE, ZOLTÁN HARMAN, FABIAN HEISSE, CHARLOTTE KÖNIG, JONATHAN MORGNER, BINGSHENG TU, ANDREY VOLOTKA, CHRISTOPH H. KEITEL, KLAUS BLAUM, SVEN STURM
A 15.4	Wed	15:30–16:00	H1	<b>Unraveling the mechanisms of single- and multiple-electron removal in energetic electron-ion collisions: from few-electron ions to extreme atomic systems.</b> — ●ALEXANDER BOROVIK JR
A 17.1	Thu	10:45–11:15	H1	<b>BECCAL - Quantum Gases on the ISS</b> — ●LISA WÖRNER, CHRISTIAN SCHUBERT, JENS GROSSE, CLAUS BRAXMAIER, ERNST RASEL, WOLFGANG SCHLEICH, THE BECCAL COLLABORATION
A 17.2	Thu	11:15–11:45	H1	<b>Ultracold polar <math>^{23}\text{Na}^{39}\text{K}</math> ground-state molecules</b> — ●KAI KONRAD VOGES, PHILIPP GERSEMA, MARA MEYER ZUM ALTEN BORGLOH, TORSTEN HARTMANN, TORBEN ALEXANDER SCHULZE, LEON KARPA, ALESSANDRO ZENESINI, SILKE OSPELKAUS
A 17.3	Thu	11:45–12:15	H1	<b>Anderson localization in a Rydberg composite</b> — ●MATTHEW EILES, ALEXANDER EISFELD, JAN-MICHAEL ROST

### Invited talks of the joint symposium Trends in atom interferometry (SYAI)

See SYAI for the full program of the symposium.

SYAI 1.1	Mon	14:00–14:30	Audimax	<b>Atom interferometry and its applications for gravity sensing</b> — ●FRANCK PEREIRA DOS SANTOS, LUC ABSIL, YANN BALLAND, SÉBASTIEN MERLET, MAXIME PESCHE, RAPHAËL PICCON, SUMIT SARKAR
SYAI 1.2	Mon	14:30–15:00	Audimax	<b>Atom interferometry for advanced geodesy and gravitational wave observation</b> — ●PHILIPPE BOUYER
SYAI 1.3	Mon	15:00–15:30	Audimax	<b>3D printing methods for portable quantum technologies</b> — ●LUCIA HACKERMÜLLER
SYAI 1.4	Mon	15:30–16:00	Audimax	<b>Fundamental physics with atom interferometry</b> — ●PAUL HAMILTON

### Invited talks of the joint symposium SAMOP Dissertation Prize 2021 (SYAD)

See SYAD for the full program of the symposium.

SYAD 1.1	Tue	10:45–11:15	Audimax	<b>Attosecond-fast electron dynamics in graphene and graphene-based interfaces</b> — ●CHRISTIAN HEIDE
SYAD 1.2	Tue	11:15–11:45	Audimax	<b>About the interference of many particles</b> — ●CHRISTOPH DITTEL
SYAD 1.3	Tue	11:45–12:15	Audimax	<b>Supersolid Arrays of Dipolar Quantum Droplets</b> — ●FABIAN BÖTTCHER
SYAD 1.4	Tue	12:15–12:45	Audimax	<b>Quantum Logic Spectroscopy of Highly Charged Ions</b> — ●PETER MICKE

### Invited talks of the joint symposium The state of the art in actinide research (SYAR)

See SYAR for the full program of the symposium.

SYAR 1.1	Wed	10:45–11:15	Audimax	<b>Application of Inorganic Mass Spectrometry in Nuclear Forensics</b> — ●KLAUS MAYER, MARIA WALLENUS, ZSOLT VARGA, MAGNUS HEDBERG, MICHAEL KRACHLER
SYAR 1.2	Wed	11:15–11:45	Audimax	<b>Actinide elements and fundamental nuclear structure studies</b> — ●IAIN MOORE

SYAR 1.3	Wed	11:45–12:15	Audimax	<b>Pushing the Limits: Detection of Long-Lived Actinides at VERA</b> — •KARIN HAIN, MICHAEL KERN, JIXIN QIAO, FRANCESCA QUINTO, AYA SAKAGUCHI, PETER STEIER, GABRIELE WALLNER, ANDREAS WIEDERIN, AKIHIKO YOKOYAMA, ROBIN GOLSER
SYAR 1.4	Wed	12:15–12:45	Audimax	<b>Use of the actinides in medical research</b> — •THOMAS ELIAS COCOLIOS

### Invited talks of the joint symposium Awards Symposium (SYAW)

See SYAW for the full program of the symposium.

