

Tuesday, 6th July 2021

08:45 – 9:00	OPENING SESSION
	Chair: Alice Sinatra, LKB, Paris, France
09:00- 09:40	Jean Dalibard Laboratoire Kastler Brossel, Collège de France, Paris, France Investigating two-body physics in a Bose gas: the spectroscopic way
09:40 - 10:05	Dmitry S. Petrov Université Paris-Saclay, CNRS, LPTMS, Orsay, France Higher-order effective interactions for bosons near a two-body zerocrossing
10:05 - 10:30	Henning Moritz Institut für Laser-Physik, Hamburg, Germany Superfluidity in strongly correlated 2D Fermi gases
10:30 - 10:45	COFFEE
	Chair: Francesco Saverio Cataliotti, Università degli Studi di Firenze, Firenze, Italy
10:45 - 11:25	Frédéric Merkt ETH Zurich, Switzerland Cold ion chemistry within the orbit of a highly excited Rydberg electron
11:25 - 11:50	Roland Wester Institute for Ion Physics and Applied Physics, University of Innsbruck, Innsbruck, Austria Controlled interactions of cold trapped negative ions
11:50 - 12:15	Gleb Gribakin School of Mathematics and Physics, Queen's University Belfast, United Kingdom Positron binding to molecules: effects of chemical composition and shape
12:15 - 12:40	Marcel Mudrich Aarhus University, Denmark Dynamics of excited helium nanodroplets: Ultrafast relaxation, ICD, ATI
12:40 - 14:30	LUNCH
	Chair: Thomas Udem, Max-Planck-Institut für Quantenoptik, Garching, Germany
14:30- 15:10	Bernd von Issendorff Physics Institute, University of Freiburg, Germany Matter at the nanoscale: study of the structure and dynamics of clusters

15:10 - 15:35	Lars von der Wense
	JILA, National Institute of Standards and Technology and University of Colorado, Boulder, CO, USA
	Prospects for constraining temporal variations of fundamental constants with a ^{229}Th -based nuclear frequency standard
15:35 - 15:45	COFFEE
15:45 - 16:45	SPONSOR PRESENTATIONS I
	Chair Neven Šantić, Institute of Physics, Zagreb, Croatia
15:45 – 15:55	Guillaume Szymczak
	Amplitude
15:55 – 16:05	Axel Wehling
	Coherent / ICS Solutions d.o.o.
16:05 – 16:15	Benjamin Sprenger
	Menlo Systems
16:15 – 16:25	Reinhard Ebel
	LRM d.o.o.
16:25 – 16:35	Gabriel Tempea
	few cycle
16:35 – 16:45	Bojan Resan
	TLD Photonics
16:45 - 17:00	COFFEE
17:00 - 19:30	POSTER SESSION I

ROOM 1 Quantum optics, quantum information and quantum simulation & Cold gases and quantum fluids

Chair Hrvoje Buljan, Faculty of Science, University of Zagreb, Zagreb, Croatia

17:00 – 17:10	101	Hong-Ou-Mandel Interference via quantum non-demolition gate between atoms and mechanics	A. D. Manukhova	Department of Optics, Palacký University, Czech Republic
17:10 – 17:20	102	A versatile quantum simulator for coupled oscillators using a 1D chain of atoms trapped near an optical nanofiber	D. Holzmann	Institute for Theoretical Physics, University of Innsbruck, Austria
17:20 – 17:30	106	Measurement-Induced Entanglement Transitions and the Quantum Zeno effect: non-Hermitian physics at play	A. Biella	Universit'e Paris-Saclay, CNRS, LPTMS, Orsay, France
17:30 – 17:40	119	The new mathematical model of photons	R. Veilande	Institute of Atomic Physics and Spectroscopy, University of Latvia, Riga, Latvia
17:40 – 17:50	133	Optimization of the quantum random walk search algorithm	H. Tonchev	Institute of Solid-State Physics, Bulgarian Academy of Science, Sofia, Bulgaria
17:50 – 18:00	135	Implementing Hamiltonians on a Rydberg Quantum Simulator	H. J. Williams	Universit'e Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry
18:00 – 18:10	140	Construction of strontium quantum gas microscope to study relaxation dynamics in 2D lattice gases	S. Shevate	Laboratoire Charles Fabry, Institut d'Optique Graduate School, CNRS, Universit'e Paris-Saclay, Palaiseau, France
18:10 -18:20	144	Qubit controlled by the magnetic dark soliton	S. Varbev	Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
18:20 – 18:30	146	Interactions and dynamic of two ultracold highly-magnetic atoms in a harmonic trap	M. Suchorowski	Faculty of Physics, University of Warsaw, Warsaw, Poland
18:30 – 18:40	155	Sequential phonon measurements of atomic motion	A. Ritboon	Department of Optics, Palacký University, Czech Republic
18:40 -18:50	281	Quantum Monte Carlo study of trapped Bose-Bose mixtures at zero and finite temperature	L. Vranješ Markić	Faculty of Science, University of Split, Croatia
18:50 -19:00	285	Phase diagram of matter-wave jets	T. Mežnaršič	Jožef Stefan Institute, Ljubljana, Slovenia
19:00 – 19:10	296	Loading and cooling in an optical trap via hyperfine dark states	H. Eneriz	LP2N, Laboratoire Photonique, Numérique et Nanosciences, Université Bordeaux-IOGS-CNRS:UMR 5298, Talence, France
19:10 -19:20	246	An atomic compass based on vector vortex beams	J. Wang	School of Physics and Astronomy, University of Glasgow, G12 8QQ, United Kingdom School of Physics, Xi'an Jiaotong University, Xi'an 710049, China

