

ECAMP IX

6-11th May 2007, Heraklion, Crete

Conference Programme

Sunday 6/5

Welcome Reception 20:30-21:30

Monday 7/5

Opening 08:45-09:00

Plenary session

Chair: Lars Andersen

1. PRECISION MASS MEASUREMENT: $\omega_{\text{cyclotron}}$ IS NOT qB/m , DOES $E=mc^2$?
David E. Pritchard 09:00-10:00

Coffee Break 10:00-10:30

Parallel Sessions

1a: Coherent control

Chair: Gustav Gerber

- 1a-1 QUANTUM CONTROL OF CHEMICAL REACTIONS AND FUNCTIONS
Leticia González (*Invited*) 10:30-11:00
- 1a-2 QUANTUM AND MIXED QUANTUM/CLASSICAL APPROACHES TO THE CONTROL OF ULTRAFAST MOLECULAR WAVE PACKET INTERFERENCES
Christoph Meier (*Invited*) 11:00-11:30
- 1a-3 DRESSED STATE TAILORING WITH ULTRASHORT LIGHT PULSES
Matthias Wollenhaupt (*Invited*) 11:30-12:00
- 1a-4 COHERENTLY CONTROLLED ADIABATIC PASSAGE TO MULTICHANNEL CONTINUUM STRUCTURE
Ioannis Thanopoulos and Moshe Shapiro (*Oral*) 12:00-12:15

- 1a-5 NEW WAY TO INDUCE AND CONTROL ELEMENTARY CHEMICAL TRANSFORMATIONS ON A GAS-SOLID INTERPHASE BY MEANS OF RESONANT LASER RADIATION
V. V. Petrunin (*Oral*) 12:15-12:30

1b: Clusters

Chair: Wolfgang Ernst

- 1b-1 PROPERTIES OF CLUSTER IONS PROBED BY MASS SPECTROMETRY, LASER SPECTROMETRY, ELECTRON DIFFRACTION AND QUANTUM CHEMISTRY
M. M. Kappes, O. Hampe, M. Neumaier, D. Schooss, A. Lechtken, M. Kordel, P. Weis, E. Oger, O. Ehrler, K. Matheis, C. Rensing and A. Glöss (*Invited*)
10:30-11:15
- 1b-2 NEAR-INFRARED SPECTROSCOPY ON C60 ANIONS
J.U. Andersen (*Invited*) 11:15-11:45
- 1b-3 MOLECULAR DYNAMICS FOR FISSION PROCESSES
O.I. Obolensky, A. Lyalin, I.A. Solov'yov, A. Yakubovich, E. Henriques, A.V. Solov'yov, W. Greiner (*Invited*) 11:45-12:15
- 1b-4 FEMTOSECOND OPTICAL SPECTROSCOPY OF A SINGLE METAL NANOPARTICLE
Natalia Del Fatti, Otto Muskens, and Fabrice Valée (*Invited*) 12:15-12:45

Lunch 12:30-15:00

Parallel Sessions

2a: Attosecond Physics

Chair: George Tsakiris

- 2a-1 ATTOSECOND PHYSICS
Ferenc Krausz (*Invited*) 15:00-15:45
- 2a-2 THE OTHER HALF OF THE STORY: ATTOSECOND TIME-RESOLVED ELECTRON DYNAMIC
Marc Vrakking (*Invited*) 15:45-16:15
- 2a-3 ATTOSECOND METROLOGY IN THE SINGLE-CYCLE REGIME
G. Sansone, E. Benedetti, F. Calegari, C. Vozzi, S. Stagira, S. De Silvestri, M. Nisoli, L. Avaldi, R. Flammini, L. Poletto, P. Villoresi, C. Altucci, R. Velotta (*Invited*) 16:15-16:45
- 2a-4 AUTOCORRELATION MEASUREMENT OF ATTOSECOND PULSES BY XUV TWO-PHOTON PROCESS
Yasuo Nabekawa, Toshihiko Shimizu, Hirokazu Hasegawa, and Katsumi Midorikawa (*Invited*) 16:45-17:15

2b: Cold atoms and molecules *Chair: Wolfgang von Klitzing*

- 2b-1 NOVEL INTERACTIONS IN QUANTUM GASES
Tilman Pfau (*Invited*) 15:00-15:30
- 2b-2 QUANTUM DEGENERATE GASES OF METASTABLE HELIUM-3 AND
HELIUM-4 ATOMS
Wim Vassen (*Invited*) 15:30-16:00
- 2b-3 SCATTERING LENGTH OF SPIN-POLARIZED HELIUM
Bogumił Jeziorski (*Invited*) 16:00-16:30
- 2b-4 SIGNATURES OF EFIMOV'S EFFECT IN ULTRACOLD GASES
Thorsten Köhler (*Invited*) 16:30-17:00
- Coffee Break & Poster Session* 17:00-20:00

Tuesday 8/5

Plenary session *Chair: Andrey Solov'yov*

2. SWEETNESS AND LIGHT: FROM GLUCOSE TO GLYCOBIOLOGY
John P. Simons 9:00-10:00
- Coffee Break* 10:00-10:30

Parallel Sessions

3a: Biophysics *Chair: Frederik Merkt*

- 3a-1 CONICAL INTERSECTIONS AND PHOTOSTABILITY OF THE
BUILDING BLOCKS OF LIFE
Wolfgang Domcke and Andrzej L. Sobolewski (*Invited*) 10:30-11:15
- 3a-2 PROBING THE SECONDARY STRUCTURES OF SHORT PEPTIDE
CHAINS IN THE GAS PHASE: IR / UV DOUBLE RESONANCE STUDIES
E Gloaguen, F. Pagliarulo, F. Piuzzi, V. Brenner, I. Dimicoli and M. Mons
(*Invited*) 11:15-11:45
- 3a-3 IR AND UV SPECTROSCOPY OF COLD, BIOMOLECULAR IONS
Thomas R. Rizzo (*Invited*) 11:45-12:15
- 3a-4 ON MAGNETORECEPTION MECHANISMS IN BIRDS

Iliia A. Solov'yov, Danielle Chandler, Klaus Schulden and Walter Greiner
(*Oral*) 12:15-12:30

3b: Cavity QED, Quantum information *Chair: Fernande Vedel*

- 3b-1 OPTICAL CAVITY QED
Gerhard Rempe (*Invited*) 10:30-11:00
- 3b-2 SINGLE PHOTONS FROM STRONGLY COUPLED ATOM-CAVITY
SYSTEMS
Axel Kuhn (*Invited*) 11:00-11:30
- 3b-3 QED THEORY OF HEAVY IONS AND ATOMS
V.M. Shabaev (*Invited*) 11:30-12:00
- 3b-4 INDIVIDUAL ADDRESSING AND ERROR RESISTANT SINGLE QUBIT
GATES WITH TRAPPED Yb^+ IONS
A. Braun, V. Elman, M. Johanning, W. Neuhauser, N. Timoney, C. Weiß,
Chr. Wunderlich (*Oral*) 12:00-12:15
- 3b-5 A SCHEME FOR CAVITY COOLING OF INTERNAL AND EXTERNAL
DEGREES OF FREEDOM OF MOLECULES
P.W.H. Pinkse, G. Morigi, M. Kowalewski, R. de Vivie-Riedle (*Oral*)
12:15-12:30

