

19th
INTERNATIONAL CONFERENCE
on spectral line shapes
15-20 june 2008 / valladolid (spain)

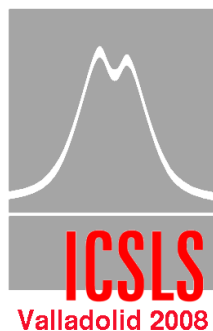
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Program

MONDAY, 16 JUNE

9:00 Opening

9:15 I1 L. Rodríguez-Rodrigo, C. Alejaldre,
Overview of ITER Project

10:00 Coffee break

10:30 I2 J. Sánchez,
Stellarators as Fusion Reactors: the TJ-II Experiment

11:00 I3 M.G. von Hellermann, E. Delabie, R. Jaspers, P. Lotte, H.P. Summers,
Modelling and Evaluation of Spectra in Beam Aided Spectroscopy

11:30 O1 M. Koubiti, S. Ferri, L. Godbert-Mouret, Y. Marandet, T. Nakano, J. Rosato, R. Stamm,
On the use of spectral lines emitted by carbon ions for plasma diagnostics in magnetic fusion devices

11:50 O2 R. Florido, R. Rodríguez, J.M. Gil, J.G. Rubiano, P. Martel, E. Mínguez, P. Sauvan, R. Mancini,
ABAKO/RAPCAL: A flexible computational package to perform radiative properties calculations and diagnostics in a wide range of plasma conditions

12:10 O3 J. Rosato, V. Kotov, D. Reiter,
Line shapes and opacity studies in divertor plasmas

12:30 Lunch break

13:30 Reception at the Town Hall

15:30 I4 E. Stambulchik, K. Tsigutkin, R. Doron, V. Bernshtam, Y. Maron,
Measurements of magnetic and electric fields in turbulent plasmas

16:00 Coffee break

16:15 O4 M.E. Sherrill, R.C. Mancini, J.E. Bailey, A. Filuk, B. Clark, P. Lake, J. Abdallah Jr.,
Spectroscopic Modeling and Characterization of a Collisionally Confined Laser-ablated Plasma Plume

16:35 O5 S. Hussain, M. Saleem, M.A. Baig,
Measurement of oscillator strength distribution in the discrete and continuous spectrum of lithium

16:55 O6 A. Lesage,
Experimental Stark Widths and Shifts for Spectral Lines of Neutral and Ionized Atoms

TUESDAY, 17 JUNE

9:00 I5 N. Konjević, N.M. Šišović,
Anomalous broadening of hydrogen Balmer lines in electrical gas discharges