ROOM 2 - Cold gases and quantum fluids

	Chair Simon L. Cornish, Durham University			
17:00 – 17:10	262	Homonuclear ion-atom collisions: application to Li ⁺ -Li	A. Pandey	Université Paris-Saclay, CNRS, Laboratoire Aimé Cotton, Orsay, France
17:10 – 17:20	120	Toward unidimensional Bose gases with tunable interactions	A. Perrin	Laboratoire de Physique des Lasers, Institut Galilée, Université Sorbonne Paris Nord, Villetaneuse, France
17:20 – 17:30	121	Ultraprecise Rydberg atomic localization by standing waves and optical vortices	T. Kirova	Institute of Atomic Physics and Spectroscopy, University of Latvia, Riga, Latvia
17:30 – 17:40	129	Bloch oscillations in a synthetic dimension of harmonic trap states	C. Oliver	School of Physics and Astronomy, University of Birmingham, Edgbaston, Birmingham, UK
17:40 – 17:50	131	Dark-soliton-induced anomaly in the thermodynamic behavior of a one-dimensional Bose gas	G. De Rosi	Departament de Física, Universitat Politècnica de Catalunya, Campus Nord B4-B5, Barcelona, Spain
17:50 – 18:00	136	A versatile ring trap for quantum gases	L. Longchambon	Laboratoire de physique des lasers, Université Sorbonne Paris Nord, Villetaneuse, France LPL CNRS UMR 7538, Villetaneuse, France
18:00 – 18:10	138	Ultracold AIF molecules: theoretical insights for buffer-gas and evaporative cooling	G.S. Sangami	Faculty of Physics, University of Warsaw, Ludwika Pasteura, Warsaw, Poland
18:10 -18:20	139	Adiabatic spin-dependent momentum transfer in an SU(N) degenerate Fermi gas	M. Robert-de-Saint-Vincent	Laboratoire de Physique des Lasers, CNRS, UMR 7538, Université Sorbonne Paris Nord, Villetaneuse, France
18:20 – 18:30	141	Large spin-orbit coupling as a source of Feshbach resonances in ultracold ion-atom mixtures	A. Wojciechowska	Faculty of Physics, University of Warsaw, Warsaw, Poland
18:30 – 18:40	151	Supersonic Rotation of a Superfluid: A Long-Lived Dynamical Ring	T. Badr	Laboratoire de physique des lasers, Université Paris 13 Sorbonne Paris Cité, Villetaneuse, France LPL, CNRS UMR 7538, Villetaneuse, France
18:40 -18:50	193	Laser Cooling of Atoms using an Optical Frequency Comb	V. Vulić	Institute of Physics, Zagreb, Croatia
18:50 -19:00	163	Dynamical localization in non-ideal kicked rotors driven by two modulations	F. Revuelta	Grupo de Sistemas Complejos, ETSIAAB, Universidad Politécnica de Madrid, Spain
19:00 – 19:10	164	Two interacting polar linear molecules in an electric field	D. Mellado-Alcedo	Instituto Carlos I de Física Teórica y Computacional and Departamento de Física Atómica, Molecular y Nuclear, Universidad de Granada, Granada, Spain
19:10 – 19:20	168	An annular quantum gas induced by dimensional reduction	D. Rey	Université Sorbonne Paris Nord, Laboratoire de physique des lasers, CNRS UMR 7538, Villetaneuse, France