Lunch 12:30-15:00

Parallel Sessions

4a: Electron collisions *Chair: Reinhold Schuch*

- 4a-1 ANION RESONANCES, THRESHOLD PHENOMENA, AND CHEMICAL
CHANGE REVEALED BY ELECTRON-SCATTERING
Michael Allan, Bogdan C. Ibănescu and Olivier May (*Invited*) 15:00-15:30
- 4a -2 THEORY OF ELECTRON COLLISIONS WITH POLAR MOLECULES
Roman Čurík and David Field (*Invited*) 15:30-16:00
- 4a -3 SYNTHESIS OF AMINO ACIDS BY LOW-ENERGY ELECTRONS IN
MOLECULAR ICES
A. Lafosse, M. Bertin, I. Martin, E. Illenberger, and R. Azria (*Invited*)
16:00-16:30
- 4a -4 STRUCTURAL ASPECTS OF THE RADIOLYSIS OF PROTEINS AND
PEPTIDES: THE EXAMPLE OF DISULFIDE BONDS
Chantal Houée-Levin (*Invited*) 16:30-17:00

4b: Rydberg and cold plasmas

Chair: Uwe Becker

- 4b-1 RYDBERG EXCITATION AND PLASMA FORMATION IN AN ULTRACOLD ATOMIC ENVIRONMENT
Jan M. Rost (*Invited*) 15:00-15:30
- 4b-2 DIPOLE BLOCKADE IN HIGH-RESOLUTION LASER EXCITATION OF RYDBERG STATES
Pierre Pillet (*Invited*) 15:30-16:00
- 4b-3 COHERENT PHENOMENA IN ULTRACOLD RYDBERG GASES
Matthias Weidemüller (*Invited*) 16:00-16:30
- 4b-4 ZEEMAN DECELERATION OF NEUTRAL GROUND STATE ATOMS
S. D. Hogan, N. Vanhaecke, M. Andrist, U. Meier, D. Sprecher, B. H. Meier and F. Merkt (*Oral*) 16:30-16:45
- 4b-5 MESOSCOPIC PHYSICS WITH ULTRACOLD ATOMS: FROM CONFINED SCATTERING TO RYDBERG ATOMS IN MAGNETIC TRAPS
P. Schmelcher (*Oral*) 16:45-17:00
- Coffee Break & Poster Session** 17:00-20:00

Wednesday 9/5

Plenary session

Chair: Hartmut Hotop

3. THE OPTICAL FREQUENCY COMB - A REMARKABLE TOOL WITH MANY USES
John L. Hall 09:00-10:00

Coffee Break 10:00-10:30

Plenary session

Chair: Hartmut Hotop

4. QUANTUM INFORMATION PROCESSING WITH TRAPPED Ca^+ IONS - MULTI-PARTICLE ENTANGLEMENT AND QUANTUM METROLOGY -
Rainer Blatt 10:30-11.30

ECAMP assembly 11:30-12:30

Lunch 12:30-15:00

Poster Session 20:00-22:00

Thursday 10/5

Plenary session

Chair: Christophe Blondel

5. COLD QUANTUM GASES: WHEN ATOMIC PHYSICS MEETS
CONDENSED MATTER
Jean Dalibard 09:00-10:00

Coffee Break 10:00-10:30

Parallel Sessions

5a: Alignment and polarization

Chair: Gerard Meijer

- 5a-1 CONTROLLING THE ROTATIONAL MOTION OF ASYMMETRIC TOP
MOLECULES BY LASER PULSES
Henrik Stapelfeldt (*Invited*) 10:30-11:15

- 5a-2 NEW METHODS FOR THE PRODUCTION AND DETECTION OF SPIN-
POLARIZED HYDROGEN
T. Peter Rakitzis (*Invited*) 11:15-11:45

- 5a-3 KINEMATICALLY COMPLETE STUDY OF DISSOCIATIVE
IONIZATION OF D₂ BY ION IMPACT
G. Laurent, J. Fernández, S. Legendre, M. Tarisien, L. Adoui, A. Cassimi, X.
Fléchar, F. Frémont, B. Gervais, E. Giglio, J. P. Grandin, and F. Martín
(*Invited*) 11:45-12:15

- 5a-4 LASER INDUCED MOLECULAR ALIGNMENT OF ETHYLENE
A. Rouzée, S. Guérin, B. Lavorel, and O. Faucher (*Oral*) 12:15-12:30

5b: Quantum information

Chair: Krystof Pachucki

- 5b -1 QUANTUM COMMUNICATION IN OPTICAL NETWORKS
Nicolas Gisin (*Invited*) 10:30-11:15

- 5b-2 LARGE HOT ATOMIC GASSES AS IDEAL QUANTUM SYSTEMS FOR
QUANTUM INFORMATION
Klaus Mølmer (*Invited*) 11:15-11:45

- 5b-3 QUANTUM TELEPORTATION BETWEEN LIGHT AND MATTER
J. F. Sherson, H. Krauter, R. K. Olsson, B. Julsgaard, K. Hammerer, J.I. Cirac,
and E.S. Polzik (*Invited*) 11:45-12:15

- 5b-4 COLLECTIVE EXCITATIONS AND INSTABILITY OF AN OPTICAL
LATTICE DUE TO UNBALANCED PUMPING
P. Domokos, J. K. Asbóth, H. Ritsch (*Oral*) 12:15-12:30

Lunch

12:30-15:00

Parallel Sessions

6a: Fundamental physics

Chair: Eva Lindroth

- 6a-1 REALIZATION AND APPLICATION OF FREQUENCY COMBS
Thomas Udem, Akira Ozawa, Christoph Gohle, Jens Rauschenberger, Ronald Holzwarth, Maximilian Herrmann, Elisabeth Peters, Birgitta Bernhardt, and Theodor W. Hänsch (*Invited*) 15:00-15:30
- 6a-2 MEASURING THE ELECTRON'S ELECTRIC DIPOLE MOMENT WITH HEAVY, POLAR MOLECULES.
J.J. Hudson, D. Kara, H.T. Ashworth, M.R. Tarbutt, B.E. Sauer, E.A. Hinds (*Invited*) 15:30-16:00
- 6a-3 ON A VARIATION OF THE PROTON-ELECTRON MASS RATIO
W. Ubachs (*Invited*) 16:00-16:30
- 6a-4 MATTER-ANTIMATTER CHEMISTRY WITH ANTIPROTONS
E. Lodi Rizzini, L. Venturelli, N. Zurlò (*Invited*) 16:30-17:00

6b: Molecular spectroscopy

Chair: Fernando Martin

- 6b-1 AB INITIO QUANTUM DEFECT THEORY: FROM X-RAY EXCITATION TO MILLIMETER WAVE SPECTROSCOPY
R. Guérout, H. Oueslati, Ch. Jungen and M. Telmini (*Invited*) 15:00-15:30
- 6b-2 INTERSTELLAR POLYCYCLIC AROMATIC HYDROCARBONS: FROM SPACE TO THE LABORATORY
C. Joblin (*Invited*) 15:30-16:00
- 6b-3 BIOMOLECULES STUDIED BY HIGH RESOLUTION LASER SPECTROSCOPY: STATE OF THE ART
W. Leo Meerts (*Invited*) 16:00-16:30
- 6b-4 VACUUM ULTRAVIOLET PHOTODISSOCIATION IMAGING OF HeH⁺ USING INTENSE FREE ELECTRON LASER PULSES
H. B. Pedersen, S. Altevogt, B. Jordon-Thaden, O. Heber, M. L. Rappaport, D. Schwalm, J. Ullrich, D. Zajfman, R. Treusch, N. Guerassimova, M. Martins, J.-T. Hoefl, M. Wellhöfer and A. Wolf (*Oral*) 16:30-16:45
- 6b-5 SINGLE PHOTON-INDUCED SYMMETRY BREAKING OF H₂ DISSOCIATION
F. Martín, J. Fernández, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schöffler, L. Schmidt, T. Jahnke, O. Jagutzki, A. Czasch, E. P. Benis, T.

