

The American Physical Society

Division of Electron and Atomic Physics

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To MEMBERS OF THE DEAP from Tom Miller

ELECTIONS

A ballot is enclosed for the election of one person to serve a three-year term on the Executive Committee. Use the enclosed envelope and sign your name on the upper left-hand corner of the envelope and return it to me by 23 November 1979. The 1979 Executive Committee will consist of:

Eugene Rudd, chairperson
Bernd Crasemann, vice-chairperson
Tom Miller, secretary-treasurer
Eugen Merzbacher, most recent past chairperson
Ivan Sellin, division councillor (until 1-83)
Daniel Kleppner, elected member (until 12-80)
Hugh Kelly, elected member (until 12-81)

In addition, there will be one newly-elected member, and the chairperson may appoint two other persons to serve on the Committee.

NOTES FROM THE DIVISION COUNCILLOR

Ivan Sellin reports that two items coming up before the APS Council at their November meeting may be of interest to DEAP members. The first is that the APS is considering initiating a general meeting in the autumn, beginning with October 1982. The meeting would be sponsored by the Committee on the Applications of Physics, and is intended to draw off some of the papers that normally go into the March meeting, which is getting too large. The second item is that the APS Fellowship Committee will recommend that fellowship in the APS be better recognized: in particular, the new fellow should be presented a certificate at an APS or divisional meeting, citing his scientific work. The Committee will also propose changes in the selection procedure for fellows, including a limit on the number of new fellows per year.

PANEL ON ACCELERATOR-RELATED ATOMIC PHYSICS RESEARCH

Over the past three years, the ad hoc Panel on Accelerator-Related Atomic Physics Research of the National Research Council has held a number of informal gatherings at APS meetings to discuss implementation of the recommendations contained in its 1976 report, colloquially known as the "Crasemann Report". From these meetings, the subcommittee has derived a strong sense of concern about the future of this field. The subcommittee is convinced that cooperative action by the atomic physics community is required with the goal of seeing maintenance and upgrading of existing accelerator facilities and perhaps the building of new ones, and making these facilities available to all users. Jim Macdonald is collecting and organizing suggestions for appropriate action, and will present them during an open meeting at the DEAP meeting in Houston at 8:30 P.M. on Monday evening, 10 December. The subcommittee hopes this open meeting will result in a definite consensus on future action to be taken. Anyone who wishes to contact Jim Macdonald prior to the meeting may do so, at the Department of Physics, Kansas State University, Manhattan, KS 66506.

NBS PRECISION MEASUREMENT GRANTS

The National Bureau of Standards is currently soliciting proposals for two research grants in the field of precision measurement. The grants, each for \$25,000 for one year, may be renewed by NBS for up to two additional years. NBS Precision Measurement Grants are awarded each year to scientists in academic institutions for work in the field of precision measurements and the determination of fundamental physical constants. Prospective candidates must submit summaries of the proposed projects and biographical information to NBS by February 15, 1980 to be considered for these grants, which run from October 1, 1980 through September, 1981. Interested persons should contact Barry Taylor, Chairman of the NBS Precision Measurement Grants Committee, Building 220, Room B258, National Bureau of Standards, Washington, D.C. 20234.

11th ANNUAL DEAP MEETING

The 11th Annual Meeting of the DEAP will be held in Houston, TX on 10-12 December 1979. All scientific sessions will be held at the Shamrock Hilton Hotel, South Main Street and Holcombe Blvd., and participants will be housed there. Rates are \$30 per single room and \$39 per double room. Participants are urged to make their reservations early. A block of 250 rooms has been reserved for the conference for which reservations must be received by 18 November; after this date reservations will be accepted on a "first-come, first serve" basis as long as there are rooms available. Reservations will be held until 6 P.M. on the date of arrival.

