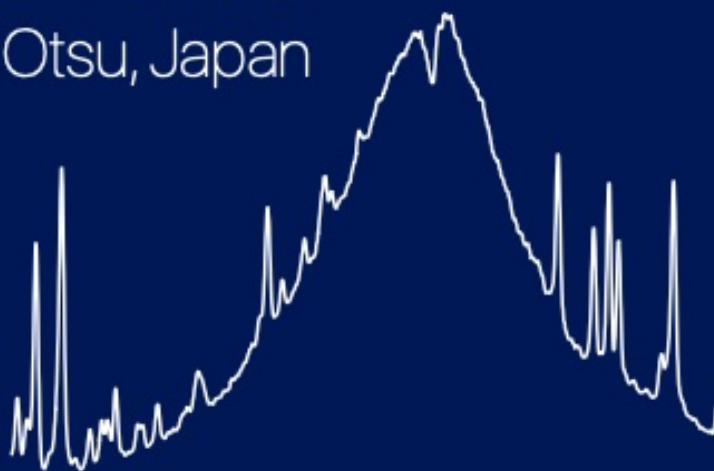


ICSLS 2024
Otsu, Japan



Program

26th International Conference on Spectral Line Shapes

Sunday, June 2	
17:00 – 19:00	Welcome reception and registration at Budokan, Otsu

Monday, June 3			
9:40 – 10:00	Opening		
	Laboratory Plasma Spectroscopy – Session Chair: Shinichiro Kado		
10:00 – 10:40	I-1	Tetsutarou Oishi <i>Tohoku University</i>	Recent progress in observation of emission spectra of tungsten ions in low to intermediate charge state range in a fusion plasma experiment
10:40 – 11:10	Coffee break		
11:10 – 11:50	I-2	Ling Zhang <i>Institute of Plasma Physics, Chinese Academy of Sciences</i>	Observation and line analysis of tungsten, molybdenum and copper spectra at 20-150 Å emitted intrinsically from EAST plasma
11:50 – 12:10	C-1	Akira Sasaki <i>QST</i>	Modeling of EUV spectrum from laser-produced Sn plasmas
12:10 – 12:30	C-2	Chihiro Suzuki <i>National Institute for Fusion Science</i>	Temperature dependent shape of quasi-continuum spectra from highly charged heavy ions observed in the Large Helical Device
12:30 – 14:00	Lunch		
	Atomic Line Shape Theory – Session Chair: Roland Stamm		
14:00 – 14:40	I-3	Mohammed Koubiti <i>Aix-Marseille Université-CNRS</i>	Application of deep-learning models to the Balmer- α line of hydrogen isotopes in tokamaks
14:40 – 15:00	C-3	Joël Rosato <i>Aix-Marseille University</i>	Line shape modeling for the characterization of stellar atmospheres, magnetic fusion and magneto-inertial fusion experiments: an overview of current challenges
15:00 – 15:20	C-4	Ibtissem Hannachi <i>University of Batna I</i>	Dynamic Stark effect on line shapes in laboratory and fusion plasmas
15:20 – 15:50	Coffee break		
15:50 – 17:30	Poster session I		

Tuesday, June 4			
	High Precision Measurements and Theory - session chair: Roman Ciurylo		
9:20 – 10:00	I-4	Yoshiro Takahashi <i>Kyoto University</i>	High-resolution laser spectroscopy of ultracold atoms in an optical lattice for quantum simulation and quantum sensor for new physics
10:00 – 10:40	I-5	Antonio Castrillo <i>Università della Campania Luigi Vanvitelli</i>	Interrogation of light molecules by means of comb-assisted cavity-enhanced methods: precision measurements and fundamental tests.
10:40 – 11:10	Coffee break		
11:10 – 11:50	I-6	Daniel Lisak <i>Nicolaus Copernicus University</i>	Dispersion and absorption cavity ring-down spectroscopy
11:50 – 12:10	C-5	Piotr Maslowski <i>Nicolaus Copernicus University in Torun</i>	Comb-based Fourier-transform spectrometer for measurements in the 2.5-5 μm wavelength range
12:10 – 12:30	C-6	Nikodem Stolarczyk <i>Nicolaus Copernicus University in Torun</i>	A complete ab initio spectroscopic dataset of the hydrogen molecule for astrophysical studies
12:30 – 14:00	Lunch		
	High Precision Measurements and Theory - session chair: Takeshi Higashiguchi		
14:00 – 14:40	I-7	Ruggero Caravita <i>INFN</i>	Laser cooling of positronium
14:40 – 15:00	C-7	Michał Żóltowski <i>Nicolaus Copernicus University in Toruń</i>	Ab initio calculations of the line-shape parameters for atmospheric molecules. Problems, challenges, perspective for quantum scattering studies.
15:00 – 15:20	C-8	Hisashi Abe <i>National Metrology Institute of Japan</i>	SI-traceable line intensity of H ₂ O near 1.393 μm
15:20 – 15:50	Coffee break		
15:50 – 17:30	Poster session II		

