

**40TH ANNUAL CONFERENCE OF THE
EUROPEAN GROUP FOR ATOMIC SYSTEMS (EGAS)**

GRAZ, JULY 2-5, 2008

GENERAL INFORMATION

Conference location:

Institut für Experimentalphysik, Technische Universität Graz, Petersgasse 16, A-8010 Graz

Conference Office:

From Tuesday afternoon to Saturday noon at the conference site.

Telephone: 0043 316 873 4530

Fax 0043 316 873 8655

e-mail: egas2008@tugraz.at

Opening hours:	Tuesday, July 1	14:00 - 21:00
	Wednesday, July 2	8:30 - 18:30
	Thursday, July 3	8:30 - 12:00
	Friday, July 4	8:30 - 18:30
	Saturday, July 5	8:30 - 12:30

Organizing committee:

W.E. Ernst (Vice Chairman), T. Neger, C. Neureiter, G. Pottlacher, L. Windholz (Chairman)

Exhibition:

During the conference several companies will present their products in the lecture hall lobby. Please pay attention to this exhibition; without support of commercial companies the conference would not have been able to support so many participants.

Acknowledgements:

We would like to thank all those who have assisted during the preparation of the conference, in particular the members of the Institute and the various sponsoring organizations and companies.

SOCIAL PROGRAMME

Tuesday, July 1

18:00 Welcome party
Conference site

Wednesday, July 2

20:00 Reception of the Gouvernor of Styria, Mr. Franz Voves.
Grand Hall of the "Old University", Hofgasse 14, 8010 Graz

Thursday, July 3

14:00 Scenic tour with a narrow-gauge railway from Stainz to Preding. Visit of an oil mill where a styrian speciality, dark pumpkin seed oil, is produced.
Participation free of charge. Meeting point for bus transfer: Physics building.

20:00 Conference dinner
Schlossbergrestaurant, at the castle hill (€55 per person)

Friday, July 4

ca. 21:00 Wine reception after the lecture of B.Curl. Participation free of charge.

Saturday, July 5

12:00 Closing of the Conference

14:00 Scenic tour to Schöckl, 1442 m Meeting point for bus transfer: Physics building.
(€15 per person for bus transfer)

Sunday, July 6

8:00 Post conference hiking tour: We will organize a one day hiking tour in the Styrian Mountains. The destination depends on the weather conditions (either Großer Bösenstein, 2448 m, or Bärenschtzklamm). We recommend mountain boots, raincoat or anorak, pullover, gloves and a woolen cap.
Meeting point for bus transfer: Physics building. (€25 per person for bus transfer)

In the conference area there is an exhibition of many kinds of historical physical instruments.

Please pay attention to the exhibition of commercial products.

SCIENTIFIC PROGRAMME

Overlook

Wednesday, July 2	8:45	Opening
		Session A 1, Lecture Hall P1
	9:00	Invited talk PL 1 (S. Haroche)
	9:45	Invited talk PL 2 (M. Quack)
	10:30	Coffee break
		Session A 2 (parallel to A 3) Lecture Hall P1
	11:00	Progress Report PR 1 (R. Wester)
	11:30	Contributed Papers CP 1 to CP 4
		Session A 3 (parallel to A 2) Lecture Hall P2
	11:00	Contributed Papers CP 5 to CP 8
	12:00	Progress Report PR 2 (M. Knoop)
	12:30	Lunch
		Session A 4, Lecture Hall P1
	14:30	Invited talk PL 3 (J. Kluge)
	15:15	Progress Report PR 3 (M. Richter)
	15:45	Progress Report PR 4 (U. Becker)
	16:15	Coffee break
		Poster Session A 5, Lecture Hall Lobby
	16:30	Contributed Papers CP 9 to CP 110, CP 213, CP 214
	18:00	End of Poster session
	20:00	Reception of the Governor of Styria
Thursday, July 3		Session B 1, Lecture Hall P1
	9:00	Invited talk PL 4 (J. Schmiedmayer)
	9:45	Invited talk PL 5 (F. Riehle)
	10:30	Coffee break
		Session B 2 (parallel to B 3) Lecture Hall P1
	11:00	Progress Report PR 5 (J. Hecker-Denschlag)
	11:30	Contributed Papers CP 111 to CP 114
		Session B 3 (parallel to B 2) Lecture Hall P2
	11:00	Contributed Papers CP 115 to CP 118
	12:00	Progress Report PR 6 (P. Barker)
	12:30	Lunch
	14:00	Scenic Tour
	20:00	Conference Dinner

Friday, July 4

Session C 1, Lecture Hall P1
9:00 Invited talk PL 6 (A. Weis)
9:45 Invited talk PL 7 (M. Scully)
10:30 Coffee break

Session C 2 (parallel to C 3), Lecture Hall P1
11:00 Progress Report PR 7 (J. Crespo)
11:30 Contributed Papers CP 119 to CP 122

Session C 3 (parallel to C 2), Lecture Hall P2
11:00 Contributed Papers CP 123 to CP 126
12:00 Progress Report PR 8 (V.L. Sukhorukov)
12:30 EGAS General Assembly, Lecture Hall P1
13:00 Lunch

Session C 4, Lecture Hall P1
14:30 Invited talk PL 8 (G. Tino)
15:15 Invited talk PL 9 (Ch. Blondel)
16:00 Coffee break

Poster Session C 5, Lecture Hall Lobby
16:30 Contributed Papers CP 127 to CP 211
18:00 End of Poster session

Session C 6, Lecture Hall P1
20:00 Evening Lecture EL 1 (R.F. Curl jr.)
ca. 21:00 Wine reception, Lecture Hall Lobby

Saturday, July 5

Session D 1, Lecture Hall P1
9:00 Invited talk PL 10 (P.B. Corkum)
9:45 Progress Report PR 9 (R. Kienberger)
10:15 Coffee break

Session D 2, Lecture Hall P1
10:45 Invited talk PL 11 (A. Scrinzi)
11:30 Progress Report PR 10 (J. Mauritsson)
12:00 Closing of the Conference
14:00 Scenic Tour