Osipov, A. L. Landers, A. Belkacem, M. H. Prior, H. Schmidt-Böcking, C. L. Cocke, R. Dörner (*Oral*) 16:45-17:00

Coffee Break & Poster Session 17:00-19:00

Conference Dinner 19:30

Friday 11/5

Plenary session

Chair: Ken Taylor

6. FEW-PHOTON MULTIPLE IONIZATION OF ATOMS BY INTENSE FEL RADIATION
R. Moshhammer, L. Foucar, A. Rudenko, Th. Ergler, C.D. Schröter, K. Zrost, S. Lüdemann, D. Fischer, J. Tietze, T. Jahnke, M. Schöffler, T. Weber, R. Dörner, T. Zouros, A. Dorn, T. Ferger, K.U. Kühnel, R. Treusch, P. Radcliff, E. Plönjes, Y.H. Jiang, and J. Ullrich 09:00-10:00

Coffee Break 10:00-10:30

Parallel Sessions

7a: Few-body dynamics

Chair: Horst Schmidt Böcking

- 7a-1 COINCIDENCE STUDIES OF PHOTOIONIZATION PROCESSES
P. Bolognesi and L. Avaldi (*Invited*) 10:30-11:00
- 7a-2 DOUBLE PHOTOIONIZATION OF SMALL MOLECULES AND RELATED PHENOMENA
A. Belkacem (*Invited*) 11:00-11:30
- 7a-3 UNRAVELING MODE-SPECIFIC REACTIVITY BY PRODUCT PAIR - CORRELATION MEASUREMENTS
Kopin Liu (*Invited*) 11:30-12:00
- 7a-4 EFFECT OF THE GEOMETRIC PHASE ON CHEMICAL REACTION DYNAMICS
Stuart C. Althorpe (*Invited*) 12:00-12:30

7b: Cold atoms and molecules

Chair: Jaques Vigue

- 7b-1 EVIDENCE FOR EFIMOV QUANTUM STATES IN EXPERIMENTS WITH ULTRACOLD CESIUM GASES
Hans-Christoph Nägerl (*Invited*) 10:30-11:00
- 7b-2 DECELERATION AND TRAPPING OF NEUTRAL POLAR MOLECULES

- Sebastiaan Y.T. van de Meerakker (*Invited*) 11:00-11:30
- 7b-3 TRAPPING RYDBERG ATOMS AND MOLECULES USING ELECTRIC FIELDS
E. Vliegen and F. Merkt (*Invited*) 11:30-12:00
- 7b-4 MANY-BODY DYNAMICS OF REPULSIVELY BOUND PAIRS OF PARTICLES IN A PERIODIC POTENTIAL
David Petrosyan, Bernd Schmidt, James R. Anglin, and Michael Fleischhauer (*Oral*) 12:00-12:15
- 7b-5 CREATION OF AN ULTRACOLD MIXTURE OF FERMIONIC LITHIUM AND POTASSIUM
F.M. Spiegelhalter, E. Wille, G. Kerner, D. Naik, A. Trenkwalder, C. Aiello, R. Chulia Jordan, G. Hendl, F. Schreck and R. Grimm (*Oral*) 12:15-12:30
- Lunch* 12:30-14:00

Parallel Sessions

8a: Hot Topics

Chair: Ninolay Kabachnik

- 8a-1 ATTOSECOND IONIZATION DYNAMICS
P. Johnsson, J. Mauritsson, T. Remetter, K. J. Schafer and A. L'Huillier 14:00-14:20
- 8a-2 A FEMTOSECOND IMAGING STOPWATCH FOR THE BOND BREAKAGE OF A POLYATOMIC MOLECULE
R. de Nalda, J.G. Izquierdo, J. Durá, L. Bañares 14:20-14:40
- 8a-3 VISUALIZING AND CONTROLLING ULTRAFAST WAVE-PACKET INTERFERENCE IN DIATOMIC MOLECULES
Hiroyuki Katsuki, Hisashi Chiba, Kenji Ohmori, Christoph Meier, and Bertrand Girard 14:40-15:00
- 8a-4 MAPPING THE VIBRATION OF FAST MOLECULES WITH ULTRASHORT LASER PULSES
C R Calvert, J McKenna, D S Murphy, W A Bryan, E M L English, J Wood, I C E Turcu, J F McCann, W R Newell and I D Williams 15:00-15:20
- 8a-5 FEMTOSECOND LASER INDUCED FUSION OF GAS PHASE FULLERENES
K.Hansen, M.Kjellberg, A.V.Bulgakov, E.E.B.Campbell 15:20-15:40
- 8a-6 BEYOND MEAN FIELD: USING LASER PULSES TO PROBE PAIR CORRELATIONS IN CONDENSATES
J. Mur-Petit, P. Naidon, E. Luc-Koenig, and F. Masnou-Seeuws 15:40-16:00

8b: Hot Topics

Chair: Christian Bordas

- 8b-1 ELECTRON SPIN RELAXATION IN ALKALI SAMPLES ON THE SURFACE OF HELIUM NANODROPLETS
Johann Nagl, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst
14:00-14:20
- 8b-2 RESONANCES IN TRANSITION METAL COMPLEXES BY TDDFT CALCULATIONS
P. Decleva, G. Fronzoni and M. Stener
14:20-14:40
- 8b-3 NON-METALLIC BEHAVIOR OF C₆₀ ELECTRON SHELL
M. Ya. Amusia and A. S. Baltenkov
14:40-15:00
- 8b-4 ⁸⁷Sr OPTICAL LATTICE CLOCK USING SPIN-POLARIZED ATOMS
X. Baillard, M. Fouché, R. Le Targat, P. Westergaard, A. Lecallier, F. Chapelet, S. Bize, P. Rosenbusch, M. Abgrall, P. Laurent, Y. Lecoq, G.D. Rovera, A. Clairon, P. Lemonde, B. Lipphardt, G. Grosche, H. Schnatz
15:00-15:20
- 8b-5 PHOTOIONIZATION MICROSCOPY: EXPERIMENT AND SIMULATIONS
A. Ollagnier, F. Lépine, M-A. Lebeault, F. Robicheaux, M.J.J. Vrakking and C. Bordas
15:20-15:40
- 8b-6 FLUORESCENCE OF HELIUM DOUBLY EXCITED STATES BELOW $N = 2$ IN HOMOGENEOUS ELECTRIC FIELD
Andrej Mihelič and Matjaž Žitnik
15:40-16:00

POSTERS

(Few of the contributions listed below were presented as oral or hot topic contributions at the conference. Those are not indicated here as their selection was finalized after this book went to press)