- 9:45 I6 A. Calisti, S. Ferri, C. Mossé, B. Talin, V.S. Lisitsa, L. Bureyeva, M.A. Gigosos, M.Á. González, T. del Río Gaztelurrutia, J.W. Dufty,
Slow and fast micro-field components in warm and dense hydrogen plasmas
- 10:15 O7 J.W. Dufty, J. Wrighton,
Kinetic Theory for Electron Dynamics Near a Positive Ion
- 10:35 **Coffee break**
- 10:55 I7 O. Renner, E. Dalimier, C. Riconda, F.B. Rosmej, S. Weber, O. Peyrusse, P. Sauvan, I. Uschmann, S. Höfer, T. Kämpfer, R. Löttsch, U. Zastra, E. Förster, E. Oks,
Advanced X-ray Spectroscopy of Hot Dense Plasmas: Signature of Laser-Induced Electric Fields
- 11:25 I8 F.B. Rosmej, P. Angelo, Y. Aoaud,
Contour shape analysis of hollow ion x-ray emission
- 11:55 O8 E. Oks,
Laser Satellites: a New Method for Diagnosing both the Laser Fields and Opacities
- 12:15 O9 J.M. Palomares, J. Torres, M.A. Gigosos, J.J.A.M. van der Mullen, A. Gamero, A. Sola,
Experimental characterization of the asymmetry and the dip form of the H_{β} line profiles in microwave-produced plasmas at atmospheric pressure
- 12:35 **Lunch break**
- 14:30 I9 A.J.H. Donné, R. Barnsley, M.G. von Hellermann,
Diagnostics for ITER
- 15:15 II0 L. Welsch-Sherrill, R.C. Mancini, J.A. Koch, N. Izumi, R. Tommasini, S.W. Haan, D.A. Haynes, I.E. Golovkin, J.J. MacFarlane, J.A. Delettrez, F.J. Marshall, S.P. Regan, J.H. Cooley, M.E. Sherrill, V.A. Smalyuk, G. Kyrala,
Spectroscopic Determination of Temperature, Density, and Mix Spatial Profiles in Inertial Confinement Fusion Implosion Cores
- 15:45 **Coffee break**
- 16:00 **Poster session 1**
- P1 M. Christova, L. Christov, E. Castaños-Martínez, M.S. Dimitrijević, M. Moisan,
Using line broadening to determine the electron density in an argon surface-wave discharge at atmospheric pressure
- P2 M. Christova, L. Christov, M.S. Dimitrijević, N. Andreev,
Calculation of the shifts of argon spectral lines
- P3 Z.F. Ghatass, G.D. Roston,
Spectroscopic Diagnostics of Six Electrodes Plasma Arc as an Excitation Source for Spectrochemical Analysis
- P4 J. Rosato, D. Boland, H. Capes, Y. Marandet, R. Stamm,
The effect of time ordering on line profiles revisited
- P5 C. Pérez, M.I. de la Rosa, K. Grützmacher, A.B. Gonzalo, L.M. Fuentes,
Local Electric Field Strength in a Hollow Cathode determined by Stark Splitting of the 2S Level of Hydrogen Isotopes by Optogalvanic Spectroscopy
- P6 M.I. de la Rosa, C. Pérez, K. Grützmacher, L.M. Fuentes,
Determination of Two-Photon Absorption Cross-Section of Noble Gases for Calibration of Laser Spectroscopic Techniques
- P7 J. Wrighton, J.W. Dufty,
Charge Correlation Effects in Plasma Line Broadening
- P8 J.M. Palomares, J. Torres, M.A. Gigosos, J.J.A.M. van der Mullen, A. Gamero, A. Sola,
Asymmetry of the H_{β} Balmer line in atmospheric pressure microwave plasma