ROOM 3 - Frequency and time domain spectroscopy and metrology

	Chair Hendrick Bethlem, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands			
17:00 – 17:10	108	Spectroscopic study of the 31Pu state in Cs2 molecule by polarisation labelling laser technique	P. Kowalczyk	Faculty of Physics, University of Warsaw, Poland
17:10 – 17:20	115	Towards High-Precision Spectroscopy of the 1S–2S Transition in He+	F. Schmid	Max Planck Institute of Quantum Optics, Garching, Germany
17:20 – 17:30	122	Extended Spectroscopic Studies and Interatomic Potential Refinement of the c3S+ (Q=1) State in KCs	R. Ferber	Laser Center, Faculty of Physics, Mathematics and Optometry, University of Latvia, Riga, Latvia
17:30 – 17:40	263	Towards a high-precision measurement of the 3He and T nuclei atomic mass difference at LIONTRAP	O. Bezrodnova	Max-Planck-Institut für Kernphysik, Heidelberg, Germany
17:40 – 17:50	182	Selective Two–Photon Excitation of Rydberg Atomic State Hyperfine Components	A. Cinins	University of Latvia, Institute of Atomic Physics and Spectroscopy, Riga, Latvia
17:50 – 18:00	125	Zero-field magnetometer based on the combination of atomic orientation and alignment	G. Le Gal	CEA-Leti, Université Grenoble Alpes, Grenoble, France
18:00 – 18:10	137	Towards the first strontium optical atomic clock in Croatia	I. Puljić	Institute of Physics, Zagreb, Croatia
18:10 -18:20	160	Asymmetric electron angular distributions in stimulated Compton scattering from H2 irradiated with soft-X ray laser pulses	A. Sopena	Departamento de Química, Módulo 13, Universidad Autónoma de Madrid, Madrid, Spain Centre des Lasers Intenses et Applications, Université de Bordeaux-CNRS-CEA, Talence Cedex, France
18:20 – 18:30	166	Single-shot Stern-Gerlach magnetic gradiometer with an expanding cloud of cold cesium atoms	Katja Gosar	Jožef Stefan Institute, Ljubljana, Slovenia Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia
18:30 – 18:40	170	Development of a 3D single-port magnetometer based on magneto-optical resonances in an alkali vapor	L. Busaite	Laser Centre, University of Latvia, Riga, Latvia
18:40 -18:50	172	Towards Ramsey-comb spectroscopy of the 1S-2S transition in singly-ionized helium	A. Martínez de Velasco	LaserLab, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands
18:50 -19:00	173	Vector magnetometry using NV centers in diamond	R. Lazda	Laser Centre, University of Latvia, Riga, Latvia
19:00 – 19:10	179	Attosecond Spectroscopy of Small Organic Molecules: XUV pump-XUV probe Scheme in Glycine	J. Delgado	Instituto Madrileño de Estudios Avanzados en Nanociencia, 28049 Madrid, Spain
19:10 – 19:20	280	Prospect for Probing the Time Variation of Fundamental Constants with Molecular Iodine Optical Clocks	F. L. Constantin	Laboratoire PhLAM, CNRS UMR 8523, University of Lille, France
19:20 – 19:30	297	High-Quality Level-Crossing Resonances in a Cesium Vapor Cell for Applications in Atomic Magnetometry	D. V. Brazhnikov	Institute of Laser Physics SB RAS, 15B Lavrentyev Avenue, 630090 Novosibirsk, Russia Novosibirsk State University, 1 Pirogov Street, 630090 Novosibirsk, Russia

ROOM 4 - Applications to astrophysics, plasma physics, biophysics, clusters & Atom-like systems

Chair Sophie Kazamias, Université Paris Saclay, Paris, France				
17:00 – 17:10	103	Calculated Oscillator Strengths for Radiative Transitions of Cosmochronological Interest in Singly Ionized Thorium (Th II)	S. Gamrath	Physique Atomique et Astrophysique, Université de Mons, Belgium
17:10 – 17:20	107	Similarities of fragmentation of some amino acids under low-energy electron impact	J. Tamuliene	Vilnius University, Institute of Theoretical Physics and Astronomy, Vilnius, Lithuania
17:20 – 17:30	111	Large-scale atomic data calculations in Ce V–X ions for application to early kilonova emission from neutron star mergers	H. Carvajal Gallego	Physique Atomique et Astrophysique, Université de Mons, Mons, Belgium
17:30 – 17:40	153	KWISP - Latest results on the chameleon hunt at the CAST experiment at CERN	J. Baier	Institute of Physics, Freiburg, Germany
17:40 – 17:50	261	Biological samples used for imaging	H. Skenderović	Institute of Physics, Zagreb, Croatia
17:50 – 18:00	113	Planned Laboratory Studies of N ₂ reacting with H+3 Isotopologues	D. Schury	Columbia Astrophysics Laboratory, Columbia University, New York, USA
18:00 – 18:10	117	Plasma environment effects on K lines of astrophysical interest: universal formulae for ionization potential and K-threshold shifts	P. Palmeri	Physique Atomique et Astrophysique, Université de Mons - UMONS, Mons, Belgium
18:10 -18:20	127	Spectral investigation of tin ions in an electron beam ion trap and laser-produced plasmas in the EUV region	Z. Bouza	Advanced Research Center for Nanolithography, Science Park 106, Amsterdam, The Netherlands
18:20 – 18:30	130	Multiply-excited states and their contribution to opacity in laser-driven tin plasmas	J. Sheil	Advanced Research Center for Nanolithography, Amsterdam, The Netherlands
18:30 – 18:40	221	LIBS vs ICCD imaging for atmospheric plasma jet diagnostics	D. Maletić	Institute of Physics, Zagreb, Croatia Institute of Physics, University of Belgrade, Belgrade, Serbia
18:40 -18:50	105	Oscillator strengths in doubly- and trebly-ionized gold deduced from core-polarization-corrected pseudo-relativistic Hartree-Fock calculations	S. Gamrath	Physique Atomique et Astrophysique, Université de Mons, Belgium
18:50 -19:00	109	Direct Observation of a Feshbach-resonance by Coincidence-detection of Ions and Electrons in Penning Ionization Collisions	B. Margulis	Department of Chemical and Biological Physics, Weizmann Institute of Science, Rehovot, Israel
19:00 – 19:10	142	Shortcut to adiabaticity for a three-level quantum system near a metallic nanoparticle	N. Domenikou	Materials Science Department, School of Natural Sciences, University of Patras, Patras, Greece
19:10 – 19:20	145	On the formation of van derWaals molecules through direct three-body recombination	M. Mirahmadi	Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany

ROOM 5 - Atom-like systems & Fundamental physics

Chair Klavs Hansen, Tianjin University, China				
17:00 – 17:10	229	Photoelectron circular dichroism of fenchone using deep ultraviolet femtosecond laser pulses	N. Ladda	Institut für Physik, Universität Kassel, Kassel, Germany
17:10 – 17:20	234	Ultrafast photoionization of aligned excited states of neon	J. J. Omiste	Departamento de Química, Módulo 13, Facultad de Ciencias, Universidad Autónoma de Madrid, Madrid, Spain Departamento de Química Física, Universidad Complutense de Madrid, Spain
17:20 – 17:30	236	Comprehensive laboratory measurements resolving the LMM dielectronic recombination satellite lines in Ne-like Fe XVII ions	F. Grilo	NASA Goddard Space Flight Center, USA Max-Planck-Institut für Kernphysik, Heidelberg, Germany
17:30 – 17:40	237	Observation of metastable 1s2s 3S1 He-like oxygen decay in an electron beam ion trap	F. Grilo	Laboratory of Instrumentation, Biomedical Engineering and Radiation Physics (LIBPhys-UNL), Department of Physics, NOVA School of Science and Technology, NOVA University Lisbon, Caparica, Portugal
17:40 – 17:50	114	Alkali atom transition cancellations within magnetic field	A. Aleksanyan	Institute for Physical Research, NAS, 0203 Ashtarak, Armenia Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR CNRS 6303, UBFC, 21000 Dijon, France
17:50 – 18:00	116	Off-axis optical vortices using double-Raman singlet light-matter scheme	H. R. Hamed	Institute of Theoretical Physics and Astronomy, Vilnius University, Vilnius, Lithuania
18:00 – 18:10	118	Accurate theoretical study of the spectroscopic properties of diatomic molecules including 2nd row transition metals	A. Androutsopoulos	Laboratory of Physical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Zografou, Greece
18:10 -18:20	132	Prospects for refining fundamental constants by spectroscopy of deuterium molecular ion	P. Danev	Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Science, Sofia, Bulgaria
18:20 – 18:30	147	The simultaneous coupled-channel deperturbation treatment of the X2S+, A2P and B2S+ states in the CN radical: the first attempt	V. A. Terashkevich	Lomonosov Moscow State University Leninskie Gory 1/3, Moscow, Russia
18:30 – 18:40	149	A buffer gas cooled BaF beam for the NL-eEDM experiment	M. C. Mooij	Department of Physics and Astronomy, VU University Amsterdam, Amsterdam, The Netherlands Nikhef, National Institute for Subatomic Physics, Amsterdam, The Netherlands
18:40 -18:50	150	Resonances in arbitrarily oriented dipoles scattering in plane	E. A. Koval	Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia
18:50 -19:00	154	Fano interference in quantum resonances from angle-resolved elastic scattering	P. Paliwal	Department of Chemical and Biological Physics, Weizmann Institute of Science, Rehovot, Israel
19:00 – 19:10	157	High-Precision Spectroscopy of Single Molecular Hydrogen Ions in a Penning Trap at AlphasTrap	C. M. König	Max-Planck-Institute for Nuclear Physics, Heidelberg, Germany
19:10 – 19:20	169	How does antimatter fall ? : simulation of the GBAR experiment at CERN	O. Rousselle	Laboratoire Kastler Brossel, Sorbonne Université, ENS-PSL, Collège de France, CNRS, Paris, France