EL Evening lecture
PL Plenary lecture
PR Invited progress report
CP Contributed paper

Detailed Programme

Wednesday, July 2

Session A 1

Lecture Hall P1

8:45 Opening of the conference

PL 1 S. Haroche

9:00 Non-demolition photon counting and field quantum state reconstruction in a cavity: a new way to look at light

PL 2 M. Quack

9:45 Theory and Spectroscopy of Parity Violation in Chiral Molecules

Session A 2 (parallel to A 3)

Lecture Hall P1

PR 1 R. Wester

11:00 Molecular Reaction Dynamics at Low Energies

CP 1 F. Ferlaino, S. Knoop, M. Mark, M. Berninger, H. Schöbel, H.C. Nägerl, R. Grimm

11:300 Few-body physics with ultracold Cs atoms and molecules

CP 2 L. Pruvost, H. Jelassi, B. Viaris de Lesegno

11:45 Weakly bound molecules: Analysis by the Lu-Fano method coupled to the LeRoy-Bernstein model.

CP 3 M. Aymar, J. Deiglmayr, O. Dulieu

12:00 Calculations of static polarizabilities of alkali dimers and alkali hydrides. Prospects for alignment of ultracold molecules

CP 4 L. van Buuren, C. Sommer, M. Motsch, M. Schenk, P.W.H. Pinkse, G. Rempe

12:15 Electrostatically extracted cold molecules from a cryogenic buffer gas

Session A 3 (parallel to A 2),

Lecture Hall P2

CP 5 H.-D. Kronfeldt, H. Schmidt, B. Sumpf, M. Maiwald, G. Erbert, G. Tränkle

11:00 In-situ non-invasive quality control of packaged meat using a micro-system external cavity diode laser at 671 nm for Raman spectroscopy

CP 6 D. Pinegar, C. Diehl, R. van Dyck, K. Blaum

11:15 $^3\text{H}/^3\text{He}$ mass ratio experiment MPIK/UW-PTMS in the context of ν -mass measurements

CP 7 S. Nic Chormaic, D. Gleeson, V. Minogin

11:30 Optical microtraps for cold atoms based on near-field diffraction

CP 8 Th. Becker, Th. Germann, P. Thoumany, G. Stania, L. Urbonas, T. Hänsch

11:45 Optical Spectroscopy of Rubidium Rydberg Atoms with a 297nm Frequency Doubled Dye Laser

PR 2 C. Champenois, G. Hagel, M. Houssin, C. Zumsteg, F. Vedel, M. Knoop

12:00 1, 2, 3 Photons for Trapped Ion Spectroscopy

Session A 4**Lecture Hall P1****PL 3 J. Kluge**

14:30 Precision Experiments with Heavy Ions

PR 3 M. Richter, A.A. Sorokin

15:15 Non-linear Photoionization in the Soft X-ray Regime

PR 4 U. Becker

15:45 Multi-photon ionization and excitation of the rare gases by Free Electron Laser radiation

Session A 5**Posters, 16:30 - 18:00****Lecture Hall Lobby**

- CP 9 K. V. Rodriguez, V. Y. Gonzalez, L. U. Ancarani, D. M. Mtnik, G. Gasaneo
Helium $1,3S$ excited states obtained with an angular correlated configuration interaction method
- CP 10 G. Gaigalas, E. Gaidamauskas, Z. Rudzikas
Atomic structure calculations of Cm^{+4} and Am^{+3} ions
- CP 11 G. Gaigalas, E. Gaidamauskas, J. Bieron, S. Frizsche, P. Jönsson
MCHF calculations of the electric dipole moment of radium induced by the nuclear Schiff moment
- CP 12 Sølve Selstø, J. Bengtsson, E. Lindroth
On the solution of the time dependent Dirac equation for hydrogen-like system
- CP 13 M. Safronova, R. Pal, D. Jiang, U. Safronova
Calculation of parity-nonconserving amplitude in Ra^+
- CP 14 M. Safronova, M.G. Kozlov, W.R. Johnson
Development of the CI + all-order method for atomic calculations
- CP 15 K. V. Rodriguez, V. Y. Gonzalez, L. U. Ancarani, D. M. Mtnik, G. Gasaneo
Ground state wavefunctions for two-electron systems with finite nuclear mass
- CP 16 O.Y. Khetselius
Laser separation and detecting the isotopes and nuclear reaction products and relativistic calculating the hyperfine structure parameters in the heavy-elements
- CP 17 A.V. Glushkov, O.Y. Khetselius, A.A. Svinarenko
QED approach to the photon-plasmon transitions and diagnostics of the space plasma turbulence
- CP 18 A.V. Glushkov
QED theory of laser-atom and laser-nucleus interaction
- CP 19 Kh.Yu. Rakhimov
Quantum dynamics of planar hydrogen atom in a billiard with moving boundaries
- CP 20 V.L. Sukhorukov, B.M. Lagutin, I.D. Petrov, A. Ehresmann, L. Werner, s. Klumpp, K.H. Schartner, H. Schmoranzer
Interchannel interaction in orientation and alignment of $Kr 4p^4mp$ states in the excitation region of $3d^9np$ resonances
- CP 21 O. Rancova, P. Bogdanovich, R. Karpuskiene
Application of new quasirelativistic approach for treatment of oxygen-like Iron and Nickel
- CP 22 Y.S. Kozhedub, D.A. Glazov, I.I. Tupitsyn, V.M. Shabaev, G. Plunien
Relativistic recoil and higher-order electron correlation corrections to the transition energies in Li-like ions
- CP 23 R. Jursenas
Coupled tensorial forms of atomic two particle operator
- CP 24 V.K. Gudym, E.V. Andreeva
The binominal potential of electron-proton interaction alternative to the Coulomb law