Those arriving at Houston Intercontinental Airport should take the Air Coach bus (\$4.50 one way or \$8.50 round trip) to the South Main Terminal, which is directly across Main Street from the Shamrock Hilton. From Hobby Airport, take the Hobby Airport Limousine (\$3.00 one way or \$5.50 round trip) to the South Main Terminal. Alternatively, Yellow Cab taxi from Intercontinental costs \$15.55 (plus \$0.55 per each additional person to a total of five); or from Hobby Airport, \$12.00 with no additional cost up to a total of five persons. Registration will take place in the North Lobby of the Shamrock Hilton Hotel from 4 P.M. to 8 P.M. on Sunday, 9 December, and throughout the conference.

The registration fee will be \$20 up to 15 November and \$25 thereafter. The fee for unsupported students and unemployed is \$3. Messages may be left at the message board in the registration area and long-distance telephone calls for attendees should be directed to the registration desk at the hotel (713-668-9211; ask for the DEAP meeting).

The average daily high and low temperatures in Houston during the second week of December are 75 F and 45 F, respectively. The chance of precipitation is about 25% "but unpredictable."

On Sunday evening between 7 P.M. and 10 P.M. there will be an informal reception with a cash bar in the Embassy Room. On Tuesday afternoon, 11 December, there will be an open house at Rice University, followed by a reception with a cash bar at the Rice Faculty Club at 6 P.M. The traditional banquet will also be held at the Faculty Club that evening, at 7 P.M. Chartered buses (two) will shuttle between the Shamrock Hilton Hotel and Rice University during the afternoon and evening.

An unexpectedly large number of contributed papers greeted the Program Committee upon the abstract deadline: 235 papers, which is a 35% increase over the previous two years. As a consequence there will be two poster sessions. The first will be on Monday evening, and space will be made available for post-deadline papers as well. Beer and other refreshments will be served. Anyone may bring late-breaking or missed-deadline results to the Monday evening poster session, though there will be no publication of late abstracts. On Wednesday afternoon the second poster session will be held, and again beer and other refreshments will be served.

The Annual Business Meeting will be held in the Embassy Room at 11 A.M. on Tuesday, 11 December. The meeting will be conducted by Eugen Merzbacher as retiring chairperson. One feature of the Business Meeting will be a report by the "Time-of-Year" subcommittee of the DEAP Executive Committee. They will make a recommendation on changing the date of the DEAP Annual Meeting to the spring, beginning in 1983 if possible. They will present a summary of their study and a discussion period will follow.

The Program Committee has consisted of James Bayfield, Klaus Berkner, Gordon Berry, David Crandall, Bernd Crasemann, Richard Deslattes, David Golden, George Hurst, Carl Lineberger, James Macdonald, Joseph Macek, Steven Manson, Earl McDaniel, John Park, John Risley, Eugene Rudd (chairperson), Roberta Saxon, Alfred Schlachter, Stephen Shafroth, Robin Shakeshaft, and Henry Stroke.

Contributed papers will be given in parallel sessions and a 35 mm projector and an overhead projector will be available in each room. Anyone requiring special equipment should contact King Walters at the Physics Department at Rice University as soon as possible.

The DEAP is indebted to King Walters, Barry Dunning, Ron Stebbings, and Sandifer Mitchell for the excellent preparation work. We also express our appreciation to Rice University for acting as host for the meeting.

The symposia for this meeting are:

Autoionizing and Rydberg Atoms, Roberta Saxon presiding; Monday morning.

Robert D. Cowan, "Contributions of Autoionizing Levels to Photoionization Cross Sections, Dielectronic-Recombination Rates, and Electron-Impact Excitation and Ionization Rates."

W. E. Cooke, "Laser Spectroscopy of Autoionizing Rydberg States."

C. Fabre, "Rydberg Atoms and Microwaves."

R. F. Stebbings, "Recent Experimental Studies of Atoms in Rydberg States."

Charge Transfer to Continuum States, Joseph Macek presiding; Monday afternoon.

R. Shakeshaft, "Theory of Charge Transfer to the Continuum."

M. G. Menendez, "Charge Transfer to the Continuum and Some Similarities to Projectile Ionization."

S. B. Elston, "Multielectron Processes in Electron Cusp Coincidence Spectroscopy at High Z and v ."

R. H. Ritchie, "Possible Solid State Effects in the Velocity Distribution of Convoy Electrons."

J. W. McGowan, " $\vec{v}_i = \vec{v}_e$ Electrons - Similarities and Differences in Distributions for Gases and Solids."