- P9 A.V. Demura, G.V. Demchenko, S. Djurović, M. Ćirišan, D. Nikolić, M.A. Gigosos, M.Á. González, *Experimental and Theoretical Analysis of Central H_β Asymmetry*
- P10 A.V. Demura, G.V. Demchenko, D. Nikolić, *On Asymmetry of Hydrogen Spectral Lines in Nonequilibrium Plasmas*
- P11 B. Omar, B. Rethfeld, *Kinetic Approach for Laser-Induced Plasmas*
- P12 A.V. Glushkov, *QED theory of radiation emission and absorption lines for atoms and ions in a strong laser field*
- P13 S. Djurović, R.J. Peláez, M. Ćirišan, J.A. Aparicio, S. Mar, *Experimental Stark Shift of Some Xe II UV Lines*
- P14 S. Djurović, R. J. Peláez, M. Ćirišan, J.A. Aparicio, S. Mar, *Stark Shift Measurement of Some Xe III Lines*
- P15 S. Mar, R.J. Peláez, S. Djurović, M. Ćirišan, F. Rodríguez, J.A. Aparicio, *Stark parameters irregularities of Xe II lines obtained by transitions from $(^3P_1)6p$ levels*
- P16 R.J. Peláez, S. Djurović, M. Ćirišan, F. Rodríguez, J.A. Aparicio, S. Mar, *Stark regularities in the multiplet $(^3P)3p(^4P^o) - (^3P)3d(^4D)$ of Ne II*
- P17 J. Rosato, H. Capes, S. Ferri, L. Godbert-Mouret, M. Koubiti, Y. Marandet, R. Stamm, *Zeeman-Stark profiles of low- n hydrogen lines in near impact regime*
- P18 S. Ferri, J. Rosato, Y. Marandet, L. Godbert-Mouret, M. Koubiti, C. Mossé, R. Stamm, A.E. Shumack, J. Westerhout, J. Rapp, G. van Rooij, *Emission spectroscopy of Hydrogen lines in magnetized plasmas: Application to PSI studies under ITER relevant conditions*
- P19 S. Ferri, A. Calisti, C. Mossé, B. Talin, M.A. Gigosos, M.Á. González, V.S. Lisitsa, *Line shape calculations based on slow and fast micro-field components separation in moderately coupled hydrogen plasmas*
- P20 C. Mossé, A. Calisti, S. Ferri, B. Talin, L.A. Bureyeva, V.S. Lisitsa, *Universal FFM hydrogen spectral line shapes applied to ions and electrons*
- P21 K.J. McCarthy, J.M. Carmona, R. Balbín, *A Study of Impurity Spectral Lines in Plasmas Created During the Neutral Beam Injection Heating Phase in the TJ-II stellarator*
- P22 A. Baciero, B. Zurro, D. Rapisarda, V. Tribaldos, D. Jiménez-Rey, the TJ-II team, *An Overview of Rotation and Ion Temperature Measurements of Impurities and Hydrogen by Passive Emission Spectroscopy in the TJ-II Stellarator*
- P23 M.G. Golubkov, S.O. Adamson, N.V. Apukhtina, G.V. Golubkov, A.I. Dementiev, I.G. Ryabinkin, *The Reaction of Dissociative Recombination in a Strong Light Field*
- P24 G.V. Golubkov, M.G. Golubkov, G.K. Ivanov, *Rydberg atom A^{**} in a field of neutral atom B*
- P25 I.L. Babich, V.F. Boretskij, A.N. Veklich, *Spectroscopic Problems in a Plasma Diagnostics of Electric Arc Discharges between Copper Electrodes*
- P26 O.Yu. Khetselius, *Relativistic calculating the spectral lines hyperfine structure parameters for the heavy atoms and laser spectral detecting the heavy isotopes*
- P27 H. Abe, H. Kitano, *Monitoring of Trace H_2O in N_2 near Atmospheric Pressure Using Cavity Ring-Down Spectroscopy: Comparison of Integrated Line Intensity and Peak Intensity*
- P28 M. Ivković, M.Á. González, S. Jovičević, M.A. Gigosos, N. Konjević, *Separation between Allowed and Forbidden Component of the He I 447 nm Line in High Electron Density Plasma*
- P29 Z. Mijatović, T. Gajo, B. Vujičić, S. Djurović, R. Kobilarov, *On the Stark Widths and Shifts of Ar II 472.68 nm Spectral Line*
- P30 N.M. Šišović, G.Lj. Majstorović, N. Konjević, *Anomalous broadening of Balmer H_α line in aluminum and copper hollow cathode glow discharges*
- P31 N. Bedida, D. Boland, M.T. Meftah, R. Stamm, *Path integral formalism for the spectral line shape in plasmas: Lyman- α with fine structure*

- P32 M.T. Meftah, A. Naam,
Electronic Broadening operator for relativistic plasmas
- P33 S. Guerricha, S. Chihi, M.T. Meftah,
On the electric micro-field in plasmas: statistics of the spatial derivatives
- P34 M.Z. Fahmy,
Characterization of the Three Phase Plasma Arc and its Applications in Analyzing Environmental Samples
- P35 H. Elabidi, N. Ben Nessib, S. Sahal-Bréchet,
Quantum calculations of Stark broadening of Li-like ions; T and Z-scaling
- P36 J. Muñoz, M.S. Dimitrijević, C. Yubero, M.D. Calzada,
Gas Temperature Determination in Argon-Helium Plasma at Atmospheric Pressure using van der Waals Broadening
- P37 I. Santiago, J. Muñoz, M.D. Calzada,
Self-absorption effects in experimental methods used to determine electronic density and gas temperature in an argon microwave plasma (SWD) generated at atmospheric pressure