Wednesday, June 5			
	Frequency Combs (Menlo Systems) - session chair: Piotr Maslowski		
9:20 – 10:00	I-8	Akira Ozawa <i>Max-Planck-Institute of Quantum Optics</i>	Extreme ultraviolet optical frequency combs and applications
10:00 – 10:40	I-9	Grzegorz Kowzan <i>Nicolaus Copernicus University in Torun</i>	Mid-infrared Fourier-transform spectroscopy with optical frequency combs
10:40 – 11:10	Coffee break		
11:10 – 11:50	I-10	Thomas Quenzel <i>Menlo Systems GmbH</i>	Broadband high-repetition rate laser frequency combs for precision astronomical spectroscopy
11:50 – 12:50	Lunch		
13:00 – 18:00	Excursion (Ishiyama Temple & Koka Ninja Village)		
18:30 – 20:30	Banquet (Shin-Oumi Bekkan)		

Thursday, June 6			
	Astrophysical and Laboratory Plasma Spectroscopy - session chair: Taiichi Shikama		
9:20 – 10:00	I-11	Ryohko Ishikawa <i>National Astronomical Observatory of Japan</i>	Exploring new frontiers in solar ultraviolet spectropolarimetry: the CLASP sounding rocket experiments
10:00 – 10:40	I-12	Kotaro Yamasaki <i>Hiroshima University</i>	Impact of the radiative trapping on the helium line intensity ratio method
10:40 – 11:10	Coffee break		
11:10 – 11:50	I-13	Siriaporn Sangaroon <i>Maharakham University</i>	Deuterium-deuterium neutron spectroscopy in deuterium plasmas heated by neutral beams on the Large Helical Device
11:50 – 12:10	C-9	Malay Bikas Chowdhuri <i>Institute for Plasma Research</i>	Line profile analysis of self-absorbed lithium spectral emission during Li ₂ TiO ₃ injection in ADITYA-U tokamak
12:10 – 12:30	C-10	Yunxin Cheng <i>Institute Of Plasma Physics Chinese Academy Of Sciences</i>	The observation of tungsten unresolved transition arrays spectra at high electron temperature plasma in Experimental Advanced Superconducting Tokamak
12:30 – 14:00	Lunch		
	Atomic Line Shapes - session chair: Shinichi Namba		
14:00 – 14:40	I-14	Eugene Oks <i>Auburn University</i>	Review of recent analytical advances in the spectroscopy of hydrogenic lines in plasmas
14:40 – 15:20	I-15	Evgeny Stambulchik <i>Weizmann Institute of Science</i>	Dense-plasma effects on hydrogen-like transitions
15:20 – 15:50	Coffee break		
15:50 – 16:10	C-11	Shusuke Nishiyama <i>Japan Healthcare University</i>	Evaluation of population density distribution of atomic hydrogen n=2 states by laser absorption spectroscopy and saturation spectroscopy
16:10 – 16:30	C-12	Tomoko Kawate <i>National Institute for Fusion Science</i>	High-resolution magnetic-field diagnostics via Doppler-free saturation spectroscopy and passive polarization spectroscopy in a helium plasma
16:30 – 16:50	C-13	Joseph John Simons <i>The Graduate University for Advanced Studies, SOKENDAI</i>	Simulation of Doppler-free spectra using the collisional radiative model