- CP 25 J. Bengtsson, E. Lindroth, S. Selstø
The dynamics of meta-stable states described with a complex scaled Hamiltonian
- CP 26 L.U. Ancarani, G. Gasaneo
A simple parameter-free wavefunction for the ground state of three-body systems
- CP 27 L.U. Ancarani, G. Gasaneo, F.D. Colavecchia, C. Dal Capello
(e, 3e) and (γ , 2e) processes on helium: interplay of initial and final states
- CP 28 M.A. Bolorizadeh, R. Fathi, E. Gahnbari-Adivi, F. Shojaei
A three body approach to calculate the differential cross sections for the excitation of H and He atoms by proton impact
- CP 29 F. Umarov, A. Dzhurakhalov
The peculiarities of elastic and inelastic energy losses at low-energy ion-surface interactions
- CP 30 R. Lomsadze, M. Gochitashvili, B. Lomsadze, N. Tsiskarishvili, D. Kuparashvili
Study of Mechanism in Alkali Metal Ion Inert Gas Atom Interaction
- CP 31 I.I. Shafranyosh, R.O. Fedorko, V.I. Marushka, T.A. Snegurskaya, V.V. Perehanets, V.V. Stetsovych
Studies of superelastic electron scattering by the metastable Thallium atoms
- CP 32 O.B. Shpenik, A.N. Zaviropulo
Ionization and Dissociative Ionization of Adenine Molecules by Electron Impact near Threshold
- CP 33 L. E. Machado, I. Iga, L. M. Brescansin, M.-T. Lee
Absorption effects in intermediate-energy electron scattering by difluoroethylene
- CP 34 S. Houamer, Y. Popov, C. Champion, C. Dal Capello
Charge transfer in collision of protons with water molecule and atomic helium at high energy
- CP 35 S.Y.Kurskov, A.S. Kashuba
Ar(3p⁵ 4p) states excitation in low-energy Ar-Ar collisions
- CP 36 S. Gedeon, V. Lazur
Low-energy electron scattering from calcium
- CP 37 J.Loreau, M. Desouter-Lecomte, F. Rosmej, N. Vaeck
Ab initio calculation of H + He⁺ electron transfer cross sections
- CP 38 G. Purohit, U. Hitawala, K.K. Sud
TDCS for inner-shell (e, 2e) processes on alkali and alkali earth atoms Na, K, Be, Mg and Ca
- CP 39 P. Syty
The relativistic J-matrix method in scattering of electrons from model potentials and small atoms
- CP 40 V.S. Melezhik, P. Saeidian, P. Schmelcher
Multichannel atomic scattering and confinement-induced resonances in waveguides
- CP 41 E. Ovcharenko, A. Gomonai, Yu. Hutyach
Excitation of forbidden 4d⁹5s² ²D_{5/2} - 4d¹⁰5s ²P_{3/2} transition in In²⁺ ion at electron-In⁺ ion collisions
- CP 42 A.O. Lindahl, P. Andersson, C. Diehl, O. Forstner, K. Wendt, D.J. Pegg, D. Harnstorp
The electron affinity of Tungsten
- CP 43 M. Czarnota, D. Banás M. Berset, D. Chmielewska, J.-Cl. Dousse, J. Hozzowaska, Y-P Maillard, O. Mauron, M. Pajek, M. Polasik, P.A. Raboud, J. Rzdakiewicz, K. Stabkowska, Z. Sujkowski
High resolution measurements of molybdenum L-shell satellites and hypersatellites excited by oxygen and neon ions
- CP 44 L. Bandurina, V. Gedeon
Electron-impact scattering on boron
- CP 45 E. Baszanowska, R. Drozdowski, P.Kaminski, G. von Oppen
Observation of He-He collisions using the anticrossing method
- CP 46 V. A. Kartoshkin, S.P. Dmitriev, N.A. Dovator
Spin-exchange cross sections at the interaction between ground state rubidium and metastable helium atoms

- CP 47 V. A. Kartoshkin
Spin exchange and redistribution of the spin-polarization at the interaction between ground state alkali atoms and nitrogen atoms in gas discharge
- CP 48 L. Klosowski, M Piwinski, D. Dziczek, K. Pleskacz, S. Chwirot
Large angle e-He scattering - coincidence experiment with magnetic angle changer
- CP 49 M.T. Bouazza, C. Benseddik, M. Bouledroua
Diffusion coefficient and viriel coefficient of Krypton Atoms in a Argon Gas at Low and Moderate Temperature
- CP 50 M.T. Bouazza, M. Bouledroua
A theoretical report on ultracold collisions of two monatomic Cesium
- CP 51 V.M.Entin, I.I.Beterov, I.I. Ryabtsev, D.B. Tretyakov
Tomography of laser cooled atoms in MOT using Rydberg state excitation
- CP 52 M. Mestre, F. Diry, B. Viaris de Lesegno, L. Pruvost
Spatial light modulators for cold atom manipulation
- CP 53 O. Gorceix, Q. Beaufils, R. Chicireanu, T. Zanon, A. Crubellier, B. Laburthe-Tolra, E. Maréchal, L. Vernac, J-C. Keller
All-optical Bose-Einstein condensation of Chromium atoms and rf spectroscopy of cold Cr₂ molecules
- CP 54 M. Seliger, U. Hohenester, G. Pfanner
Entangled photons from excitonic decay in artificial atoms
- CP 55 J. Grond, U. Hohenester, J. Schmiedmayer
Optimizing number squeezing when splitting a mesoscopic condensate
- CP 56 I.E. Mazets, T. Schumm, J. Schmiedmayer
Breakdown of integrability in a quasi-one-dimensional ultracold bosonic gas
- CP 57 J-F. Clément, J-P. Brantut, M. Robert de St. Vincent, G. Varoquaux, R.A. Nyman, A. Aspect, T. Bourdel, P. Bouyer
Light-shift tomography in an optical-dipole trap
- CP 58 H. Knöckel, S. Liu, I. Sherstov, C. Lisdat, E. Tiemann
Matter wave interferometry with K₂ molecules
- CP 59 E. Maréchal, B. Laburthe-Tolra, L. Vernac, J.-C. Keller, O. Gorceix
A magnetic lens for cold atoms tuned by a rf field
- CP 60 T. Pfau, Th. Lahaye, J. Metz, B. Fröhlich, T. Koch, A. Greismaier
Stability and d-wave collapse of a dipolar BEC
- CP 61 K. Chebakov, N. Kolachevsky, A. Akimov, I. Tolstikhina, P. Rodionov, S. Kanorsky, V. Sorokin
Blue cooling transitions of thulium atom
- CP 62 J.Szczepkowski, R. Abdoul, R. Gartman, W. Gawlik, M. Witkowski, J. Zachorowski, M. Zawada
Free-fall expansion of finite-temperature Bose-Einstein condensed gas in the non Thomas-Fermi regime
- CP 63 N. Kolachevsky, E. Tereschenko, M. Egorov, A. Sokolov, A. Akimov, V. Sorokin
Resonance Interaction between Cold Rb Atoms and a Frequency Comb
- CP 64 M. Witkowski, R. Gartman, W. Gawlik, J. Szczepkowski, M. Zawada
Optical tailoring of spatial distribution of the BEC and non-degenerate cold atoms. Non-periodic optical lattice
- CP 65 F. Tantussi, N. Porfido, F. Prescimone, V. Mangasuli, M. Allegrini, E. Arimondo, F. Fuso
Laser techniques for atom-scale technologies
- CP 66 F. Fuso, M. Bassu, F. Tantussi, L. Strambini, G. Barillaro, M. Allegrini
Emission from Silicon/Gold nanoparticle systems
- CP 67 I.Ulfat, J. Adell, J. Sadowski, L. Ilver, J. Kanski
As3d Core Level Photoemission Studies of (GaMn)As annealed under As capping