WEDNESDAY, 18 JUNE

- 9:00 I11 J. Grucker, M. Hamamda, V. Bocvarski, F. Perales, G. Dutier, J. Baudon, M. Ducloy,
Surface interactions in Matter Wave Optics: Towards a Schlieren-type Atomic Nanoscope?
- 9:45 I12 P. Moroshkin, V. Lebedev, A. Hofer, A. Weis,
Spectroscopy of alkali-helium exciplexes in condensed helium
- 10:15 O10 S. Vdović, H. Skenderović, G. Školnik, T. Ban, N. Vujičić, D. Aumiler, G. Pichler,
Near-resonant femtosecond laser induced cone emission from rubidium vapor
- 10:35 **Coffee break**
- 10:55 I13 P.E. Bengtsson,
Importance of linewidth data for thermometry using CARS spectroscopy
- 11:25 **Round table: The first 50 years of quantum theories of Stark broadening**
- 12:35 **Lunch break**
- 14:30 **Excursion and Conference Dinner**

THURSDAY, 19 JUNE

- 9:00 I14 A.R.W. McKellar, D.R. Hurtmans, A. Predoi-Cross,
High accuracy line profile study of transitions in the $30012 \leftarrow 00001$ and $30013 \leftarrow 00001$ bands of carbon dioxide
- 9:45 I15 R. Ciuryło, D. Lisak, J.T. Hodges,
Semi-classical line shape models of rovibrational H_2O spectra tested using frequency-stabilized cavity ring-down spectroscopy
- 10:15 O11 M. Chrysos, A.P. Kouzov, N.I. Egorova, F. Ratchet,
Exact low-order classical moments in collision-induced bands by linear rotors: $CO_2 - CO_2$
- 10:35 **Coffee break**
- 10:55 I16 F. Rohart,
Speed Dependence in the Collision Process

