The second National meeting on Quantum, Atomic, Molecular and Plasma Physics will be held at the Open University, Milton Keynes, September 19th - 22nd 2005

Registration now open! (closes on Fri 19th August)

Related Links

Bursaries available! See below for more information.

In 2001 the EPSRC organised a Forward Look at Atomic and Molecular Physics Research in the UK. The final report (now available on the EPSRC Physics Programme web site at http://www.epsrc.ac.uk/) stated that in order to reintegrate the UK atomic and molecular physics community, and to promote alliances with other related communities, it reinstated a national conference in AM and related physics. In addition it suggested that a Summer School in Atomic and Molecular Physics for all newly starting PhD students would be highly beneficial in addressing quality issues, and offer excellent use of advanced teaching resources.

The Institute of Physics Division of Atomic Molecular Optical and Plasma Physics (DAMOPP) has therefore now undertaken the task of organising a biannual National meeting and summer school.

The DAMOPP division includes the following affiliated IoP Groups:-

Atomic and Molecular Interactions Group (AMIG)

Chemical Physics Group (Molecular Physics Group)

Plasma Physics Group (PPG)

Quantum Electronics and Photonics Group (QEPG)

Spectroscopy Group (SG)

Each of these Groups at present hold their own individual National Meetings of varying size and duration. However in cognisance of the Look Forward recommendation above to reinstate a National Meeting, they agreed to co-ordinate their conference activities to form one weeklong meeting on Quanta, Atoms, Molecules Ions and Plasmas (QuAMP) in September 2003. This was attended by nearly 200 participants at the Open University, September 7 - 11 2003 (see the post-conference version of the QuAMP I web site here)

In 2005 QuAMP II is being organised as a 'summer school' with a series of lectures being given by selected UK academics on topical areas of current research in atomic, molecular, optical, plasma and quantum physics. The school will run from 1400 on Monday September 19 th (registration from 1200) to 1730 on Thursday September 22nd and in addition to lectures, will contain a poster session on Tuesday. A conference dinner will be held on Wednesday evening September 21st. A full programme is available via the menu. For further details, contact

The Conference Secretary (click here)

Sponsorship supporting accommodation and travel is available for delegates to attend QuAMP II.

Student Bursaries
Students attending may receive financial support from the EPSRC to attend the meeting. Numbers are however limited to ~100 and preference will be given to those who register early to attend the meeting. A condition of such support is that they must attend the whole meeting and are strongly encouraged to present a poster on their work (however preliminary). Students must send a signed letter from their supervisor (or other appropriate authority) confirming their student status and their means of support (e.g. EPSRC student, institution studentship, EU award etc) to the Conference Secretary.

Support for non student participants:
Other participants (PDRAs and Staff), not in receipt of EPSRC Network support, may also receive support. Again numbers are limited and early registration is advised. Should you wish to apply for support please write to the Conference Secretary with a formal request. You should be prepared to present a poster or short presentation (so called Hot Topics) and should give an estimate of your travel and accommodation expenses together with any partial support you have received. The organisers wish to provide support to as many attendees as possible so will preferentially provide partial support to a larger number of attendees in contrast to full support for a small number of attendees.

Posters

Related Links

uAMP

EPSRC

Institute of Physics

DAMOPP

milton KEYNES
WWW.MKWEB.CO.UK

Posters should be A0 Landscape (118cm wide and 84cm tall).

The poster session is on Tuesday 20th from 1730 to approximately 2000 in the Old Lecture Theatre with a buffet in the neighbouring Theatre Bar.

Prizes of £50 will be awarded for the best posters. Velcro fasteners will be available.

Name Miss Mihaela Ghita
Title Hydrogen diffusion in sillicon
Open abstract in a new window

Name Prof Bob McCullough
Title Hydrogen Diffusion in Silicon using a Reactive Atom source
Open abstract in a new window

Name Mr Matt Pritchard
Title Single-site adressability in 3D optical lattices
Open abstract in a new window

Name Dr Eoin Phillips
Title Cavity QED with trapped ions
Open abstract in a new window

Name Mr Adam Hunniford
Title DNA Damage induced by Low Energy Ions
Open abstract in a new window

Name Mr Niels Strohmaier
Title Electron Scattering from a Bose Einstein Condensate Niels Strohmaier, Matthew Harvey & Andrew Murray. School of Physics and Astronomy, University
Open abstract in a new window

