

The American Physical Society

Division of Electron and Atomic Physics

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TO MEMBERS OF THE DEAP from Pat Dehmer

I. Report on the 1980 DEAP Meeting at Los Angeles

The annual meeting, held at the Davidson Conference Center on the campus of the University of Southern California, was a success. There were 410 registrants, with 215 contributed papers and 25 invited papers. The banquet at USC's Town and Gown was attended by 250 persons. We are all grateful to Gerhard Weissler and his colleagues at USC, Tu-nan Chang, William Cooke, and Peter Lambropoulos, for arranging this meeting. Directly after the close of the regular meeting on Wednesday afternoon, the DEAP sponsored a workshop which was attended by more than 150 persons. The workshop featured discussions on two topics of current interest in laser physics -- generation of VUV radiation and multiphoton ionization of atoms. A buffet dinner was provided by representatives of the laser industry. We thank Robert Compton of Oak Ridge National Laboratory and Jean-Claude Diels of USC for organizing this very timely workshop and for chairing the sessions.

II. APS March Meeting, Phoenix (16-20 March 1981)

1. The DEAP is sponsoring the following three symposia.

A. RYDBERG ATOM INTERACTIONS, William Wing, organizer; Richard L. Shoemaker, presiding.

R. F. Stebbings, "Rydberg Atom Collisions."

J. W. Farley, "Rydberg Atom Interactions with Radiation."

J. Castro-Neto, "Rydberg Quasi-Landau Levels."

P. M. Dehmer, "Rydberg States of Multi-Atom Clusters."

B. CHANNELING, Donald S. Gemmel, presiding.

C. D. Moak, "Resonant Coherent Excitation of 1- and 2-Electron Ions in Crystal Channels."

N. Cue, "Channeling Radiation from MeV Electrons."

R. H. Pantell, "Radiation from Medium-Energy Charged Leptons Transversing Crystals."

W. M. Gibson, "Applications of Channeling to High-Energy Physics."

C. ELECTRON IMPACT SPECTROSCOPY, Sandor Trajmar, presiding (joint with the Division of Chemical Physics).

A. Kupperman, "Electron Impact Spectroscopy."

R. T. Poe, "Theoretical Advances in Electron Molecule Collisions."

F. H. Read, "Inner Shell Spectroscopy by Electron Impact."

R. Cellota, "Spin Polarization Effects in Electron Impact Spectroscopy."

M. Coplan, "e/2e Spectroscopy."

III. APS Spring Meeting, Baltimore (20-23 April 1981)

1. The DEAP is sponsoring the following four symposia.

A. METROLOGY AND STANDARDS, Howard A. Shugart, presiding.

F. R. Petersen, "Frequency Measurements in the Visible: Are We Close to a Unified Time and Length Standard?"

M. D. McGuire, "Development of an Ion Storage Frequency Standard."

M. E. Cage, "Determination of the Fine-Structure Constant and an Atomic Standard of Resistance Based on the Quantized Hall Effect."

E. R. Cohen, "Fundamental Constants and the Basis for Atomic Standards."

B. ATOMIC COLLISIONS WITH STICKY NUCLEI, Kurt A. Snover, presiding.

W. Meyerhof, "Overview."

J. Blair, "Theory."

J. F. Chemin, "Atomic X-Rays Associated with the Compound Nucleus."

P. M. S. Lesser, "Nuclear Time Delay Effects in $p + C$ Bremsstrahlung."

C. PRECISION MEASUREMENTS IN ATOMIC PHYSICS, Edward A. Hinds, presiding.

S. R. Lundeen, "Lamb Shift Measurements with Fast Beams."

H. G. Berry, "Comparisons Between Theory and Experiment in Two- and Three-Electron Systems."

C. E. Johnson, "Magnetic Moments of One- and Two-Electron Atoms."

F. M. J. Pichanick, "The 2^3P State of Helium."

D. FEW-BODY PROCESSES IN CHEMISTRY AND PHYSICS, William P. Reinhardt, presiding (joint with the Division of Chemical Physics).

E. J. Heller, "Quantum-Classical Correspondence in Nonlinear Vibrations of Polyatomic Molecules."

M. H. Alexander, "Electron Energy Transfer in Collisions Involving Excited Diatomic Molecules."

D. R. Herrick, "Electron Correlation in Doubly Excited States."

H. T. Silverstone, "High Order Perturbation Theory and Its Asymptotics for the Imaginary Part of Hydrogen Stark Resonances."

2. The DEAP Executive Committee will meet on Monday evening, 20 April. The Executive Committee consists of Bernd Crasemann (Chairperson), Alexander Dalgarno, Patricia Dehmer, Thomas Gallagher, Hugh Kelly, John Park, Richard Pratt, Eugene Rudd, Ivan Sellin, and Winthrop Smith.