- 11:25 I17 A. Devdariani, E. Dalimier, P. Sauvan, T. Kereselidze, I.L. Noselidze, F. Rebentrost,
Characteristics of Quasi-Molecular State Interaction
- 11:55 O12 J.C. Lewis, R.M. Herman,
A Statistical Model for Scalar Collision-Sequence Interference
- 12:15 O13 W. Głaz, T. Bancewicz, J.L. Godet, G. Maroulis,
Collision-induced hyperpolarizability and hyper-Rayleigh spectra in the H₂-Ar supermolecule
- 12:35 **Lunch break**
- 14:30 I18 P. Joubert,
The Keilson and Storer 3-dimensional (KS-3D) line shape model: application to optical diagnostic in combustion media
- 15:00 O14 X. Chen, T.P. Settersten, P.P. Radi, A.P. Kouzov,
Two-Color Resonant Four Wave Mixing Spectroscopy: New Perspectives for Direct Studies of Collisional State-to-State Transfer
- 15:20 O15 F. Thibault, B. Corretja, A. Viel, D. Bermejo, R.Z. Martínez, B. Bussery-Honvault,
Linewidths of C₂H₂ perturbed by H₂: calculations from an ab initio potential and comparison with experimental results
- 15:40 **Coffee break**
- 16:00 **Poster session 2**
- P38 J.C. Lewis,
Molecular Dynamics Simulations of Collision-Induced Absorption in Lennard-Jonesium at High Densities
- P39 C. Colón, A. Alonso-Medina, A. Zanón, J. Albéniz,
Level energies, oscillator strengths, and lifetimes for transitions in Pb IV
- P40 A. Alonso-Medina, C. Colón, A. Zanón, J. L. Montero, F. Fernández-Martínez, C. Rivero,
Theoretical Study of several oscillator strengths and lifetimes of Germanium, Thallium and Bismuth. Measures of some relative transition probabilities
- P41 A.V. Glushkov, O.Yu. Khetselius, A.V. Loboda,
Spectral Broadening of excitation induced by ultralong-range interaction in a cold gas of Rydberg atoms
- P42 O.Yu. Khetselius, A.V. Glushkov, E.P. Gurnitskaya, A.V. Loboda, E.V. Mischenko, T.A. Florko,
Collisional shift of the Tl hyperfine lines in atmosphere of inert gases
- P43 G. Peach, D.F.T. Mullamphy, I.B. Whittingham,
Unification of the Impact and One-Perturber Theories of Line Shapes
- P44 A. Urbanowicz, C. Sajna, A. Bielski, S. Brym, R.S. Trawiński,
Influence of temperature on line shape parameters of the self-broadened 748,8 nm Ne line
- P45 P. Masłowski, K. Bielska, A. Śliwińska, J. Domysławska, D. Lisak, R. Ciuryło, J. Szudy, R.S. Trawiński,
Line Shape Study of the 326.1 nm ¹¹³Cd line perturbed by Ar and Xe
- P46 P. Masłowski, K. Bielska, A. Śliwińska, J. Domysławska, D. Lisak, R. Ciuryło, A. Bielski, R.S. Trawiński,
Isotope Structure and Hyperfine Splitting of 326.1 nm ¹¹³Cd line
- P47 P. Masłowski, J.T. Hodges, D.J. Robichaud, L.Y. Yeung, M. Okumura, C.E. Miller, L.R. Brown,
Low-Uncertainty CRDS Measurements of O₂ A-Band Line Parameters
- P48 J.M. Gil, R. Rodríguez, R. Florido, J.G. Rubiano, P. Martel, E. Mínguez, P. Sauvan, P. Angelo, R. Schott, E. Dalimier, R.C. Mancini,
Spectrally Resolved Intensities of Ultra-Dense Hot Aluminum Plasmas
- P49 A.V. Demura, G.V. Demchenko,
On "Averaged" Diffusion of Radiation in Spectral Lines intra Interjacent Plasma - Gas Layer