Name Mr Michael Lengden
Title TWO-COLOUR PHOTON STEPWISE SPECTROSCOPY OF ELECTRON EXCITED METASTABLE KRYPTON ATOMS Michael Lengden and Andrew Murray Schuster Laboratory, Universi
Open abstract in a new window

Name Mr Matthew Harvey
Title LOW ENERGY ELECTRON SCATTERING FROM ULTRA-COLD POTASSIUM Matthew Harvey, Niels Strohmaier, Paul Cooper and Andrew Murray
Open abstract in a new window

Name Mr Christopher Hammond
Title Photoelectron Spectra as a Probe of Intramolecular Vibrational Redistribution in Di-substituted Benzene Derivatives
Open abstract in a new window

Name Mr Charlie Starrett
Title Ionizing collisions for Positronium
Open abstract in a new window

Name Mr Lamine Bougueroua
Title Towards an improved measurement of the Rydberg constant by optical excitation of atomic hydrogen
Open abstract in a new window

Name Mr Henry Ashworth
Title An improved measurement of the electric dipole moment of the electron
Open abstract in a new window

Name Mr Robert Sewell
Title Splitting cold atomic clouds using an atom chip.
Open abstract in a new window

Name Mr Stephen Hogan
Title Aspects of the crossed-field double-minimum potential well
Open abstract in a new window

Name Mr Allan Todd
Title Examination of quasi-bound states of He p-bar and possible existence of a bound state
Open abstract in a new window

Name Mr Michael Trupke
Title Optical Devices for Atom Chips
Open abstract in a new window

Name Mr David Gherardi
Title OPTICAL GUIDING USING HOLOGRAPHICALLY GENERATED LAGUERRE–GAUSSIAN LIGHT BEAMS AND HOLLOW-CORE PHOTONIC CRYSTAL FIBRES
Open abstract in a new window

Name Miss ISABEL LLORENTE-GARCIA
Title Permanent-magnet atom chips for the study of long, thin atom clouds.
Open abstract in a new window

Name Mr Rafael Castrejon
Title A new proposal for a Plannar Penning trap
Open abstract in a new window

Name Mr Jeremy Metz
Title Robust entanglement through dissipation
Open abstract in a new window

Name Mr Nick Jones
Title The spectroscopy and dynamics of Rydberg states converging to the v=0 ionization limit of NO
Open abstract in a new window

Name Mr Dorian Parker
Title Controlling benzene photochemistry
Open abstract in a new window

Name Mr Fernando Ramirez-Martinez
Title Microtraps for atoms using magneto-optical thin films
Open abstract in a new window

Name Mr Douglas Murray
Title Elementary Excitations of a Bose-Einstein Condensate in the Presence of an Effective Magnetic Field
Open abstract in a new window

Name Mr gary hayes
Title Fuel cell and battery powered electric hybrid vehicle
Open abstract in a new window

Name Mr Richard Darnley
Title The Stark deceleration of ground-state polar molecules as a route to cold and ultra-cold molecular physics R. V. Darnley, M. R. Tarbutt, J. J. Hudson
Open abstract in a new window

Name Miss Karola Graupner
Title Dissociative Electron Attachment in ERIC, a New Spectrometer for Unstable Molecules
Open abstract in a new window

Name Miss Jean Wyer
Title Atomic and Molecular Physics in Radiotherapy
Open abstract in a new window

Name Mr Ian Linington
Title Control of atomic decay rates via manipulation of reservoir mode frequencies
Open abstract in a new window

Name Mr Patrick Tierney
Title A two-species mixture of quantum degenerate Bose gases
Open abstract in a new window

Name Dr Mansukh Shah
Title Already as submitted by student: 1) Jean Wyer and 2) V Senthil
Open abstract in a new window

Name Mr Peter Watkeys
Title Positrons in a two-stage buffer gas accumulator
Open abstract in a new window

Name Mrs Sanja Milisavljevic
Title Elactron scattering by Ca atom
Open abstract in a new window

Name Mr Velauthampillai Senthil
Title Electron impact double ionization of the C3H4 isomers
Open abstract in a new window

Name Miss Claire Ricketts
Title Experimental studies of dication-neutral reactions of relevance to planetary atmospheres
Open abstract in a new window

Name Mr Mark Gregory
Title ANTIPROTON ANNIHILATION IN LOW-ENERGY ANTIHYDROGEN SCATTERING BY SIMPLE ATOMS AND MOLECULES
Open abstract in a new window

Name Mr Ralf Gommers
Title Resonant Activation and Dissipation Induced Symmetry Breaking in a Brownian Motor
Open abstract in a new window