Current Status of Theory and Experiment in Electron-Molecule Scattering, David Golden presiding; Tuesday morning.

Michael A. Morrison, "Recent Advances in Electron-Molecule Collision Theory and Applications: Coupled-Channel and Model-Potential Methods."

V. McKoy, "Recent Advances in the Theory of Low-Energy Electron-Molecule Collisions: II."

S. F. Wong, "Recent Trends in Electron-Beam Experiments."

Robert W. Crompton, "The Status of Low-Energy Electron Swarm Experiments."

Atomic and Molecular Photoionization, Lloyd Armstrong presiding; Tuesday afternoon.

T. N. Chang, "A Non-Relativistic View of the Many-Body Effect in the Atomic Photoabsorption."

W. R. Johnson, "Relativistic Effects in Low-Energy Photoionization."

J. L. Dehmer, "Interaction of Electronic and Vibrational Motion in Molecular Photoionization. Recent Experiments and Theory."

Atomic Physics in Plasma Fusion, David Crandall presiding; Wednesday morning.

P. M. Stone, "Overview of Atomic Physics Needs of the Fusion Program."

R. C. Isler, "Applications of Atomic Spectroscopy to Studies of Plasmas in the ISX-B Tokamak."

D. E. Post, "Applications of Charge Transfer Collisions in the Theory of Fusion Plasmas."

William S. Cooper, "Atomic Physics in Neutral Beam Injectors Used in Fusion."

OTHER MEETINGS

APS Annual Meeting, Chicago, 21-24 January 1980. The DEAP is sponsoring the following symposia.

History of the Atom, arranged by G. S. Hurst, sponsored jointly with the AAPT.

Duane Roller, "The Atom of Democritus."

Robert Schofield, "The Atom from Newton through Dalton."

David Wilson, "The Kinetic Atom."

John Heilbron, "The Rutherford-Bohr Atom."

Applications of Atomic Physics: One Atom Detection, arranged by S. T. Manson.

M. G. Payne, "Resonance Ionization Spectroscopy and Applications to Classical Physics."

Steve Kramer, "Resonance Ionization Spectroscopy for Rare Event Detection."

Raymond Davis, Jr., "Solar Neutrino Experiments."

William Fairbanks, Jr., "Laser Fluorescence Detection of Rare Events."

Atoms in Strong External Electromagnetic Fields, arranged by James Bayfield.

A. Ravi P. Rau, "Atoms in Electric and Magnetic Fields: Spectrum Near the Ionization Limit."

Michael G. Littman, "Quantum Cartography: Laser Spectroscopy of Alkali Metal Atoms in Weak to Strong Fields."

Peter M. Koch, "Resonance States of the Hydrogen Atom in a Strong Electric Field."

Sydney Geltman, "Model Calculations of Atom Ionization by Strong Static and Oscillating Electric Fields."

Second International Conference on Particle Induced X-Ray Emission and its Analytical Applications, Lund, Sweden, 9-12 June 1980. Interested persons should write in care of the Lund Institute of Technology, Solvegatan 14, 22362 Lund, Sweden.

International Conference on X-Ray Processes and Inner-Shell Ionization, Stirling, Scotland, 25-29 August 1980. Interested persons should write to the conference secretary, Lewis M. Watson, University of Strathclyde, Department of Metallurgy, Glasgow G1 1XN, Scotland UK.

Fortieth Annual Physical Electronics Conference, Cornell University, Ithaca, NY, 16-18 June 1980. The conference committee invites the submission of experimental and theoretical papers concerned with the physics and chemistry of solid surfaces and interfaces. Such papers may relate to electronic, crystallographic, or chemical structure of surfaces and interfaces as obtained by electron diffraction and by various optical and electron spectroscopies. Both the static and dynamic properties of surfaces, which are clean or incorporate known foreign atoms, are of interest. Papers which present new methods of surface analysis and characterization are also acceptable. Abstracts must be received by T. N. Rhodin, 217 Clark Hall, Cornell University, Ithaca, NY 14853, by 2 May 1980.