- P50 K. Chenini, F. Khelifaoui, M.T. Meftah,
Spectral Line Calculation Model in no Optically Thin Plasma
- P51 R. Mayo, M. Ortiz,
Experimental Stark widths for Zn II
- P52 A. Antoniou, E. Danezis, E. Lyratzi, L.Č. Popović, M.S. Dimitrijević, E. Theodosiou, D. Stathopoulos,
AXMon (HD 45910) kinematical parameters in the Fe II spectral lines as a function of the excitation potential
- P53 A. Antoniou, E. Danezis, E. Lyratzi, L.Č. Popović, M.S. Dimitrijević, E. Theodosiou, G. Katsavrias,
A study of the structure of different ionization potential regions in the atmosphere of AX Mon (HD 45910)
- P54 E. Lyratzi, E. Danezis, L.Č. Popović, M.S. Dimitrijević, A. Antoniou,
Kinematics of Broad Absorption Line Regions of PG 1254+047
- P55 E. Lyratzi, E. Danezis, L.Č. Popović, M.S. Dimitrijević, A. Antoniou,
DACs and SACs in the UV spectrum of the quasar PG 0946+301
- P56 N.F. Allard, J.F. Kielkopf,
Multiple perturber effects in the far red wing of Lyman α line
- P57 F. Thibault, L. Gómez, R.Z. Martínez, D. Bermejo,
Collisional line widths of autoperturbed N₂: measurements and quantum calculations
- P58 N. Issaoui, N. Rekik, B. Oujia, J.W. Marek,
Theoretical Infrared Line shapes of H-bonds Within The Strong Anharmonic Coupling Theory
- P59 N. Rekik, H. Ghalla, M. Baazaoui, A. Michta, B. Oujia, H.T. Flakus,
Theoretical Modeling of Infrared Line Shapes of Centrosymmetric Cyclic Acid Dimers and Their O-D Deuterated Derivatives at 77 K and 300 K
- P60 G.D. Roston, M.S. Helm,
The Van der Waals Potential Coefficients Differences ΔC_6^0 and ΔC_6^1 of the Intercombination Cd Line 326.1 nm for Pure Cd and Cd-Inert Gas Systems
- P61 A. Padilla, J. Pérez,
The non Markovian Q-branch of polar diatomic molecules in non polar liquids
- P62 V.A. Alekseev,
Satellites of Atomic Transitions Induced by IR Active Vibrational Modes in Molecules
- P63 V. Alekseev, N. Schwentner, D. Cappelletti, F. Pirani,
The $^1S_0 \rightarrow ^3,^1P_1$ Transitions in the Xe and Kr Atoms Perturbed by CF₄ and Model Potentials for the Rg-CF₄ Systems
- P64 S. Hussain, M. Saleem, M.A. Baig,
Comparative study of RF and DC discharge based Laser Optogalvanic Spectroscopy of Helium Rydberg states
- P65 F. Rebentrost, O. Hoffmann, J. Grosser,
Nonadiabatic Electron Dynamics by Direct Excitation of Collision Pairs
- P66 A.V. Glushkov, O.Yu. Khetselius, A.V. Loboda, A.V. Ignatenko, A.A. Svinarenko,
QED approach to modelling spectra of the multicharged ions in a laser plasma: Electron-ion collision strengths and rate coefficients
- P67 B.K. Antony, D.L. Niles, S.B. Wroblewski, C.M. Humphrey, R.R. Gamache, T. Gabard,
Lineshape parameters for ν_3 Transitions of CH₄
- P68 R.Kh. Gainudinov, A.A. Mutygullina,
Effects of Nonlocality in Time of an Interaction Governing the Dynamics of an Atom on Its Spectral Line Profiles
- P69 A. Predoi-Cross, J.P. Bouanich, F. Rohart, D.R. Hurtmans,
Xe-broadened CO line shapes in the fundamental band at 349 K
- P70 N. Vujičić, T. Ban, H. Skenderović, S. Vdović, G. Pichler,
Two-Photon Frequency Comb Excitation of Rubidium Atoms in External Magnetic Field
- P71 W.A. Herrebout, B.J. van der Veken, A.P. Kouzov,
Studies of New Diffusion Signatures in the IR Collision-Induced Spectra of Molecular Hydrogens in Liquid Neon

17:15 **Business Meeting**

18:30 **Concert at the Conference Site**

FRIDAY, 20 JUNE

- 9:00 I19 M.A. Gordon,
Radio Recombination Lines as Tools for Astronomers and Physicists
- 9:45 I20 J.F. Kielkopf, N.F. Allard,
Atomic line shapes in stellar spectra
- 10:15 O16 L.A. Bureyeva, M.B. Kadomtsev, M.G. Levashova, V.S. Lisitsa,
Nonequilibrium Kinetics of Rydberg Atomic States
- 10:35 **Coffee break**
- 10:55 I21 A. Predoi-Cross,
Molecular spectroscopic studies for remote sensing of earth and planetary atmospheres
- 11:25 I22 M. Gustafsson,
Diatom-diatom interactions with light: Applications and line shape theoretical aspects
- 11:55 O17 E. Danezis, E. Lyratzi, L.Č. Popović, M.S. Dimitrijević, A. Antoniou,
Similarity between DACs/SACs phenomena in hot emission stars and quasars absorption lines
- 12:15 O18 M. Christova, N.F. Allard, J.F. Kielkopf,
New line profiles of sodium and potassium perturbed by helium for brown dwarf and very cool white dwarf stars
- 12:35 **The next Conference**
- 12:50 **Closure**

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