- CP 68 N. Alinejad, M. Jahangir, F. Izadi
Pulsed laser Deposition Simulation for Graphite Target using Mont-Carlo Method
- CP 69 C. Diehl, D. Pinegar, R. S. Van Dyck Jr, K. Blaum
Precision Measurement of the ^3He - ^3H mass ratio with the MPIK/UW-PTMS
- CP 70 A. Alonso-Medina, C.Colón, C. Herrán-Martínez
Measured of different atomic parameters of some elements (Ca, Sn, Pb) in a plasma generated by Laser-Induced Breakdown Spectroscopy (LIBS)
- CP 71 T. Carette, C. Drag, C. Blondel, C. Delsart, C. Froese Fischer, M. Godefroid, O. Scharf
Isotope shift in the electron affinity of sulfur
- CP 72 A.K. Kazansky, N.M. Kabachnik
Theoretical study of attosecond chronoscopy of strong-field atomic photoionization
- CP 73 A.V. Glushkov, O.Y.Khetselius, A.V. Loboda
Generation of ultra-short X-ray pulses in cluster system during ionization by femto-second optical pulse
- CP 74 J. Alnis, A. Matveev, T. W. Hänsch, C. Parthey, N. Kolachevsky
Long-term stability of high-finesse Fabry-Perot resonators made from Ultra-Low-Expansion glass
- CP 75 H.-D. Kronfeldt, H. Schmidt
Application of Surface-Enhanced-Raman-Scattering (SERS) for In-Situ Detection of PAHs in Sea-Water
- CP 76 S. Qamar Hussain, M. Saleem, A. Baig
Laser Based Isotopic Separation of Atoms
- CP 77 D. Gleeson, V. Minogin, S. Nic Chormaic
Atomic fluorescence coupled into a thin optical fibre
- CP 78 D.U. Matrasulov, T.A. Ruzmetov, D.M. Otajanov, P.K. Khabibullaev, A.A. Saidov, F.C. Khanna
Nonlinear dynamics of atoms in a cavity
- CP 79 G.G. Grigoryan, Y. Pashayan-Leroy, C. Leroy, S. Guèrin
Storage of optical pulses in solids despite fast relaxation
- CP 80 M. Motsch, M. Zeppenfeld, G. Rempe, P.W.H. Pinkse
Purcell-enhanced Rayleigh scattering into a Fabry-Perot cavity
- CP 81 M. Agre
Circular and elliptical dichroism effects in two-photon disintegration of atoms and molecules
- CP 82 I. L. Glukhov, V. D. Ovsiannikov
Thermal ionization of alkali Rydberg atoms
- CP 83 V.D.Ovsiannikov, E. Yu.Ilinova
Hyperpolarizabilities of multiplet Rydberg states in alkali and alkaline-earth atoms
- CP 84 N. N. Bezuglov,, K. Miculis, A. Ekers, J. Denskat, C. Giese, T. Amthor, M. Weidemueller
Penning ionization of cold Rb Rydberg atoms due to long-range dipole-dipole interaction
- CP 85 I.I.Beterov, I.I. Ryabtsev, D.B. Tretyakov, N.N Bezuglov, A. Ekers, V.M. Entin
Ionization of alkali-metal Rydberg atoms by blackbody radiation
- CP 86 B. T. Torosov, N.V. Vitanov
Level-crossing transition between mixed states
- CP 87 S.Werbowy, J. Kwela
M1-E2 interference in the Zeeman spectra of Bi I
- CP 88 E. Efremova, G. Anisimova, R. Semenov, G. Tsygankova
Numerical investigation of Ne I for $2p55g$ configuration and Ar I for $3p55g$ configuration Zeeman structure
- CP 89 A. Papoyan, G. Hakhumyan, A. Atvars, M. Auzinsh, D. Sarkisyan
Method for quantitative study of atomic transitions in magnetic field based on vapor nanocell with $L = \lambda$