3. The Committee on Atomic and Molecular Science (CAMS), currently chaired by Ivan Sellin, will meet on Monday evening 20 April directly following the DEAP Executive Committee meeting.

4. The DEAP Program Committee will meet at noon on Monday, 20 April. Symposia and invited speakers will be decided on for the annual meeting of the DEAP in 1981 as well as for the January, March, and April meetings of the APS in 1982. The scheduling of symposia for the general APS meetings in 1982 and 1983 is especially important, since there will be a 17 month gap between the December 1981 DEAP meeting in New York and the May 1983 meeting in Boulder. If you are interested in having a session on a particular topic, you should send suggestions for several speakers and titles to one of the members of the Program Committee. This year's committee members are George Birnbaum, Loucas Christophorou, Eugene Commins, Dan Dill, John Doering, Alfred Glassgold, Will Happer, S. E. Harris, Rainer Johnson, Bobby Junker, Manfred Krause,

Thomas McIlrath, Warren Moos, Richard Mowat, David Norcross, David Pritchard, Larry Spruch, William Stwalley, Deborah Watson, and Jon Weisheit. The Chairperson of the Program Committee is Alexander Dalgarno; his address appears on the letterhead.

5. The DEAP Nominating Committee will meet at noon on Tuesday, 21 April. The committee will select a slate of candidates to be presented to the DEAP membership later in the year. The committee will select new candidates for the positions of Vice-Chairperson, Secretary-Treasurer, and one Executive Committee Member, and will consider the nomination of the present Vice-Chairperson for the Chairpersonship. Serving on the Nominating Committee this year are Richard Deslattes, Walter Johnson, Neal Lane (Chairperson), and Ivan Sellin. The committee members would like to receive suggestions for these offices. Neal Lane's address is Department of Physics, Rice University, Houston, TX 77001.

6. The DEAP Fellowship Committee will meet to prepare a list of DEAP members to be considered for advancement to Fellow of the APS. The list will be forwarded to the APS Council. The committee members are S. B. Crampton, Alan Gallagher, Ronald Henry, Hugh Kelly (Chairperson), Ivan Sellin, and Aaron Temkin. Nominations supported by two APS members may be sent through regular APS channels or directly to Hugh Kelly at the Department of Physics, University of Virginia, Charlottesville, VA 22901. Our Division Councillor, Ivan Sellin, notes that there is a new form for fellowship nomination which requires sponsors to identify the nominee's most significant contributions to physics and to suggest a citation to appear on the fellowship certificate. The forms can be obtained from W. W. Havens, Jr., Executive Secretary of the APS, 335 East 45th Street, New York, NY 10017.

IV. DEAP Publications Committee

Bernd Crasemann has reactivated the DEAP Publications Committee, and has appointed Eugen Merzbacher the Chairperson for 1981. The committee's duties will include advising the Executive Committee on matters pertaining to the APS publications. The APS publications are Physical Review A-D, Physical Review Letters, Reviews of Modern Physics, and the Bulletin of the American Physical Society.

V. Future DEAP Meetings

1. The 13th Annual DEAP Meeting will be held at the Roosevelt Hotel in New York City on Thursday through Saturday 3-5 December 1981. The meeting will be hosted by New York University with Henry Stroke acting as chairperson of the local committee. Tours of nearby university and industrial research laboratories are being planned for Wednesday. Forms for preregistration and hotel reservations will be mailed with the next newsletter. Abstracts for contributed papers (one original and two copies) should be sent to the Program Committee Chairperson, Alexander Dalgarno, at the address given on the letterhead. The deadline will be early in September.

2. As a result of the decision to change the time of the year of the DEAP annual meeting to May, there will be a 17-month gap between the New York meeting and the next scheduled meeting. The 14th Annual DEAP Meeting will be held in Boulder, CO on 23-25 May 1983. David Norcross of JILA will serve as chairperson of the local committee. The 15th Annual DEAP Meeting is tentatively scheduled for Storrs, CT, with the University of Connecticut acting as host.

VI. Other Meetings

1. The 2nd International Conference on Precision Measurement and Fundamental Constants will be held at the National Bureau of Standards in Gaithersburg, MD on 8-12 June 1981. The conference will be similar to that held at NBS Gaithersburg in August 1970, and will provide a forum to assess the present state of experimental and theoretical research in the precision measurements field relating to fundamental physical constants. Further information can be obtained from Barry Taylor, National Bureau of Standards, Building 220, Room B258, Washington, D.C. 20234.

2. The 41st Annual Physical Electronics Conference will be held in Bozeman, MT on 29 June - 1 July 1981. The abstract deadline is 1 May.

