



Extended Program

of the

25th International Conference on Spectral Line Shapes

Extended Program

Sunday, 19 st June	
17:00–19:00	Welcome cocktail and registration at the Royal Hotel, Caserta

Monday, 20th June

9:00–9:20	Opening	
	Fundamental Tests and Measurements - Session chair: Livio Gianfrani	
9:20–10:00	IT	Wim Ubachs <i>Vrije Universiteit Amsterdam</i> <i>QED tests in hydrogen molecules</i>
10:00–10:20	CT	Marco Marangoni <i>Politecnico di Milano</i> <i>Coherent Raman Metrology of Molecular Hydrogen: application to the Q(1) 1-0 line</i>
10:20–10:50	Coffee break	
	Fundamental Tests and Measurements - Session chair: Claudio Cesar Lenz	
10:50–11:30	IT	Shui-Ming Hu <i>University of Science and Technology of China, Heifei</i> <i>Precise lineshape parameters from Doppler-free spectroscopy at low pressures</i>
11:30–11:50	CT	Daniel Lisak <i>Nicolaus Copernicus University in Toruń</i> <i>Doppler-free saturation spectroscopy of carbon monoxide with cavity mode dispersion technique</i>
11:50–12:10	CT	Pasquale Maddaloni <i>CNR - Istituto Nazionale di Ottica</i> <i>Lamb-dip ro-vibrational spectroscopy of buffer-gas-cooled acetylene</i>
12:10–12:30	CT	Michał Słowiński <i>Nicolaus Copernicus University in Toruń</i> <i>Confrontation of the molecular hydrogen spectra in the presence of noble gases with ab initio calculation.</i>
12:30–14:00	Lunch	
	Laboratory and Astrophysical Plasmas - Session chair: Franck Thibault	
14:00–14:40	IT	Eugene Oks <i>Auburn University</i> <i>Review of Recent Advances in the Analytical Theory of Stark Broadening of Spectral Lines in Plasmas: Applications to Laboratory Discharges and Astrophysical Objects</i>
14:40–15:00	CT	Evgeny Stambulchik <i>Weizmann Institute of Science, Rehovot</i> <i>Full Coulomb interaction in computer simulations of hydrogenic spectral line broadening by plasmas</i>
15:00–15:20	CT	Franciszek Sobczuk <i>Jagiellonian University, Kraków</i> <i>Determination of plasma polarization shift of HeII Paschen-α in laser-induced plasma</i>
15:20–15:40	CT	Motoshi Goto <i>National Institute for Fusion Science, Tokyo</i> <i>Better understanding of hydrogen pellet ablation cloud spectra through the occupation probability formalism in LHD</i>
15:40–16:10	Coffee break	
	Laboratory and Astrophysical Plasmas - Session chair: Eugene Oks	
16:10–16:50	IT	Joël Rosato <i>Aix-Marseille-Université</i> <i>Line shape modeling for the characterization of stellar atmospheres, magnetic fusion experiments, and corona discharges.</i>
16:50–17:10	CT	John Costello <i>Dublin City University</i> <i>Optical Spectroscopy of Self-Colliding Plasmas</i>
17:10–17:30	CT	Mohammed Koubiti <i>Aix-Marseille-Université</i> <i>Introducing machine-learning in spectroscopy for plasma diagnostics and predictions</i>