Name Mr Peter Douglas
Title Levy Flights in an optical lattice of caesium atoms
Open abstract in a new window

Name Miss Carla McGrath
Title The Stokes Phenomenon and Quantum Defects
Open abstract in a new window

Name Mr Philip Thomason
Title Computational Modelling of the Pulsed Magnetron System
Open abstract in a new window

Name Mr Srinivasarao Kumpatla
Title SOLUTIONS TO OPTOELECTRONIC INTERCONNECT PROBLEMS
Open abstract in a new window

Name Dr Kevin Ronald
Title A laboratory experiment to investigate the mechanism of Auroral Kilometric Radiation Emission
Open abstract in a new window

Name Dr Mark Stapleton
Title Multi-Fluid Simulations of Colliding Plasmas
Open abstract in a new window

Abstract close

Name Mrs Sanja Milisavljevic
Title Elactron scattering by Ca atom
Abstract Measurements of absolute cross sections for the elastic electron scattering by Ca atom as well as differential cross sections for excitation of the 4 1P state will be presented and compared with new theoretical calculations. Normalization procedure will be discussed in terms of forward scattering function and opticall oscillator strength. Integrated cross sections are derived from differential ones.

ELECTRON SCATTERING BY Ca ATOM

S. Milisavljević, D. Šević, V. Pejčev*, D. M. Filipović**, B. P. Marinković

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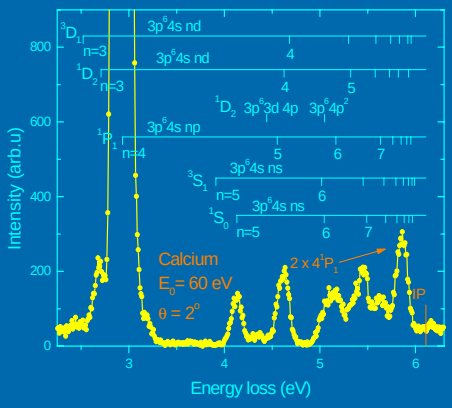
**Faculty of Natural Sciences, University of Kragujevac, SCG*
***Faculty of Physics, University of Belgrade, P. O. Box 368, 11001 Belgrade, SCG*

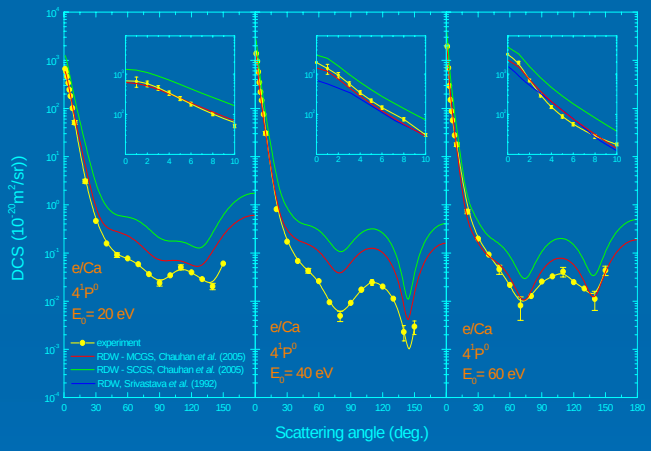
The measurements of differential cross section (DCS) for excitation of the 4^1P state at 2.93 eV as well as DCSs for elastic electron scattering by Ca atom were carried out using a crossed electron-atom beam technique (Milisavljević *et al.* (2004, 2005)).

The measurements were performed at electron-impact energies (E_o) of 10, 20, 40, 60 and 100 eV and scattering angles from 1° to 150° for excitation and from 10° up to 150° for elastic scattering.

The absolute DCSs for excitation were determined through normalization to the optical oscilator strength (OOS) using the forward scattering function (FSF) method.

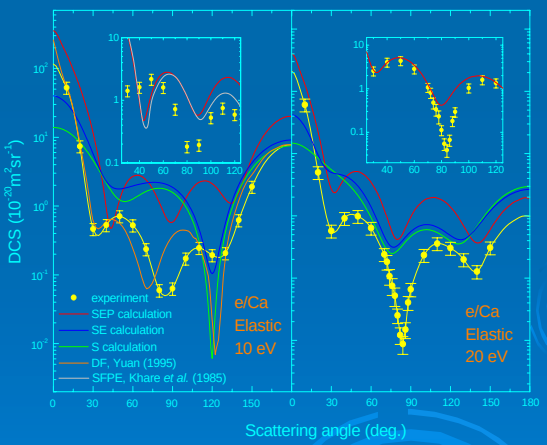


Energy-loss spectrum of Ca at 60 eV electron-impact energy and 2° scattering angle.