Monday 7/5

1. Attosecond Physics

- Mo1-1 ATTOSECOND REAL-TIME OBSERVATION OF ELECTRON TUNNELLING AND MULTI-ELECTRON DYNAMICS IN ATOMS
M. Schultze, M. Uiberacker, Th. Uphues, A.J. Verhoef, V. Yakovlev, M.F. Kling, J. Rauschenberger, N.M. Kabachnik, H. Schröder, M. Lezius, K.L. Kompa, H.-G. Muller, M.J.J. Vrakking, S. Hendel, U. Kleineberg, U. Heinzmann, M. Drescher & F. Krausz.
- Mo1-2 THE ROUTE TO INTENSE ATTOSECOND PULSES USING HIGH POWER LASERS
R. Hörlein, Y. Nomura, S. Rykovanov, M. Geissler, P. Tzallas, S. Karsch, Zs. Major, J. Osterhoff, D. Charalambidis, F. Krausz, and G. D. Tsakiris
- Mo1-3 TOWARDS INTENSE ISOLATED ATTOSECOND PULSES
P. Tzallas, E. Skantzakis, C. Kalpouzou, E. P. Benis, A. Bonarou, G. D. Tsakiris and D. Charalambidis
- Mo1-4 SPATIOTEMPORAL EFFECTS IN ATTOSECOND PULSE TRAINS METROLOGY
E.P. Benis, J. Kruse, P. Tzallas, E. Skantzakis, G.D.Tsakiris and D. Charalambidis
- Mo1-5 SINGLE ATTOSECOND PULSES FROM SURFACE HARMONICS USING POLARIZATION GATING TECHNIQUE
S.G. Rykovanov, M. Geissler, J. Meyer-ter-Vehn, and G. D. Tsakiris
- Mo1-6 FULL TEMPORAL RECONSTRUCTION OF LOWER ORDER HARMONIC SUPERPOSITIONS
E. Skantzakis, P. Tzallas, E. Papalazarou, C. Kalpouzou, A. Bonarou, E. P. Benis, G. D. Tsakiris and D. Charalambidis
- Mo1-7 ATTOSECOND ELECTRON PULSES FROM INTERFERENCE OF ABOVE-THRESHOLD DE BROGLIE WAVES
Sándor Varró and Győző Farkas
- Mo1-8 ATTOSECOND IONIZATION DYNAMICS
P. Johnsson, J. Mauritsson, T. Remetter, K. J. Schafer and A. L'Huillier
- Mo1-9 THEORETICAL STUDY OF ATOMIC PHOTOIONIZATION BY ATTOSECOND XUV PULSES IN A STRONG LASER FIELD

A.K. Kazansky and N.M. Kabachnik

- Mo1-10 MECHANISMS FOR EFFICIENT PRODUCTION OF SINGLE ATTOSECOND PULSE: BREMSSTRAHLUNG VERSUS RECOMBINATION
M. Yu. Emelin, A. A. Gonoskov, M. Yu. Ryabikin and A. M. Sergeev
- Mo1-11 SUPER INTENSE LASER FIELD ON SURFACE WITH FORMING THE ATTO-SECOND LASER PLASMA AND NEW LASER SPECTROSCOPY OF NUCLEAR ISOMERS
Alexander V. Glushkov

2. Advanced Radiation and Particle Sources

- Mo2-1 A BRIGHT ULTRACOLD ATOMS - BASED ELECTRON SOURCE
G. Taban, M.P. Reijnders, S.B. van der Geer, O.J. Luiten, and E.J.D. Vredendregt
- Mo2-2 AN INTENSE CHANNELING RADIATION X-RAY SOURCE
W. Wagner, B. Azadegan and J. Pawelke
- Mo2-3 ON THE POSSIBILITY OF A CRYSTALLINE "UNDULATOR" FOR LOW-ENERGY ELECTRONS
A.V. Korol, M. Tabrizi, A.V. Solov'yov, W. Greiner
- Mo2-4 ULTRASHORT TUNABLE UV PULSES FROM SELF-FOCUSING OF FEW-CYCLE PULSES IN ARGON AND APPLICATION FOR PUMP-PROBE SPECTROSCOPY
W. Fuß, K. Kosma, W.E. Schmid, S.A. Trushin
- Mo2-5 CRYSTALLINE UNDULATOR BASED GAMMA-LASER: CURRENT STATUS AND PROSPECTS
Andriy Kostyuk, Andrei Korol, Andrey Solov'yov, Walter Greiner
- Mo2-6 LASER-COOLED ION SOURCE
M.P. Reijnders, S.B. van der Geer, G. Taban, O.J. Luiten, P.H.A. Mutsaers, and E.J.D. Vredendregt
- Mo2-7 COLLIDING LASER PRODUCED PLASMAS AS ATOMIC, MOLECULAR AND CLUSTER SOURCES: A PROGRESS REPORT
P. Hough, C. McLoughin, J.P. Mosnier, J. Costello
- Mo2-8 LASER-ION SOURCE FOR EXPERIMENTS WITH ROVIBRATIONALLY SELECTED MOLECULAR IONS
N. de Ruette, X. Gillon, B. Fabre, X. Urbain
- Mo2-9 FEASIBILITY OF A CRYSTALLINE UNDULATOR FOR ULTRA-HIGH-ENERGY ELECTRONS
A.V. Korol, M. Tabrizi, A.V. Solov'yov, W. Greiner

3. Clusters and Nanoparticles

- Mo3-1 SPECTRUM AND DYNAMICS OF A TWO-ELECTRON DOUBLE QUANTUM DOT MOLECULE
R. Nepstad, V. Popsueva and J. P. Hansen
- Mo3-2 NON-METALLIC BEHAVIOR OF C₆₀ ELECTRON SHELL
M. Ya. Amusia and A. S. Baltenkov
- Mo3-3 SURFACE PHOTOCHEMISTRY FROM FIRST PRINCIPLES
Thorsten Klüner
- Mo3-4 KINETIC MODEL FOR NANOTUBES GROWTH
O. I. Obolensky, I. A. Solov'yov, A. V. Solov'yov, W. Greiner
- Mo3-5 AB INITIO POTENTIAL SURFACE AND VIBRATIONAL PREDISSOCIATION DYNAMICS OF HeI₂(B) CLUSTER
R. Prosmi, A. Valdés, P. Villarreal, G. DelgadoBarrio
- Mo3-6 CLUSTER ORIGIN OF TRANSFER OF NANOTUBES
Francisco Torrens and Gloria Castellano
- Mo3-7 MULTIPLY CHARGED NEON CLUSTER IONS: CRITICAL SIZE AND COULOMB EXPLOSION
I. Mähr, F. Zappa, S. Denifl, D. Kubala, O. Echt, T. D. Märk and P. Scheier
- Mo3-8 ELECTRON SPIN RELAXATION IN ALKALI SAMPLES ON THE SURFACE OF HELIUM NANODROPLETS
Johann Nagl, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst
- Mo3-9 STRUCTURE OF CORONENE CLUSTERS
O. I. Obolensky, A. V. Solov'yov, W. Greiner
- Mo3-10 RADIATIVE COOLING OF Al₄⁻
Y. Toker, O. Aviv, M. Eritt, M.L. Rappaport, O. Heber, D. Schwalm, D. Zajfman
- Mo3-11 INTERPLAY OF ELECTRONIC AND GEOMETRY SHELL CLOSURES FOR NEUTRAL AND CHARGED Sr CLUSTERS
Andrey Lyalin, Ilia Solov'yov, Andrey Solov'yov, and Walter Greiner
- Mo3-12 MAGNETIC PROPERTIES OF La CLUSTERS
Andrey Lyalin, Andrey Solov'yov, and Walter Greiner
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- Tu1-11 THE IONIZATION OF Mg 3s AND 2p ORBITALS BY ELECTRON IMPACT
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- Tu3-19 ELECTRON INDUCED CAPTURE DISSOCIATION OF PEPTIDE CATIONS.
Anne I. S. Holm, Preben Hvelplund, Umesh Kadhane, Steen Brøndsted Nielsen, Subhasis Panja, Kristian Støchkel and Esben S. Worm
- Tu3-20 QUANTUM MECHANICAL SELFASSEMBLING OF ARTIFICIAL MINIMAL CELLS AND CONTROL BY MOLECULAR ELECTRONICS AND SPINTRONICS LOGICAL DEVICES
Arvydas Tamulis and Vykintas Tamulis