Tuesday, 21st June

Fundamental Tests and Measurements - Session chair: Wim Ubachs		
9:00–9:40	IT	<p style="text-align: center;">Eric Hessels York University, Toronto</p> <p style="text-align: right;"><i>Measurements of the fine-structure of $n=2$ hydrogen and helium using the FOSOF for determining the proton size and the fine-structure constant</i></p>
9:40–10:20	IT	<p style="text-align: center;">Claudio Cesar Lenz Universidade Federal do Rio de Janeiro</p> <p style="text-align: right;"><i>From trapped hydrogen to trapped antihydrogen spectroscopy</i></p>
10:20–10:50	Coffee break	
Fundamental Tests and Measurements - Session chair: Eric Hessels		
10:50–11:30	IT	<p style="text-align: center;">Andrea Vacchi Università di Udine</p> <p style="text-align: right;"><i>The FAMU experiment aiming to measure the ground state hyperfine splitting of muonic hydrogen</i></p>
11:30–11:50	CT	<p style="text-align: center;">Athanasios Laliotis Université Sorbonne Paris Nord</p> <p style="text-align: right;"><i>High resolution molecular spectroscopy in micrometric thin cells</i></p>
11:50–12:10	CT	<p style="text-align: center;">David Wilkowski Nanyang Technological University, Singapore</p> <p style="text-align: right;"><i>Response of atoms near a metasurface and FM-spectroscopy in medium with large optical depth</i></p>
12:10–12:30	CT	<p style="text-align: center;">Till Ockenfels Universität Bonn</p> <p style="text-align: right;"><i>Spectroscopy of High Pressure Rubidium-Helium Mixtures</i></p>
12:30–14:00	Lunch (and Meeting of the International Program Committee)	
Line Shape Theory and Experiments - Session chair: Oleg Polyansky		
14:00–14:40	IT	<p style="text-align: center;">Patrik Dupré Laboratoire Interdisciplinaire Carnot de Bourgogne, Dijon</p> <p style="text-align: right;"><i>Sub-Doppler Spectroscopy and Resonance Shape</i></p>
14:40–15:00	CT	<p style="text-align: center;">Wissam Fakhardji Laboratoire de Météorologie Dynamique/IPSL, CNRS, Palaiseau</p> <p style="text-align: right;"><i>Direct calculation of the CH_4+CO_2 far infrared collision-induced absorption</i></p>
15:00–15:20	CT	<p style="text-align: center;">Nikodem Stolarczyk Nicolaus Copernicus University in Toruń</p> <p style="text-align: right;"><i>Inhomogeneous broadening, narrowing and shift of molecular lines under frequent velocity-changing collisions</i></p>
15:20–15:40	CT	<p style="text-align: center;">Christian Parriger University of Tennessee Space Institute</p> <p style="text-align: right;"><i>Hydroxyl Line Shapes for Laser Ignition of Air</i></p>
15:40–16:10	Coffee break	
16:10–17:30	Poster session 1	

Wednesday, 22nd June

Innovative Methods - Session chair: Paolo De Natale		
9:00–9:40	IT	<p style="text-align: center;">Nathalie Picqué Max-Planck Institute of Quantum Optics</p> <p style="text-align: right;"><i>New frontiers in dual-comb spectroscopy</i></p>
9:40–10:20	IT	<p style="text-align: center;">Greg Rieker University of Colorado, Boulder</p> <p style="text-align: right;"><i>From Rocket Engines to Exoplanets: Dual Frequency Comb Spectroscopy of High Temperature and Pressure Lineshapes in Support of Extreme Environment Diagnostics</i></p>
10:20–10:50	Coffee break	
Innovative Methods - Session chair: Roman Ciuryło		
10:50–11:30	IT	<p style="text-align: center;">Piotr Masłowski Nicolaus Copernicus University in Toruń</p> <p style="text-align: right;"><i>New spectroscopic techniques with and based on optical frequency combs</i></p>
11:30–11:50	CT	<p style="text-align: center;">Gianluca Galzerano CNR - Istituto di Fotonica e Nanotecnologie</p> <p style="text-align: right;"><i>High-resolution broadband spectroscopy based on ultrafast Cr:ZnSe laser at 2.4 μm</i></p>
11:50–12:10	CT	<p style="text-align: center;">Andreas Hugi IRsweep AG, Stäfa</p> <p style="text-align: right;"><i>Quantum cascade laser dual-comb spectroscopy in step-sweep mode for lineshape parameter study</i></p>
12:10–12:30	CT	<p style="text-align: center;">Stefania Gravina Università degli Studi della Campania "Luigi Vanvitelli"</p> <p style="text-align: right;"><i>Development of a high-resolution spectrometer in the deep-ultraviolet for temperature metrology</i></p>
12:30–14:00	Lunch	
15:00–19:00	Visit to the Royal Palace	