Friday, June 7			
	Molecular Line Shapes - session chair: Motoshi Goto		
9:20 – 10:00	I-16	Sergey Yurchenko <i>University College London</i>	The 2024 release of the ExoMol database: molecular data for exoplanet and other hot atmospheres
10:00 – 10:40	I-17	Jeanna Buldyreva <i>University of Franche-Comte</i>	Decoding light from exoplanets with collisional line-shape parameters
10:40 – 11:10	Coffee break		
11:10 – 11:30	C-14	Magnus Gustafsson <i>Luleå University of Technology</i>	Broadening of rotational CO lines by He collisions at low temperatures
11:30 – 11:50	C-15	Hui Liang <i>University of Science and Technology of China</i>	Cavity-enhanced spectroscopy of H ₂ with sub-promille precision
11:50 – 12:10	C-16	Yan Tan <i>University of Science and Technology of China</i>	Line intensity measurement of CO (3-0) overtone transitions with 0.1% precision
12:10 – 12:30	C-17	Yitong Liu <i>Xi'an Jiaotong University</i>	Ion-induced atomic alignment and magnetic sub-state ionization in L ₃ -subshell
12:30 – 12:50	Closing		

List of Poster Presentations

P-1	Tsunehiro Morita <i>Kyoto University</i>	Application of full Stokes spectropolarimetry to HeI 2^3S - 2^3P emission line spectrum in Heliotron J
P-2	Nikodem Stolarczyk <i>Nicolaus Copernicus University in Torun</i>	Analytical derivation of asymptotic properties of speed-dependent collisional line shapes
P-3	Nikodem Stolarczyk <i>Nicolaus Copernicus University in Torun</i>	Investigating molecular collision effects on line shapes: A study of the H ₂ -Ar system
P-4	Nikodem Stolarczyk <i>Nicolaus Copernicus University in Torun</i>	Cavity-enhanced spectroscopy of H ₂ in a deep cryogenic regime
P-5	Nikodem Stolarczyk <i>Nicolaus Copernicus University in Torun</i>	Ab Initio Investigation of Collisional Dynamics in N ₂ -perturbed O ₂ Electronic Transition
P-6	Roland Jean Stamm <i>Aix Marseille University</i>	Line shapes in fusion plasmas affected by periodic electric fields
P-7	Piotr Maslowski <i>Nicolaus Copernicus University in Torun</i>	Absolute frequency measurement of fundamental band of CO with frequency comb spectroscopy
P-8	Motoshi Goto <i>National Institute for Fusion Science</i>	Influence of Stark broadening on ion temperature measurement for ITER divertor diagnosis
P-9	Hayato Ohashi <i>University of Toyama</i>	Shorter EUV emission from laser-produced tungsten plasmas
P-10	Tatsuya Sakamoto <i>Kyoto University graduate school</i>	Observation of Zeeman effect on near-infrared ArI emission line spectra in a glow discharge plasma under magnetic field relevant to fusion plasmas
P-11	Roman Ciurylo <i>Nicolaus Copernicus University</i>	Towards fundamental studies with Hg atoms and Hg ₂ molecules
P-12	Roman Ciurylo <i>Nicolaus Copernicus University</i>	Line-shape study of air-perturbed O ₂ B band: pressure- and temperature-dependency of line parameters
P-13	Ivan Traparic <i>Institute of Physics Belgrade</i>	Tungsten unresolved transition array spectra modeling with variational autoencoder
P-14	Takeshi Higashiguchi <i>Utsunomiya University</i>	Water-window soft x-ray spectra from dual laser-produced Bi plasmas
P-15	Tsukasa Sugiura <i>Utsunomiya University</i>	Improvement of EUV spectra by optical thickness control
P-16	Tatsuya Soramoto <i>Utsunomiya University</i>	EUV emission from a regenerative liquid target laser-produced plasma
P-17	Akihiro Iwata <i>Kyoto University</i>	Measurement of the electron density and temperature in the ablation cloud of the small-size hydrogen pellet using the Paschen series spectra in Heliotron J
P-18	Ryota Nishimura <i>Tohoku University</i>	Collisional-radiative modeling of W ¹⁷⁺ -W ²⁵⁺ spectra around 200 Å and application to fusion plasma diagnostics
P-19	Ko Hosokawa <i>SOKENDAI</i>	Pressure-broadening measurement of CH ₄ in H ₂ and He Bath at 1.6 μm for investigating the gaseous exoplanet atmospheres
P-20	Yasuko Kawamoto <i>NIFS</i>	Fast ion diagnostics using FIDA measurements in Large Helical Device
P-21	Miroslav Kuzmanovic <i>University of Belgrade</i>	Hydrogen isotopes Balmer alpha line resolving for tritium retention studies