- CP 90 D. Glazov, A. Volotka, V. Shabaev, I. Tupitsyn, G. Plunien
g factor of boronlike ions
- CP 91 V. Chernushkin, V. Ovsianikov
Magnetoelectric Jones spectroscopy of Li and Na atoms
- CP 92 A. Kamenski, V. Ovsianikov
Radiative transition probabilities from D Stark states in orthohelium
- CP 93 M. Ryabinina, L. Melnikov
Light-induced quasi-static polarization in hydrogen-like atom under the action of strong electromagnetic laser field
- CP 94 G.Skolnik, N. Vujicic, T. Ban, S. Vdovic, G. Pichler
Doppler-free spectroscopy of rubidium atoms placed in a magnetic field
- CP 95 M. Pawlak, M. Bylicki
Electric field influence on the hydrogen atom embedded in a plasma
- CP 96 B. Schnizer, Th. Heubrandtner, E. Rössl, M. Musso
Dynamic and geometric phases in the Stark Zeeman effect of the hyperfines structure of one-electron atoms
- CP 97 A. Costescu, C. Stoica, S. Spanulescu
New analytical relativistic formulae for the total photoeffect cross section for the K-shell electrons
- CP 98 N.L. Manakov, S.I. Marmo, S.Sviridov
Two-photon above-threshold ionization by a VUV-light
- CP 99 N.L. Manakov, S.I. Marmo, S.Sviridov
Above-threshold polarizability of alkali-metal and noble gas atoms
- CP 100 V. Richardson, J. Dardis, P. Hayden, P. Hough, E.T. Kennedy, J.T. Costello, S. Dsterer, W. Li, A. Azima, H. Redlin, J. Feldhaus, D. Cubaynes, D. Glijer, M. Meyer
Ionisation in Intense Superposed XUV + NIR Laser Fields
- CP 101 V.L.Sukhorukov, I.D. Petrov, H. Hotop
Photoionization of excited rare gas atoms $Rg(mp5(m+1)p J=0-3)$ in the autoionization region
- CP 102 S.Y. Yousif Al-Mulla
Spin dependent exchange scattering from ferromagnetic materials
- CP 103 K. Alioua, M. Bouledroua, A. Allouche, and M. Aubert-Frécon
Far-wing collisional broadening of the Na(3s-3p) line by helium
- CP 104 S. Chelli, M. Bouledroua
Excited and ground potassium monatoms perturbed by helium
- CP 105 L. Reggami, M. Bouledroua
Pressure broadening of calcium resonance line perturbed by helium
- CP 106 E. Saks, I. Sydoryk, N. N. Bezuglov, I. I. Beterov, K. Miculis, A. Ekers
Broadening and intensity redistribution in the atomic hyperfine excitation spectra due to optical pumping in the weak excitation limit
- CP 107 B. Mahrov, C. Andreeva, N. Bezuglov, K. Miculis, E. Saks, M. Bruvelis, A. Ekers
Reconsideration of spectral line profiles affected by transit time broadening
- CP 108 G. Auböck, J. Nagl, C. Callegari, W.E. Ernst
Alkali doped Helium Droplets in a Magnetic Field
- CP 109 C. Callegari, J. Nagl, W.E. Ernst, A.W. Hauser, O. Allard, G. Auböck
Quartet alkali trimers on He nanodroplets: Laser spectroscopy and ab initio calculations
- CP 110 R. Hefferlin
Group Dynamics of 2-Atom Even-Electron Molecules and Ions

Thursday, July 3

Session B 1

Lecture Hall P1

PL 4 J. Schmiedmayer

9:00 Atom Chips: Integrated circuits for matter waves

PL 5 F. Riehle

9:45 Optical Atomic clocks at the Frontiers of metrology

Session B 2 (parallel to B 3)

Lecture Hall P1

PR 5 F. Lang, K. Winkler, C. Strauss, R. Grimm, J. Hecker-Denschlag

11:00 Ultracold deeply-bound Rb₂ molecules

CP 111 A. Dantan, P. Herskind, J. Marler, M. Albert, M.B. Langkilde-Lauesen, M. Drewsen

11:30 Cavity-QED with ion Coulomb crystals

CP 112 U. Hohenester, A. Eiguren, S. Scheel, E.A. Hinds

11:45 Spin flip lifetimes in superconducting atom chips

CP 113 A. Cerè, V. Parigi, M. Abad, F. Wolfgramm, A. Predojevic, M. Mitchell

12:00 Interaction-Free Measurement of the Degree of Polarization of an Atomic Ensemble

CP 114 J. Koperski, M. Krosnicki, M. Strojecki

12:15 Entangled atom-pairs from dissociated dimers: an experimental test of Bell inequality for atoms

Session B 3 (parallel to B 2),

Lecture Hall P2

CP 115 G. Casa, A. Castrillo, G. Galzerano, R. Wehr, A. Merlone, D. Di Serafino, P. Laporta, L. Gianfrani
11:00 Primary gas thermometry by means of near-infrared laser absorption spectroscopy and determination of the Boltzmann constant

CP 116 V. Batteiger, M. Herrmann, S. Knünz, A. Ozawa, A. Vernaleken, G. Saathoff, M. Semczuk, F. Zhu,
H. Schuessler, Th. Hänsch, T. Udem

11:15 Towards precision spectroscopy in the XUV

CP 117 P.F. Staantum, K. Hojbjerg, R. Wester, M. Drewsen

11:30 Probing isotope effects in chemical reactions using single ions

CP 118 N.A. Matveeva, A.V. Taichenachev, A.M. Tumaikin, V.I. Yudin

11:45 Laser cooling of unbound atoms in nondissipative optical lattice

PR 6 P. Barker

12:00 Manipulating cold molecular gases with intense optical fields

Friday, July 4

Session C 1

Lecture Hall P1

- PL 6** **A. Weis**, P. Moroshkin, V. Lebedev, A. Hofer
9:00 Alkali Atoms, Dimers, Exciplexes and Clusters in 4He Crystals
- PL 7** **M. Scully**
9:45 Generation of short wavelength radiation via Coherent hyper Raman Superradiance

Session C 2 (parallel to C 3)