AMERICAN PHYSICAL SOCIETY
DIVISION OF ELECTRON AND ATOMIC PHYSICS

BALLOT

The following persons have been nominated to serve a three-year term on the Executive Committee beginning 12-13-79. The vitae of the nominees are given below.

VOTE FOR ONE

- Robert T. Poe
- Joseph H. Eberly
- Winthrop W. Smith

DEADLINE FOR RECEIPT OF BALLOTS IS 23 NOVEMBER 1979

Please sign the enclosed envelope in the upper left hand corner.

SMITH, WINTHROP W., 42, BA 1958, Amherst College. PhD 1963, MIT. NAS-NRC Postdoctoral Fellow, JILA, 1963-65. Lecturer, Dept. of Physics and Astronomy, University of Colorado 1964-65. Instructor, Assistant Prof. 1965-69, Physics, Columbia University. Associate Prof., Prof., 1969- , University of Connecticut. Research Participant: 1969-74, Oak Ridge National Laboratory; summer 1972, Visiting Prof., University of Tennessee; 1978- , Los Alamos Scientific Laboratory; summer 1979, Lawrence Livermore Laboratory. Visiting Fellow, 1975-76, JILA. General Committee, ICPEAC, 1973-77. NAS-NRC Ad Hoc Panel on Accelerator-Related Atomic Physics, 1975-76. NAS Committee on Atomic and Molecular Science 1976-79. Chairman, Gordon Research Conference on Atomic Physics, 1977. Member, DEAP Nominating Committee 1977; Program Committee, 1978. Chairman, New England Section, APS, 1979. Atomic collisions, heavy-particle collision spectroscopy, lifetimes and spectra of excited ions, atomic hyperfine structure, soft x-ray spectra from collisions, laser spectroscopy.

EBERLY, JOSEPH HENRY, 43, BS 1957, Pennsylvania State University. MS 1959, PhD 1962, Stanford University. NAS-NRC Postdoctoral Fellow USNOLWO 1962-64; Research Physicist Naval Ordnance Lab 1964-67; Lecturer, University of Maryland 1964-65; faculty member, University of Rochester since 1967, presently Professor of Physics and of Optics; US Navy Civilian Service Award 1964; NAS Exchange Lecturer to Eastern Europe 1970; Visiting Scholar SLAC and Department of Physics, Stanford University 1971-72; Guest Visitor, University of Sussex, summer 1973; Visiting Fellow, JILA, 1977-78. Chairman or member of organizing committees for: Rochester Conferences on Coherence and Quantum Optics 1966, 72, 77; Aspen Workshop on Intense Fields 1975; International Conference on Multiphoton Processes 1977, 80; Symposium on Computer Films for Research in Physics and Chemistry 1978; Europhysics Study Conference on Multiphoton Processes 1979. Co-editor MULTIPHOTON BIBLIOGRAPHY 1970-76, 77, 78. Member DEAP Program Committee 1973-76, DEAP Nominating Committee 1977, DEAP representative at NSF Theory Program Review 1977. Member Finance Committee, Optical Society of America 1978-80. Member of APS Frank Isakson Prize Committee 1979. Associate Editor Physical Review A 1979-81. Atomic tests of QED, stochastic atom-photon interactions, resonance fluorescence, superradiance and optical pulse propagation, atomic, molecular, and free electron multiphoton interactions.

POE, ROBERT T., 44, BS 1956, Hamline University. MS 1958, PhD 1963, University of California at Berkeley. Research Physicist, Lawrence Berkeley Laboratory 1963-64, Assistant Prof. 1964-69, Associate Prof. 1969-72, Prof. 1972- , Chairman of Dept. of Physics 1976- , University of California at Riverside. Visiting Scientist: BNL, LBL, CERN, Academia Sinica, Cambridge Fellow, etc. Electron-atom/molecule, photon-atom, atom-molecule interactions; many-body effects in atomic systems; elementary particle physics; applied studies in energy and alternate energy.