SYAW 1.1	Wed	13:30–14:15	Audimax	<b>Frequency comb spectroscopy and interferometry</b> — •NATHALIE PICQUÉ
SYAW 1.2	Wed	14:15–15:00	Audimax	<b>Capitalizing on Schrödinger</b> — •WOLFGANG P. SCHLEICH
SYAW 1.3	Wed	15:00–15:45	Audimax	<b>Quantum information processing with macroscopic objects</b> — •EUGENE POLZIK

### Invited talks of the joint symposium Hot topics in cold molecules: From laser cooling to quantum resonances (SYCM)

See SYCM for the full program of the symposium.

SYCM 1.1	Fri	14:00–14:30	Audimax	<b>Collisions between laser-cooled molecules and atoms</b> — •MICHAEL TAR BUTT
SYCM 1.2	Fri	14:30–15:00	Audimax	<b>Trapped Laser-cooled Molecules for Quantum Simulation, Particle Physics, and Collisions</b> — •JOHN DOYLE
SYCM 1.3	Fri	15:00–15:30	Audimax	<b>Quantum-non-demolition state detection and spectroscopy of single cold molecular ions in traps</b> — •STEFAN WILLITSCH
SYCM 1.4	Fri	15:30–16:00	Audimax	<b>Quantum state tomography of Feshbach resonances in molecular ion collisions via electron-ion coincidence spectroscopy</b> — •EDVARDAS NAREVICIUS

### Sessions

A 1.1–1.2	Mon	10:45–11:45	H1	<b>Atomic clusters / Collisions, scattering, correlation</b>
A 2.1–2.21	Mon	16:30–18:30	P	<b>Precision spectroscopy of atoms and ions (joint session A/Q)</b>
A 3.1–3.4	Tue	10:45–12:45	H1	<b>Attosecond physics / Interaction with VUV and X-ray light</b>
A 4.1–4.3	Tue	14:00–15:30	H1	<b>Ultracold atoms, ions, and BEC I (joint session A/Q)</b>
A 5.1–5.10	Tue	16:30–18:30	P	<b>Atomic clusters (together with MO)</b>
A 6.1–6.4	Tue	16:30–18:30	P	<b>Atomic systems in external fields</b>
A 7.1–7.4	Tue	16:30–18:30	P	<b>Attosecond physics</b>
A 8.1–8.2	Tue	16:30–18:30	P	<b>Collisions, scattering, and correlation phenomena</b>
A 9.1–9.6	Tue	16:30–18:30	P	<b>Interaction with strong or short laser pulses</b>
A 10.1–10.4	Tue	16:30–18:30	P	<b>Interaction with VUV and X-ray light</b>
A 11.1–11.5	Tue	16:30–18:30	P	<b>Ultra-cold plasmas and Rydberg systems (joint session A/Q)</b>
A 12.1–12.5	Tue	16:30–18:30	P	<b>Highly charged ions and their applications</b>
A 13.1–13.17	Tue	16:30–18:30	P	<b>Quantum Gases and Matter Waves (joint session Q/A)</b>
A 14.1–14.3	Wed	10:45–12:15	H1	<b>Interaction with strong or short laser pulses</b>
A 15.1–15.4	Wed	14:00–16:00	H1	<b>Precision spectroscopy of atoms and ions / Highly charge ions (joint session A/Q)</b>
A 16.1–16.27	Wed	16:30–18:30	P	<b>Ultra-cold atoms, ions, and BEC (joint session A/Q)</b>
A 17.1–17.3	Thu	10:45–12:15	H1	<b>Ultracold atoms, ions, and BEC II / Ultracold plasmas and Rydberg systems (joint session A/Q)</b>
A 18	Thu	12:30–13:30	MVA	<b>Annual General Meeting</b>

### Annual General Meeting of the Atomic Physics Division

Thursday 12:30–13:30 MVA

- Bericht

- Wahl
- Verschiedenes