Lecture Hall P1

- PR 7** **J.R. Crespo Lopez-Urrutia**, S. W. Epp, and J. Ullrich
11:00 Resonant laser spectroscopy in the soft x-ray region
- CP 119 R. Lammegger, E. Breschi, G. Kazakov, G. Mileti, B. Matisov, L. Windholz
11:30 Investigations on the lin||lin CPT and its application in quantum sensors
- CP 120 J. Klein, F. Beil, T. Halfmann
11:45 Optically Driven Atomic Coherences: from the gas phase to the solid state
- CP 121 F. A. Hashmi, M. A. Bouchene
12:00 Slowing light and coherent control of susceptibility in a duplicated two-level system
- CP 122 T. Pfau, R. Heidemann, U. Raitzsch, V. Bendkowsky, B. Butscher, R. Löw
12:15 Rydberg excitation of a Bose-Einstein Condensate

Session C 3 (parallel to C 2),

Lecture Hall P2

- CP 123 S. Kreim, K. Blaum, H. Kracke, A. Mooser, W. Quint, C. Rodegheri, S. Ulmer, J. Walz
11:30 Progress towards a high-precision measurement of the g-factor of a single, isolated (anti)proton in a double Penning trap
- CP 124 R. E. Zillich, M. Leino, A. Viel
11:15 Helium-4 Clusters Doped with Excited Rubidium Atoms
- CP 125 M. Koch, J. Lanzersdorfer, G. Auböck, J. Nagl, C. Callegari, and W. E. Ernst
11:30 Progress in optically-detected spin-resonance on helium droplets
- CP 126 I.I. Ryabtsev, D.B. Tretyakov, I.I. Beterov, V.M. Entin
11:45 Effect of finite detection efficiency on the observation of the dipole-dipole interaction of a few Rydberg atoms
- PR 8** **V.L. Sukhorukov**
12:00 Resonances in Rare Gas Atoms: Many-Electron Theory and Experiment

Session C 4

Lecture Hall P1

- PL 8** **G.M. Tino**
14:30 Cold Atom Interferometry for Gravitational Experiments
- PL 9** **Ch. Blondel**
15:15 Photodetachment microscopy in a magnetic field

- CP 127 A.V. Glushkov, O.Yu. Khetselius, S.V. Malinovskaya, Yu. V. Dubrovskaya
Energy approach to discharge of metastable nuclei during negative muon capture
- CP 128 A.V. Glushkov
Resonance phenomena in heavy ions collisions and structurization of positron spectrum
- CP 129 O.Y. Khehtselius
Dynamics of the resonant levels for atomic and nuclear ensembles in a laser pulse: optical bi-stability effect and nuclear quantum optics
- CP 130 A.V. Glushkov, O.Y.Khetselius, E.P. Gurnitskaya, Yu. V. Dubrovskaya, D.E. Sukharev
Spectroscopy of the hadronic atoms and superheavy ions: Spectra, energy shifts and widths, hyperfine structure
- CP 131 K. Katsonis, Ch. Berenguer, R. Srivastava, L. Sharma, R. Clark, M. Cornille, A.D. Stauffer
Ar I transition probabilities and excitation cross sections involving the 4s metastable levels and the 4/5p configurations
- CP 132 G. Malcheva, K. Blageov, R. Mayo, M. Ortiz, J. Ruiz, L. Engström, H. Lundberg, S.Svanberg, H. Nilsson, P. Quinet, E. Biémont
Radiative data in the Zr I spectrum
- CP 133 G.P. Gupta
Energy levels, oscillator strengths and lifetimes in C I IV
- CP 134 G.P. Gupta
Large scale CIV 3 calculations of fine-structure energy levels and lifetimes in Al-like copper
- CP 135 C. Colon, A. Alonso-Medina, A. Zanon, J. Albeniz
Levels energies, oscillator strengths, and lifetimes for transition in Pb III
- CP 136 E. Träbert
Hyperfine interaction induced decays in highly charged ions
- CP 137 A. Stepanov
Einstein coefficients for activation barriers of equilibrium and non-equilibrium processes caused by Plank radiation
- CP 138 V. Fivet, E. Biemont, P. Palmeri, P. Quinet
New transition probabilities of astrophysical interest in triply ionized lanthanum (La IV)
- CP 139 J. Gurell, P. Lundin, S. Mannervik, L.O.Norlin, P. Royen
A new method for determining minute long lifetimes of metastable levels
- CP 140 J. Gurell, P. Lundin, S. Mannervik, L.O.Norlin, P. Royen, P. Schef, H. Hartman, A. Hibbert, H. Lundberg, K. Blageov, P. Palmeri, P. Quinet, E. Biémont
Lifetime measurements of metastable states of astrophysical interest
- CP 141 M.-T. Lee, M. Fujimoto, S. Michelin, I. Iga
Spin-exchange effects in elastic electron scattering from linear triatomic radicals
- CP 142 S. Zapryagaev, E.Butyrskaya
Spectral properties of interactions in endohedral fullerenes Li₂@c₆₀ and Na₂@C₆₀
- CP 143 S. Zapryagaev, E.Butyrskaya
Simulation of fullerene formation
- CP 144 I.I.Shafranyosh, M.I.Sukhoviya, M.I.Shafranyosh, R.O. Fedorko
Cross sections of negative ion production in electron collisions with Adenine molecules
- CP 145 O. Ryazanova, O. Nesterov, V. Zozulya
Effect of divalent metal ions on the conformational transitions in poly(dA)+poly(dT) system
- CP 146 K. Hubisz, T. Wroblewski, V.I. Tomin
Anomalous inhomogeneous broadening and kinetics properties of DMABN