- Tu3-21 QUANTUM MECHANICAL MODELING OF MINIMAL LIVING ORGANISMS AND PROGRAMMABLE NANO BIOROBOTS
Arvydas Tamulis and Vykintas Tamulis
- Tu3-22 QUANTUM PROCESSES OF SELFASSEMBLY, PHOTOSYNTHESIS AND MOLECULAR COMPUTING IN ARTIFICIAL MINIMAL LIVING CELLS
Arvydas Tamulis and Vykintas Tamulis
- Tu3-23 DETERMINATION OF TRACE ELEMENTS OF PHYTOCOMPOSITION WITH USING HERB BY INDUCTIVELY COUPLED PLASMA OPTICAL SPECTROMETRY (HYDRIDE GENERATION)
Alena Muravitskaya, Michail Belkov
- Tu3-24 DIRECT FORMATION OF AMINO ACID BY UV IRRADIATION TO SIMPLE ORGANIC MOLECULES
A. Hiraya, M. Morita, Y. Harada, H. Tamaki, M. Kuwajima
- Tu3-25 INELASTIC SCATTERING AND STOPPING POWER OF ELECTRONS IN BIOMOLECULAR SYSTEMS
A. Muñoz, J. C. Oller, F. Blanco, P Limão-Vieira and G. García
- Tu3-26 IMAGING OF ISOLATED GASEOUS BIOMOLECULES PRODUCED BY LASER DESORPTION
T L Merrigan, C A Hunniford, R W McCullough and D J Timson
- Tu3-27 LOW ENERGY ION DAMAGE TO DNA
L. Sellami, S. Lacombe, Z. Deng, M. Imhoff, I. Bald, E. Illenberger, and M. A. Huels
- Tu3-28 METASTABLE DECAYS OF NEGATIVE IONS FORMED UPON ELECTRON ATTACHMENT TO SMALL BIOMOLECULES AND EXPLOSIVES
A. Mauracher, M. Beikircher, S. Denifl, F. Zappa, A. Bacher, O. Echt, T.D. Märk, P. Scheier
- Tu3-29 GAS-PHASE STUDIES OF THE PHOTOABSORPTION DYNAMICS IN CHROMOPHORE IONS
L. Lammich, I.B. Nielsen, H. Sand, A. Svendsen and L.H. Andersen
- Tu3-30 EPOTRAN: A FULL-DIFFERENTIAL MONTE CARLO CODE FOR ELECTRON AND POSITRON TRANSPORT IN LIQUID WATER
Champion Christophe

Wednesday 9/5

1. Alignment-Orientatation-Polarization

- We1-1 ON THE ANGULAR DISTRIBUTION AND SPIN POLARIZATION OF PHOTOELECTRONS FROM SEMI-FILLED SHELL ATOMS
M. Ya. Amusia and L. V. Chernysheva
- We1-2 MOLECULAR IONIZATION PROBABILITY MEASURED BY MOLECULAR ALIGNMENT
V. Lorient, E. Hertz, A. Rouzée, B. Lavorel, and O. Faucher
- We1-3 EFFICIENT ORIENTATION OF MOLECULES
S. Guérin, D. Sugny, H.R. Jauslin
- We1-4 LASER CONTROL OF PHOTOINDUCED PROCESSES. I. ALIGNMENT AND REACTIVITY
D. Sugny, M. Desouter-Lecomte, Y. Justum L. Bomble and M. Ndong
- We1-5 FIELD-FREE DYNAMIC ALIGNMENT OF DEUTERIUM WITH INTENSE FEW-CYCLE PULSES
J Wood, E M L English, C R Calvert, J McKenna, W A Bryan, R Torres, I C E Turcu, I D Williams and W R Newell
- We1-6 NEW METHODS FOR THE PRODUCTION AND DETECTION OF POLARIZED ATOMS: HYDROGEN AND CHLORINE
Dimitris Sofikitis, Luis Rubio-Lago, Andrew J. Alexander, Marion R. Martin, Davida J. Ankeny Brown, Antonis Koubenakis, Nathaniel C.-M. Bartlett, Richard. N. Zare, Theofanis N. Kitsopoulos and T. Peter Rakitzis
- We1-7 LASER INDUCED MOLECULAR ALIGNMENT OF ETHYLENE
A. Rouzée, S. Guérin, B. Lavorel, and O. Faucher
- We1-8 ELECTRON RE-SCATTERING IN ALIGNED H₂ AND CO₂ USING THE R-MATRIX METHOD
Alex Harvey and Jonathan Tennyson
- We1-9 PULSE SHAPING FOR OPTIMIZING FIELD-FREE MOLECULAR ALIGNMENT
E. Hertz, A. Rouzée, B. Lavorel, and O. Faucher
- We1-10 DETERMINATION OF ATOMIC LEVEL POLARIZATION TIME DECAY
E.G. Kanetsyan, G.G. Adonts
- We1-11 ALIGNMENT DEPENDENCE IN STRONG-FIELD IONIZATION OF LASER IRRADIATED MOLECULAR DIMERS
Vladimir I. Usachenko, Pavel E. Pyak and Shih-I Chu
- We1-12 CIRCULAR DICHROISM IN TWO-PHOTON IONIZATION OF ORIENTED AND ALIGNED ATOMS
M. Ya. Agre

2. BEC-Quantum Gases

- We2-1 GENERALIZED MEAN FIELD THEORY OF RESONANT BOSE-FERMI MIXTURES
Alexander V. Avdeenko, Daniele C. E. Bortolotti, and John L. Bohn
- We2-2 TIME-AVERAGED ADIABATIC POTENTIALS (TAAP) FOR MATTER-WAVE INTERFEROMETRY
M. Baker, V. Bolpasi, P. Condylis, G. Konstantinidis, N. Lagos, A. Lazoudis, I. Lesanovsky, O. Morizot, M. Pappa, A. Protopapadakis, D. Sanchez, W. von Klitzing
- We2-3 CREATION OF SOLITONS IN ATOMIC BEC
G. Juzeliūnas, P. Öhberg, J. Rusecka and M. Fleischhauer
- We2-4 ROUTES TOWARDS Cs ATOM BEC VIA HIGH DENSITY DIPOLE TRAP.
G. Stern, D. Sofikitis, E. Dimova, A. Fioretti, D. Comparat and P. Pillet
- We2-5 INTERACTION OF A RYDBERG ATOM WITH A TRAPPED BOSE-EINSTEIN CONDENSATE
Cenap Ateş and Jan-Michael Rost
- We2-6 MULTICOMPONENT GAP SOLITONS IN SPINOR BOSE-EINSTEIN CONDENSATES
Beata J. Dąbrowska-Wüster, Elena A. Ostrovskaya, Tristram J. Alexander, Yuri S. Kivshar
- We2-7 GROUND STATE PROPERTIES AND ELEMENTARY EXCITATION OF ^{85}Rb BOSE-EINSTEIN CONDENSATE : ANALYTICAL METHOD FOR MODIFIED THOMAS-FERMI MODEL WITH LARGE GAS-PARAMETER
Moumita Gupta and Krishna Rai Dastidar
- We2-8 BEYOND MEAN FIELD: USING LASER PULSES TO PROBE PAIR CORRELATIONS IN CONDENSATES
J. Mur-Petit, P. Naidon, E. Luc-Koenig, and F. Masnou-Seeuws
- We2-9 DYNAMICAL INTERFERENCES AS A PROBE OF SHORT-PULSE PHOTOASSOCIATION
J. Mur-Petit, E. Luc-Koenig, and F. Masnou-Seeuws
- We2-10 GAP SOLITON SELF-FORMATION IN BOSE-EINSTEIN CONDENSATE
Michał Matuszewski, Wiesław Krolikowski, Marek Trippenbach, Yuri S. Kivshar