Thursday, 23rd June

Environmental Spectroscopy - Session chair: Nathalie Picqué		
9:00–9:40	IT	<p style="text-align: center;">Paolo De Natale CNR - Istituto Nazionale di Ottica</p> <p style="text-align: right;"><i>Real-world applications of Saturated-Absorption Cavity-Ring-down Spectroscopy (SCAR)</i></p>
9:40–10:20	IT	<p style="text-align: center;">Hisachi Abe National Metrology Institute of Japan, Tsukuba</p> <p style="text-align: right;"><i>Trace-moisture measurements using cavity ring-down spectroscopy</i></p>
10:20–10:50	Coffee break	
Earth and Planetary Atmospheres - Session chair: Attila Császár		
10:50–11:30	IT	<p style="text-align: center;">Mikhail Tretyakov</p> <p style="text-align: right;"><i>Physically based modeling of water vapor continuum: current problems and perspectives</i></p>
11:30–11:50	CT	<p style="text-align: center;">Magnus Gustafsonn Luleå University of Technology</p> <p style="text-align: right;"><i>Accurately computed H₂-He collision-induced absorption coefficients for modeling of planetary atmospheres</i></p>
11:50–12:10	CT	<p style="text-align: center;">Sergey Yurchenko University College London</p> <p style="text-align: right;"><i>Meeting the need for pressure-broadening data for exoplanetary atmospheric studies</i></p>
12:10–12:30	CT	<p style="text-align: center;">Frances Skinner Center for Astrophysics Harvard & Smithsonian, Cambridge</p> <p style="text-align: right;"><i>Modeling NH₃, SO₂ and PH₃ Absorption Spectra Under Jovian and Venusian Conditions Using the HITRAN Database</i></p>
12:30–14:00	Lunch	
Environmental Spectroscopy - Session chair: Maurizio De Rosa		
14:00–14:40	IT	<p style="text-align: center;">Pietro Patimisco PolySense Lab - Università di Bari</p> <p style="text-align: right;"><i>Multivariate Spectral Analysis in Quartz-Enhanced Photoacoustic Spectroscopy</i></p>
14:40–15:00	CT	<p style="text-align: center;">Zhen Wang CNR - Istituto Nazionale di Ottica</p> <p style="text-align: right;"><i>Achieving sub-ppt gas detection with cavity-enhanced photoacoustic sensors</i></p>
15:00–15:20	CT	<p style="text-align: center;">Deborah Katia Pallotti ASI Agenzia Spaziale Italiana - Centro di Geodesia Spaziale, Matera</p> <p style="text-align: right;"><i>A compact scheme for Carbonyl Sulfide detection for environmental monitoring</i></p>
15:20–15:40	CT	<p style="text-align: center;">Andrea Zifarelli PolySense Lab - Università di Bari</p> <p style="text-align: right;"><i>Quartz-enhanced photoacoustic spectroscopy employing a Vernier-effect distributed feedback-quantum cascade laser for multiple analytes detection</i></p>
15:40–16:10	Coffee break	
16:10–17:30	Poster session 2	
19:00–22:00	Social Dinner	

Friday, 24th June

Molecular Parameters - Session chair: Gianluca Galzerano		
9:00–9:40	IT	<p style="text-align: center;">Attila Császár ELTE Eötvös Loránd University, Budapest</p> <p style="text-align: right;"><i>SNAPS: Spectroscopic-network-assisted precision spectroscopy</i></p>
9:40–10:20	IT	<p style="text-align: center;">David Long National Institute of Standards and Technology, Gaithersburg</p> <p style="text-align: right;"><i>Precision spectroscopy enabled by optical cavities and frequency combs</i></p>
10:20–10:50	Coffee break	
Molecular Parameters - Session chair: Sergey Yurchenko		
10:50–11:10	CT	<p style="text-align: center;">Oleg Polyansky University College London</p> <p style="text-align: right;"><i>The Review of the Recent Progress on the ab initio Calculations of the Line Centers and Line Intensities</i></p>
11:10–11:30	CT	<p style="text-align: center;">Franck Thibault Université de Rennes</p> <p style="text-align: right;"><i>A quantum study of argon induced line mixing in ammonia doublets</i></p>
11:30–11:50	CT	<p style="text-align: center;">Jolanta Domyslawska Nicolaus Copernicus University in Toruń</p> <p style="text-align: right;"><i>Line-shape parameters and line mixing for the low-intensity high-J oxygen transitions</i></p>
11:50–12:10	CT	<p style="text-align: center;">Alexander Devdariani</p> <p style="text-align: right;"><i>Asymptotically spin-forbidden optical transitions in quasimolecules</i></p>
12:10–12:30	Closing	