- CP 147 L. Pruvost, H. Jelassi, B. Viaris de Lesegno
Reexamination of the LeRoy-Bernstein formula for weakly bound molecules
- CP 148 F. Talbi, M. Bouledroua, K. Alioua
The singlet X -A and X -B absorption coefficient of the K₂ system
- CP 149 A. W. Hauser, C. Callegari, W.E. Ernst, P. Soldán
Atomic-like shell models for alkali trimers derived from ab initio calculations
- CP 150 L. Busevica, R. Ferber, O. Nikolayeva, E. Pazyuk, A. Stolyarov, M. Tamanis
First observation and analysis of the (1; 2)¹Π states of KCs
- CP 151 O. Nikolayeva, R. Ferber, M. Tamanis, K. Knöckel, E. Tiemann, A. Pashov
High resolution spectroscopy and IPA potential construction of a³Σ⁺ state in KCs
- CP 152 J. Heldt, M. Józefowicz, J. R. Heldt
Determination of first-order molecular hyperpolarizability of ethyl 5-(4-aminophenyl)-3-amino-2,4-dicyanobenzoate using steady-state spectroscopic measurements and quantum-chemical calculations
- CP 153 L.E. Sansores, J. Muniz, A. Martinez, R. Salcedo
Electronic structure of the [Au₂(dmpm)(i - mnt)] complex
- CP 154 T. L. Dimitrova, A. Weis
A lecture demonstration of quantum erasing on a photon by photon basis
- CP 155 J.L. Robyr, P. Knowles, A. Weis
Stark shift in the Cs clock transition frequency
- CP 156 P. Knowles, G. Bison, N. Castagna, A. Hofer, A. Mtehdlishvili, A. Pazgalev, A. Weis
Magnetic Field Imaging With Arrays of Cs Magnetometers: Technology and Applications
- CP 157 R. Lammegger, L. Windholz
Performance of a compact dark state Magnetometer
- CP 158 A. Litvinov, G. Kazakov, B. Matisov
Laser-induced transport effect and laser induced-line narrowing mechanism for laser excitation in ⁸⁷Rb atomic vapors in a finite-size buffer-less cell
- CP 159 G.G. Grigoryan, G. Nikoghosyan, A. Gogyan, Y.T. Pashayan-Leroy, C. Leroy, S. Guerin
Population transfer, light storage, and superluminal propagation by bright-state adiabatic passage
- CP 160 C. Andreeva, N. Bezuglov, A. Ekers, K. Miculis, B. Mahrov, I. Ryabtsev, E. Saks, R. Garcia-Fernandez, K. Bergmann
Population switching of Na and Na₂ excited states by means of interference due to Autler-Townes effect
- CP 161 E. Alipieva, E. Taskova, S. Gateva, G. Todorov
High-rank polarization moments influence on the CPT resonance obtained on two-level degenerated system
- CP 162 K. Vaseva, P. Todorov, S. Caraleva, D. Slavov, S. Saltiel
Sub-Doppler fluorescence spectroscopy of Cs-vapour layers with nano-metric thickness
- CP 163 P. Todorov, S. Cartaleva, K. Vaseva, C. Andreeva, I. Maurin, D. Slavov, S. Saltiel
Absorption in the saturation regime of Cs-vapour layer with thickness close to the light wavelength
- CP 164 M. Auzins, R. Ferber, I. Fescenko, L. Kalvans, M. Tamanis
Dark and bright resonances in large J systems
- CP 165 M. Auzinsh, R. Ferber, F. Gahbauer, A. Jarmola, L. Kalvans
F-resolved bright and dark magneto-optical resonances at the cesium D₁ line
- CP 166 T. Kirova, A. Ekers, N. N. Bezuglov, I. I. Ryabtsev, K. Blushs, M. Auzinsh
Effects of hyperfine structure on the Autler-Townes splitting
- CP 167 A.Sargsyan, M.G. Bason, D. Sarkisyan, Y. Pashayan-Leroy, A.K. Mohapatra, C.S. Adams
Ladder and lambda systems electromagnetically induced transparency in thin and extremely-thin cells

- CP 168 A. Sargsyan, D. Sarkisyan, A. Papoyan, Y. Pashayan-Leroy, C. Leroy, P. Moroshkin, A. Weis
Saturation effects of Faraday rotation signals in Cs vapor nanocells: thickness-dependent effects
- CP 169 L. Kalvans, M. Auzinsh, R. Ferber, F. Gahbauer, A. Jarmola, A. Papoyan, D. Sarkisyan
Magneto-optical resonances in atomic rubidium at D_1 excitation in ordinary and extremely thin cells
- CP 170 A.Y. Samokotin, A.V. Akimov, N.N. Kolachevsky, Y. V. Vladimirova, V.N. Zadkov, A.V. Sokolov, V. N. Sorokin
Frequency-modulation spectroscopy of coherent population trapping resonances
- CP 171 K. Dahl, L. Spani, R.H. Rinkleff, K. Danzmann
Pump-probe spectroscopy: a survey of the spectra for four polarization combinations in degenerate two-level atoms
- CP 172 Z. Grujic, M. Mijailovic, D. Arsenovic, M. Radonjic, B. M. Jelenkovic
Dark resonance narrowing in uncoated rubidium vacuum vapor cell
- CP 173 S. S. Ivanov, P. Ivanov, N. Vitanov
Quantum search with trapped ions
- CP 174 G. von Oppen
The observability of atoms
- CP 175 T. Leveque, A. Gauguet, W. Chaibi, A. Landragin
Characterization of a high precision cold atom gyroscope
- CP 176 F. Shojaei Baghini, M. A. Bolorizadeh, R. Fathi, E. Ganhbari Adivi
Electron capture of methane molecule by proton impact
- CP 177 Ch. Berenguer, K. Katsonis, R. Srivastava, L. Sharma, R. Clarks, A.D. Stauffer
Excitation of the Xe I 6s metastables to the 6p and 7p configurations
- CP 178 G. P. Anisimova, E. Efremova, G. A. Tsygankova
Parametrization of Ne I spectrum for 2p55g, 6g, 7g configurations using semiempirical method
- CP 179 R. Karpuskiene, P. Bogdanovich, O. Rancova
Ab initio calculations of aluminium-like calcium
- CP 180 T.J. Wasowicz, S. Werbowy, R. Drozdowski, J. Kwela
Isotope shifts of forbidden lines of Lead
- CP 181 P. Moroshkin, V. Lebedev, A. Weis
Solid ^4He stabilized by charged impurities below the solidification pressure of pure helium
- CP 182 P. Moroshkin, V. Lebedev, A. Weis
Spectroscopy of Ba atoms isolated in solid He matrix
- CP 183 A. Matveev, J. Alnis, C. Parthey, N. Kolachevsky, T. W. Hänsch
New Measurement of the 2S Hyperfine Splitting in Atomic Hydrogen
- CP 184 Yu.P. Gangrsky, K.P. Marinova, S.G. Zemlyanoi, M. Avogoulea, J. Billowes, P. Campbell, B. Cheal, B. Tordoff, M. Bissel, D.H. Forest, M. Gardner, G. Tungate, J. Huikari, H. Penttilä, J. Aysto
High Resolution Laser Spectroscopy of Scandium
- CP 185 S. Poonia
 $L_{\alpha 1}$, $L_{\alpha 2}$, $L_{\beta 1}$, $L_{\beta 2}$ and L_{γ} satellites in the X-Ray emission spectra
- CP 186 S. Poonia
Origin of X-Ray satellites spectra in the $L_{\alpha 1}$ and $L_{\alpha 2}$ region
- CP 187 H.P. Garnir, E. Biémont, S. Enzonga Yoca, P. Quinet
VUV Spectroscopy of Xe IX
- CP 188 V. Fivet, E. Biémont, P. Palmeri, P. Quinet, L. Engström, H. Lundberg, H. Nilsson
Improved atomic data for platinum group elements
- CP 189 F. Gilleron, J. c. Pain, J. Bauche, C. Bauche-Arnoult
Impact of high-order moments on the statistical modeling of transition arrays