- We2-11 GROUND STATES OF SPIN-3 BOSE-EINSTEIN CONDENSATES FOR CONSERVED MAGNETIZATION
H. Mäkelä and K.-A. Suominen
- We2-12 NON-MARKOVIAN DYNAMICS IN ATOM-LASER OUTCOUPLING FROM A DOUBLE-WELL BOSE-EINSTEIN CONDENSATE
G. M. Nikolopoulos, C. Lazarou and P. Lambropoulos

3. Cold atoms and molecules

- We3-1 PRODUCTION, STATE SELECTION AND DECELERATION OF COLD LITHIUM HYDRIDE
S. K. Tokunaga, J. O. Stack, J. J. Hudson, B. E. Sauer, E. A. Hinds and M. R. Tarbutt
- We3-2 ATOM TRAP TRACE ANALYSIS OF CALCIUM ISOTOPES
Albert K. Mollema, Lorenz Willmann, Klaus Jungmann and Ronnie Hoekstra
- We3-3 ZEEMAN DECELERATION OF NEUTRAL GROUND STATE ATOMS
S. D. Hogan, N. Vanhaecke, M. Andrist, U. Meier, D. Sprecher, B. H. Meier and F. Merkt
- We3-4 QUANTUM ENGINEERING OF ULTRACOLD ATOMS IN ONE-DIMENSIONAL TRAPPING POTENTIALS
D.S. Murphy and J.F. McCann
- We3-5 A SCHEME FOR CAVITY COOLING OF INTERNAL AND EXTERNAL DEGREES OF FREEDOM OF MOLECULES.
P.W.H. Pinkse, G. Morigi, M. Kowalewski, R. de Vivie-Riedle
- We3-6 CREATION OF AN ULTRACOLD MIXTURE OF FERMIONIC LITHIUM AND POTASSIUM
F.M. Spiegelhalter, E. Wille, G. Kerner, D. Naik, A. Trenkwalder, C. Aiello, R. Chulia Jordan, G. Hendl, F. Schreck and R. Grimm
- We3-7 COHERENT LIGHT TRANSPORT IN ULTRACOLD ATOMIC VAPORS
G. Labeyrie, D. Wilkowski, R. Kaiser, C. Miniatura, D. Delande
- We3-8 PHOTOASSOCIATION OF METASTABLE HELIUM REVISITED
B. Dequilhem, F.X. Gadéa, T. Leininger, A.S. Dickinson
- We3-9 AN ELECTRODYNAMIC TRAP FOR NEUTRAL ATOMS
Sophie Schlunk, Adela Marian, Peter Geng, Allard Mosk, Gerard Meijer, and Wieland Schöllkopf

- We3-10 A TOOLBOX FOR THE THEORETICAL DESCRIPTION OF ULTRACOLD ATOMIC COLLISIONS
Yulian V. Vanne and Alejandro Saenz
- We3-11 ENHANCING RAMAN ANALYSIS IN OPTICAL TWEEZERS BY PHASE-SENSITIVE DETECTION.
A. C. De Luca, G. Pesce, G. Rusciano and A. Sasso
- We3-12 PHOTO-ASSOCIATIVE SPECTROSCOPY OF WEAKLY BOUND MOLECULES. LU-FANO ANALYSIS.
H. Jelassi, B. Viaris de Lesegno and L. Pruvost
- We3-13 TRANSPORT AND LOCALIZATION IN TILTED AND DRIVEN OPTICAL LATTICES
Dirk Withhaut, Friederike Trimborn, and Hans Jürgen Korsch
- We3-14 SYMPATHETIC COOLING OF MOLECULAR IONS AT ULTRALOW ENERGIES: INTERACTION AND DYNAMICS FOR $\text{MgH}^+(\text{X}^1\Sigma^+)$ WITH $\text{Rb}(^1\text{S})$.
M. Tacconi, E. Bodo, F.A. Gianturco
- We3-15 MESOSCOPIC PHYSICS WITH ULTRACOLD ATOMS: FROM CONFINED SCATTERING TO RYDBERG ATOMS IN MAGNETIC TRAPS
P. Schmelcher
- We3-16 DETERMINATION OF THE SCATTERING LENGTH OF THE $a^3\Sigma^+$ POTENTIAL OF $^{87}\text{RbCs}$
E. Tiesinga, M. Anderlini, and E. Arimondo
- We3-17 ELECTROMAGNETICALLY INDUCED TRANSPARENCY OF COLD Rb ATOMS IN A MAGNETO-OPTICAL TRAP
K. Kowalski, S. Gateva, M. Głódź, M. Janowicz, J. Szonert, K. Vaseva
- We3-18 STIMULATED RAMAN TRANSITIONS IN A CO_2 LATTICE
M. G. Bason, K. J. Weatherill and C. S. Adams
- We3-19 UNIVERSAL METHOD FOR COOLING/HEATING OF THE ULE FABRY-PEROT CAVITIES TO THE ZERO EXPANSION TEMPERATURE
J. Alnis, A. Matveev, N. Kolachevsky, Th. Udem, T.W. Hänsch
- We3-20 TRANSPORT PROPERTIES IN A MOTT-LIKE STATE OF MOLECULES
D.M. Bauer, N. Syassen, T. Volz, M. Lettner, D. Dietze, S. Dürr, and G. Rempe
- We3-21 FEMTOSECOND LASER INDUCED FLUORESCENCE IN DENSE RbCs VAPOR

Nataša Vujičić, Ticijana Ban, Silvije Vdović, Damir Aumiler, Hevoje Skenderović and Goran Pichler,

- We3-22 SPIN EXCHANGE SHIFTS IN MAGNETIC RESONANCE OF COLD ATOMIC HYDROGEN GAS
J. Ahokas, J. Järvinen, S. Vasiliev
- We3-23 TRAPPING AND GUIDING ULTRACOLD ATOMS WITH THE HELP OF QUANTUM REFLECTION
Javier Madrõnero¹, Florian Arnecke and Harald Friedrich
- We3-24 COLD AND PURE GUIDED BEAMS OF POLAR MOLECULES
P.W.H. Pinkse, L.D. van Buuren, M. Motsch, S. Pohle, T. Rieger, C. Sommer and G. Rempe
- We3-25 PHOTOASSOCIATION OF COLD CESIUM ATOMS: ANALYSIS OF THE LONG-RANGE 0_g^- STATE REVISITED.
Nadia Bouloufa, Anne Crubellier, and Olivier Dulieu
- We3-26 THEORETICAL STUDY OF THE OPTICAL MANIPULATION OF COLD ATOMS
Naceur Gaaloul
- We3-27 ULTRACOLD ATOM-ATOM COLLISIONS IN TRAP WITH TIME-DEPENDENT WAVE-PACKET METHOD
V.S. Melezhik
- We3-28 AUTOIONIZATION OF SPIN-POLARIZED METASTABLE HELIUM IN TIGHT ANISOTROPIC HARMONIC TRAPS
T. J. Beams, G. Peach and I. B. Whittingham
- We3-29 COLLECTIVE EXCITATIONS AND INSTABILITY OF AN OPTICAL LATTICE DUE TO UNBALANCED PUMPING
P. Domokos, J. K. Asbóth, H. Ritsch
- We3-30 HIGH SENSITIVE DETECTION SYSTEM FOR WEAK Fr MAGNETO-OPTICAL TRAP
S.N. Atutov, R. Calabrese, L. Corradi, A. Dainelli, C. de Mauro, A. Khanbekyan, E. Mariotti, L. Moi, P. Minguzzi, S. Sanguinetti, G. Stancari, L. Tomassetti, S. Veronesi
- We3-31 DIPOLE-DIPOLE INSTABILITY OF ATOM CLOUDS IN AN OPTICAL DIPOLE TRAP
D. Nagy and P. Domokos
- We3-32 ATOM INTERACTIONS WITH THE EVANESCENT FIELD OF A SUBMICRON FIBRE
K. Deasy, M. J. Morrissey, T. N. Bandi, B. J. Shortt, S. Nic Chormaic