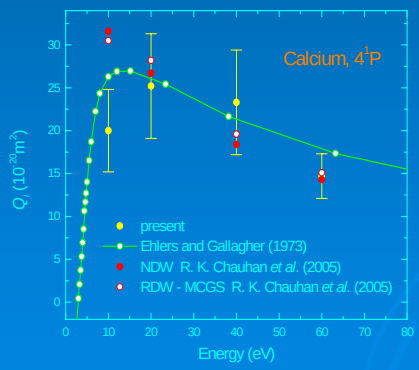


Differential cross sections for excitation of the 4^1P state of calcium atom compared with theoretical calculations.

The absolute DCSs for elastic scattering were obtained using absolute DCS values of the 4^1P state and measured elastic-to-inelastic intensity ratios.



Differential cross sections for elastic electron scattering by calcium atom. In insets, present DCSs are normalized at 10° and 20° on present static-exchange-polarization calculation (SEP).



Integral cross sections for the 4^1P state of the calcium atom.

References
Chauhan R K, Srivastava R and Stauffer A D 2005 *J Phys. B: At. Mol. Opt. Phys.* **38** 2385
Ehlers V J and Gallagher A 1973 *Phys. Rev. A* **7** 1573
Khare S P, Kumar Ashok and Vijayshri 1985 *J. Phys. B: At. Mol. Opt. Phys.* **18** 1827
Milisavljević S, Šević D, Pejčev V, Filipović D M and Marinković B P 2004 *J. Phys. B: At. Mol. Opt. Phys.* **37** 3571
Milisavljević S, Šević D, Chauhan R K, Pejčev V, Filipović D M, Srivastava R and Marinković B P 2005 *J. Phys. B: At. Mol. Opt. Phys.* **38** 2371
Srivastava R, Zuo T, McEachran R P and Stauffer A D 1992 *J Phys. B: At. Mol. Opt. Phys.* **25** 3709
Yuan J 1995 *Phys. Rev. A* **52** 4647

uAMPII

The Open University

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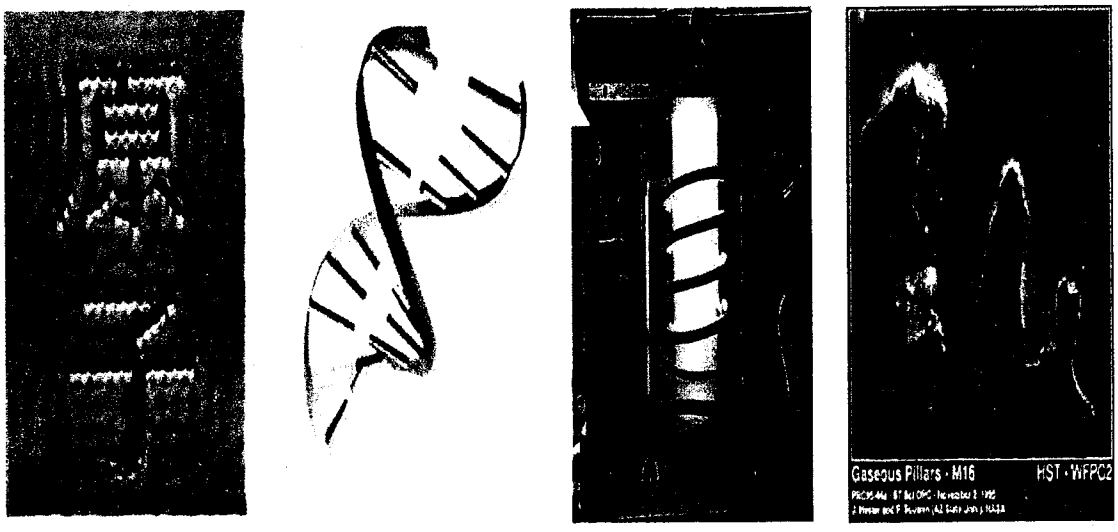

Meeting organised by DAMOPP (Division of Atomic, Molecular, Optical and Plasma Physics) of the Institute of Physics

Meeting supported by:

EPSRC

Institute *of* **Physics**

ELECTRON SCATTERING BY CA ATOM

Sanja Milisavljevic

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