- CP 190 J. C. Pain, F. Gilleron
Exact and statistical methods for computing the distribution of states, levels and E1 lines in atomic spectra
- CP 191 Y.Nighat, R. Islam
Laser optogalvanic spectroscopy of Lanthanum in Spectral range of Rhodamine 6 G
- CP 192 A. Nadeem
Investigation of the even parity states of group II-B elements (Zn, Cd and Hg)
- CP 193 Z. Uddin, L. Windholz, F. Akber, M. Jahangir, I. Siddiqui
New levels of Pr I discovered via infrared spectral lines
- CP 194 A. Er, I.K. Öztürk, Gö. Basar, S. Kroeger, Gü. Basar, A. Jarmola, M. Tamanis, R. Ferber
New lines of atomic niobium in Fourier transform spectra
- CP 195 J. Dembczynski, M. Elantkowska, J. Ruczkowski
Configuration interaction effects in the fine- and hyperfine structure of the even configuration system of tantalum atom
- CP 196 E. Stachowska, J. Dembczynski, L. Windholz
Extended analysis of the even configurations of Ta II
- CP 197 B. Furmann
Search for new electronic levels in singly ionized europium Eu II
- CP 198 B. Acrimowicz, J. Dembczynski
Analysis of the odd configurations of tantalum atom – search for configurations containing f electrons
- CP 199 J. Dembczynski, M. Elantkowska, J. Ruczkowski
Program package for semi-empirical analysis of the fine- and hyperfine structure of complex atoms
- CP 200 M. Elantkowska, J. Ruczkowski, J. Dembczynski
Procedure for precise determination of the hyperfine structure constants A, B, C and D. Example of lanthanum atom
- CP 201 B. Gamper, L. Windholz
Investigations of the Hyperfinestructure of Praseodymium in the IR-Region with the help of FTS
- CP 202 P. Glowacki, L. Windholz, J. Dembczynski
Investigation of the hyperfine structure of Ta I - - lines
- CP 203 I. Siddiqui, B. Gamper, G.H. Guthöhrlein, L. Windholz
Perturbed intensity distribution of hyperfine components of Praseodymium-I lines
- CP 204 S. Khan, S.T. Iqbal, I. Siddiqui, L. Windholz
Investigation of the hyperfine structure of Pr I - lines in the region 5630 Å to 5772 Å
- CP 205 G. Krois, G.H. Guthöhrlein, L. Windholz
Correction of Pr I energy level values due to Fourier transform spectra and laser excitation
- CP 206 H. Reschab, C. Cagran, R. Tanzer, W. Schützenhöfer, A. Graf, G. Pottlacher
Normal spectral emissivity depending on atomic composition for two nickel-based and two ferrous-based alloys at 684.5 nm
- CP 207 T. Hüpf, C. Cagran, G. Pottlacher, G. Lohöfer
Identification of atomic structure in measurement data, depending on the used set of units
- CP 208 S. Cohen, M. M. Harb, A. Ollagnier, S. Cohen, F. Lepine, F. Robicheaux, M. Vrakking, C. Bordas
Electronic Wavefunction Microscopy using slow-photoelectron Imaging
- CP 209 E. Dimova, D. Zhechev, V. Steflekova
On a self-sustained oscillating mode for operation of a glow discharge
- CP 210 A. Kortyna and V. Fiore
Atomic beam measurements of the Cs 7d $^2D_{3/2}$ hyperfine parameters with two-photon fluorescence spectroscopy
- CP 211 O.B.Shpenik, E.E. Kontros, I.V. Chernyshova
Electron scattering by Cadmium atoms

Session C 6 Evening Lecture

Lecture Hall P1

EL 1 **R.F. Curl jr.** (Nobel Price in chemistry 1996)
20:00 A Brief History of Elemental Carbon

Saturday, July 5

Session D 1

PL 10 P. Corkum

9:00 Laser induced-Tunneling, Electron Diffraction and Molecular Orbital Imaging

PR 9 R. Kienberger

9:45 Attosecond spectroscopy in atoms and solids

Session D 2

Lecture Hall P1

PL 11 A. Scrinzi

10:45 Few-electron dynamics in the interaction with strong fields

PR 10 J. Mauritsson

11:30 Above, Around, and Below Threshold Ionization using Attosecond Pulses

12:00 Closing of the Conference