- We3-33 PRODUCTION AND QUANTUM CONTROL OF MOLECULES WITH OPTICAL AND MICROWAVE FIELDS
Svetlana Kotochigova
- We3-34 POLARIZATION-DEPENDENT EFFECTS ON OPTICALLY PUMPED COLD CESIUM ATOMS
Yu. S. Domnin, G. A. Elkin, A.V. Novoselov, L. N. Kopylov, Yu. M. Malychhev, V. N. Baryshev, V. G. Pal'chikov
- We3-35 PERFORMANCE OF AN INERTIAL SENSOR BASED ON COLD ATOMS INTERFEROMETRY
A. Gauguet, W. Chaibi, B. Canuel, N. Dimarcq, D. Holleville, A. Landragin
- We3-36 LOW-DENSITY, ONE DIMENSIONAL TONKS-GIRARDEAU GAS IN A SPLIT TRAP
J. Goold and Th. Busch
- We3-37 GRAVITATIONAL STATES OF COLD ANTIHYDROGEN ATOMS REFLECTED FROM A SOLID SURFACE
P. Froelich and A. Voronin
- We3-38 ULTRA-THIN COHERENT ATOM BEAM BY STERN-GERLACH INTERFEROMETRY
F. Perales, J. Robert, J. Baudon, J. Grucker, J.-C. Karam, V. Bocvarski, G. Vassilev, M. Ducloy
- We3-39 NOVEL SURFACES FOR ATOM CHIPS
T. David, R. Salem, S. Machluf, E. Fleminger, S. Younnis, O. Arzouan, P. Petrov, V. Dikovskiy, M. Rosenblit, Y. Japha, D. Groswasser, M. Keil, and R. Folman
- We3-40 DEMONSTRATION OF A THREE-DIMENSIONAL RYDBERG ATOM TRAP
S. D. Hogan and F. Merkt
- We3-41 PHOTOASSOCIATION OF METASTABLE HELIUM REVISITED
B. Deguilhem, F.X. Gadea, T. Leininger and A.S. Dickinson

4. Quantum Information-Cavity QED

- We4-1 ENTANGLED EFFECT OF THREE-LEVEL ATOMS WITH \mathcal{E} , V AND A CONFIGURATIONS IN QUANTUM BIMODAL CAVITY FIELD
Ciobanu Nelly and Enaki Nicolae A.
- We4-2 INDIVIDUAL ADDRESSING AND ERROR RESISTANT SINGLE QUBIT GATES WITH TRAPPED Yb^+ IONS

A. Braun, V. Elman, M. Johanning, W. Neuhauser, N. Timoney, C. Weiß, Chr. Wunderlich

- We4-3 PERFECT STATE TRANSFER IN NETWORKS OF ARBITRARY TOPOLOGY AND INTERACTIONS
G. M. Nikolopoulos, V. Košťák and I. Jex
- We4-4 PHOTONIC PHASE TRANSITIONS, MANY BODY SPIN MODELS, AND QIP IN COUPLED CAVITY ARRAYS
Dimitris G. Angelakis, Marcelo F. Santos, and Sougato Bose
- We4-5 HIGH-FIDELITY LOGIC GATES FOR SQUID QUBITS IN A MICROWAVE CAVITY
E. Paspalakis, Z. Kis, N. Sangouard, J. Janszky and M. Fleischhauer
- We4-6 FACTORING NUMBERS WITH ULTRASHORT LASER PULSES
B. Chatel, D. Bigourd, E. Baynard, C. Meier, B. Girard, W. Merkel, and W. P. Schleich
- We4-7 NAVIGATION IN HILBERT SPACE BY QUANTUM STATE REFLECTIONS
P. A. Ivanov, E. S. Kyoseva, B. T. Torosov and N. V. Vitanov
- We4-8 LASER CONTROL OF PHOTOINDUCED PROCESSES II. LOGICAL GATES
M. Desouter-Lecomte, D. Sugny, D. Lauvergnat L. Bomble and M. Ndong
- We4-9 PERSISTENT SUPERCURRENT AS A RESOURCE FOR ATOM CHIP POTENTIAL
Tetsuya Mukai, Christoph Hufnagel, and Fujio Shimizu
- We4-10 ADIABATIC PASSAGE TECHNIQUE FOR QUANTUM INFORMATION
X. Lacour, S. Guérin, H.R. Jauslin

5. Precision measurements

- We5-1 DETERMINING THE ANTIPROTON MAGNETIC MOMENT FROM MEASUREMENTS OF THE HYPERFINE STRUCTURE OF ANTIPROTONIC HELIUM
Dimitar Bakalov, Eberhard Widmann
- We5-2 MATTER WAVE EXPERIMENTS WITH POTASSIUM MOLCULES
Horst Knöckel, Sha Liu, I. Sherstov, C. Lisdat, E. Tiemann
- We5-3 PROGRESS TOWARDS A HIGH-PRECISION MEASUREMENT OF THE g -FACTOR OF A SINGLE ISOLATED (ANTI)PROTON IN A HYBRID DOUBLE PENNING-TRAP

S. Ulmer, K. Blaum, H. Kracke, S. Kreim, C. C. Rodegheri, W. Quint, S. Stahl, J. Verdu, J. Walz

- We5-4 VISUALISATION OF INSTABILITIES IN A STABLE TRAPPING AREA OBSERVED ON PR IONS STORED IN A PAUL TRAP
W. Koczorowski, G. Szawiola, A. Walaszyk, A. Buczek, E. Stachowska
- We5-5 OPTICAL LATTICE POLARIZATION EFFECTS ON HYPERPOLARIZABILITY AND LATTICE-FIELD-INDUCED 1S_0 - 3P_0 TRANSITIONS IN EVEN ISOTOPES OF ALKALINE-EARTH ATOMS
Ovsiannikov V. D., Pal'chikov V. G, Taichenachev A. V and Yudin V. I
- We5-6 PRECISION SPECTROSCOPY OF ANTIPROTONIC HELIUM
E. Widmann
- We5-7 NEW PECULIARITIES OF SATURATED-ABSORPTION AND MAGNETO-OPTICAL RESONANCES IN ELLIPTICALLY POLARIZED LIGHT FIELDS
D.V. Brazhnikov, A.V. Taichenachev, A.M. Tumaikin, V.I. Yudin, S.A. Zibrov, Ya.O. Dudin, A.G. Radnaev, V.V. Vasil'ev, V.L. Velichansky
- We5-8 LINE BROADENING BY OPTICAL PUMPING IN THE WEAK EXCITATION LIMIT
E. Saks, I. I. Beterov, P. Spels, I. Sydoryk, K. Miculis, A. Janovs, N. N. Bezuglov, I. I. Ryabtsev, A. Ekers
- We5-9 COMPARISON OF DOUBLE RESONANCE MAGNETOMETERS BASED ON ATOMIC ALIGNMENT AND ORIENTATION
A. Weis, G. Di Domenico, G. Bison, P. Knowles, M. Loutsch, and H. Saudan
- We5-10 ^3He METASTABILITY EXCHANGE OPTICAL PUMPING STUDIES AT HIGH MAGNETIC FIELD
A. Nikiel, T. Pałasz, M. Suchanek, M. Abboud, A. Sinatra, Z. Olejniczak, T. Dohnalik, G. Tastevin, P-J. Nacher
- We5-11 I.C.E.: A BOSON-FERMION ATOM INTERFEROMETER FOR MICROGRAVITY
RA Nyman, G Varoquaux, J-F Clément, J-P Brantut, T Bourdel, A Aspect, P Bouyer, N Zahzam, Y Bidet, A Bresson, F Pereira Dos Santos, A Landragin, M Rouzé, L Mondin, J Mignot
- We5-12 RESONANT FEMTOSECOND PULSE-TRAIN EXCITATION OF RUBIDIUM ATOMS
D. Aumiler, T. Ban, S. Vdović, N. Vujičić, H. Skenderović and G. Pichler
- We5-13 EXPERIMENTAL DEMONSTRATION OF THE FLUCTUATION-DISSIPATION THEOREM IN A THERMAL RUBIDIUM VAPOR
G. E. Katsoprinakis, A. T. Dellis and I. K. Kominis

- We5-14 FEMTOSECOND LASER FREQUENCY COMB TREATMENT OF VELOCITY GROUPS BY USING ATOMIC HYPERFINE FILTER WITH PURE RUBIDIUM ISOTOPES
Goran Pichler, Ticijana Ban, Damir Aumiler, Hrvoje Skenderović, Nataša Vujičić and Silvije Vdović
- We5-15 STRONGLY INTERACTING ATOMS IN OPTICAL LATTICES
Servaas Kokkelmans, Johan Mentink
- We5-16 ENHANCED SENSITIVITY RUBIDIUM VELOCITY COMB MEASUREMENTS
T. Ban, S. Vdović, D. Aumiler, H. Skenderović, N. Vujičić and G. Pichler
- We5-17 HIGH RESOLUTION LASER SPECTROSCOPY OF Cs-VAPOUR LAYERS WITH THICKNESS COMPARABLE TO THE WAVELENGTH OF THE IRRADIATING LIGHT
S. Cartaleva, K. Koynov, S. Saltiel, D. Sarkisyan, D. Slavov, P.Todorov, K.Vaseva
- We5-18 ⁸⁷Sr OPTICAL LATTICE CLOCK USING SPIN-POLARIZED ATOMS
X. Baillard, M. Fouché, R. Le Targat, P. Westergaard, A. Lecallier, F. Chapelet, S. Bize, P. Rosenbusch, M. Abgrall, P. Laurent, Y. Lecoq, G.D. Rovera, A. Clairon, P. Lemonde, B. Lipphardt, G. Grosche, H. Schnatz
- We5-19 HIGH-RESOLUTION SPECTROSCOPY OF FORMALDEHYDE FOR DIAGNOSTICS OF GUIDED COLD MOLECULES
P.W.H. Pinkse, M. Motsch, M. Schenk, M. Zeppenfeld, and G. Remppe
- We5-20 PRECISION ELECTRONICS FOR PRECISION EXPERIMENTS
S. Stahl and S. Djekic
- We5-21 EVIDENCE FOR LASER-INDUCED RELAXATION IN METASTABILITY EXCHANGE OPTICAL PUMPING OF ³He
M. Batz, W. Heil, P.-J. Nacher, G. Tastevin
- We5-22 HYPERFINE STRUCTURE OF THE ONE- AND TWO-PHOTON TRANSITION LINES IN HD⁺
Dimitar Bakalov, Vladimir I. Korobov, Stephan Schiller
- We5-23 FROM NEWTON TO CASIMIR AND BACK: FUNDAMENTAL PHYSICS USING ATOMIC BEAM SPIN ECHO.
M.F.M. DeKieviet
- We5-24 A Ca⁺ SINGLE ION FOR FREQUENCY METROLOGY IN THE OPTICAL RANGE
C. Zumsteg, C. Champenois, G. Hagel, M. Houssin, M. Knoop, M. Vedel and F. Vedel
- We5-25 JONES EFFECT ON ATOMS WITH DOUBLET STRUCTURE OF LEVELS

V.V. Chernushkin, P.V. Mironova and V.D. Ovsiannikov

- We5-26 HIGH-ACCURACY MASS AND g -FACTOR MEASUREMENTS ON HIGHLY-CHARGED IONS IN PENNING TRAPS
K. Blaum, J. Alonso, I. Bergström, T. Fritioff, H.-J. Kluge, Sz. Nagy, W. Quint, B. Schabinger, R. Schuch, A. Solders, M. Suhonen, G. Werth
- We5-27 ATOM INTERFEROMETRY EXPERIMENTS WITH LITHIUM
M. Jacquy, A. Miffre, M. Büchner, G. Tréneç and J. Vigué

Thursday 10/5

1. Atomic and Molecular Astrophysics

- Th1-1 RELATIVISTIC CORRECTION TO LYMAN AND WERNER BAND SYSTEMS OF HYDROGEN MOLECULE
E.A.Pazyuk, A.N.Drozdova, V.V.Meshkov, A.V.Stolyarov, M. Tamanis
- Th1-2 TRANSITION FREQUENCY SHIFTS WITH FINE STRUCTURE CONSTANT VARIATION FOR Fe II
K. V. Koshelev, S. G. Porsev, I. I. Tupitsyn, M. G. Kozlov, D. Reimers, and S. A. Levshakov
- Th1-3 THE FERRUM-PROJECT: EXPERIMENTAL AND THEORETICAL TRANSITION RATES OF FORBIDDEN [ScII] LINES AND RADIATIVE LIFETIMES OF METASTABLE ScII LEVELS
Hartman H., Gurell J., Lundin P., Schef P.,Hibbert A, Lundberg H., Mannervik S, Norlin L-O. and Royen P.
- Th1-4 INFRARED EMISSION SPECTRUM OF INTERSTELLAR MOLECULAR HYDROGEN FORMED ON THE SURFACE OF DUST
Junko Takahashi
- Th1-5 COLLISIONAL EXCITATION OF AMMONIA BY HELIUM AND MOLECULAR HYDROGEN IN SPACE
E. Scifoni, P. Valiron, A. Faure, C. Rist
- Th1-6 RECENT ADVANCES IN CALCULATING COLLISIONAL RATES FOR ASTROPHYSICS
Faure A., Valiron P., Wiesenfeld L., Tennyson J., Dubernet M.L., Kokoouline V., Greene, C. H.
- Th1-7 THEORETICAL STUDY OF STARK WIDTH AND SHIFT PARAMETERS OF Pb III TRANSITIONS
C. Colón, A. Alonso-Medina, F. Fernández, C. Rivero, A. Zanón, J. Madueño and J. Albeniz
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STRUCTURAL PATTERNS IN FULLERENES: C_{20} TO C_{102}

Yang Wang, Goar Sánchez, Sergio Díaz-Tendero, Fernando Martín and Manuel Alcamí

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STATE SELECTIVE DIFFERENTIAL CROSS SECTIONS FOR SINGLE
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M.S. Schöffler, J. Titze, L.Ph.H. Schmidt, O. Jagutzki, T. Jahnke, R. Dörner, H.
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MESOSCOPIC COHERENT QUANTUM DYNAMICS IN THE STRONG
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Y. Grandati, A. Bérard, H. Mohrbach, H. Boumrar and F. Menas

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