3. The 12th International Conference on the Physics of Electronic and Atomic Collisions will be held at the Sheraton Hotel in Gatlinburg, TN on 15-21 July 1981. The abstract deadline for contributed papers is 20 March. The chairperson of the local committee is Sheldon Datz, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, TN 37830.

4. The 34th Gaseous Electronics Conference will be held at the Boston Park Plaza Hotel on 20-23 October 1981, and will be hosted by Avco Everett Research Laboratory. The chairperson of the local committee is John Boness, Avco Everett Research Laboratory, 2385 Revere Beach Parkway, Everett, MA 02149.

5. The 8th International Conference on Atomic Physics will be held at Chalmers University of Technology, Göteborg, Sweden on 2-6 August 1982. The conference chairperson is I. Lingren and U.S. members of the program committee include E. Commins, Department of Physics, University of California, Berkeley, CA 94720; I. Sellin, Department of Physics, University of Tennessee, Knoxville, TN 37916; and H. H. Stroke, Department of Physics, New York University, 4 Washington Place, New York, NY 10003. The first meeting of the international program committee will be in early April 1981, and the committee members would welcome suggestions of topics for symposia as well as speakers. The committee members are particularly interested in speakers who can present an overview of work which is not necessarily their own. In addition, they are seeking to identify younger physicists who are perhaps less well known, but who can make contributions to an international audience of diverse interests.

VII. Report from the Division Councillor

Ivan Sellin reports the following news from the APS Council Meetings of November 1980 and January 1981.

1. The results of the recent APS elections are: the Vice-President Elect is Robert Marshak of Virginia Polytechnic Institute; the Vice-Chairperson of the Nominating Committee is Mary Beth Stearns of Ford Motor Company Scientific Labs; and the three new Councillors-at-Large are Dean Eastman of IBM Corporation, Neal Lane of Rice University, and Mal Ruderman of Columbia University.

2. The following prizes were among those awarded by the APS Council on 22 November 1980. The prizes will be bestowed at the March and April Meetings of the APS.

The Herbert P. Broida Prize in Atomic and Molecular Spectroscopy or Chemical Physics was awarded to W. Carl Lineberger of JILA and the University of Colorado.

The Irving Langmuir Prize in Chemical Physics was awarded to William H. Flygare of the University of Illinois.

The Earle K. Plyler Prize for Molecular Spectroscopy was awarded to Richard N. Zare of Stanford University.

The Davisson-Germer Prize in Surface Physics was awarded to Robert Gomer of the University of Chicago.

3. The APS has agreed to cosponsor a scientific tribute to the Soviet physicist Andrei Sakharov at Rockefeller University on 1 May 1981. The program will be titled "Scientific Accomplishments of Andrei Sakharov."

4. The creation of a Division of History of Physics has received final approval.

5. The Council voted to excuse delays in publication in APS journals for retired members who cannot pay page charges because they have lost their affiliation with a university and/or contractor.

6. Peter Adams, presently the editor of Physical Review B, has been appointed Deputy Editor-in-Chief of the APS journals.

VIII. Report of the APS Publications Committee

The APS Publications Committee met in June and November 1980. The following news items are of particular interest.

1. Changes in the Physical Review and Physical Review Letters. As detailed in an announcement which appeared in the 17 November 1980 issue of Physical Review Letters, each Physical Review journal now includes four sections of short papers; Physical Review Letters now includes a Comments section; and in approximately one year, the acceptance criteria for Physical Review Letters will be changed to de-emphasize the criteria of novelty and timeliness and to re-emphasize the criterion of general interest. This last point is also discussed in an editorial which appeared in the 26 January 1981 issue of Physical Review Letters. These changes are the result of over a year of discussion during which Robert Adair, Editor of Physical Review Letters, strongly urged splitting that journal into five sections. Comments from DEAP members were solicited via an announcement that appeared in the February 1980 newsletter; the responses indicated total opposition to the idea of a split in Physical Review Letters. (However, this opinion was not shared by some of the other APS Divisions). As a result of all of the individual and Divisional responses, the modified solution outlined above was formulated. The DEAP would like to thank everyone who took time to write to express their opinion on this important matter.

2. Increase in page charges for Physical Review and Physical Review Letters. As detailed in an announcement which appeared in the 22 December 1980 issue of Physical Review Letters, the page charges for the Physical Review have been increased to \$85 (from \$65) per page and for Physical Review Letters to \$135 (from \$90) per page. An additional charge of \$20 per article will apply for both journals for publication of abstracts in Physical Review Abstracts. These increases were necessary to avoid a very large deficit (\$100,000) in journal operation in 1981. A subcommittee chaired by Morrel Cohen (The James Franck Institute, University of Chicago, Chicago, Illinois 60637) has been appointed to study the various financing options and to recommend a long-term solution.

IX. Texas Experimental Tokamak (TEXT)

Rolf Sinclair, NSF Program Director for Atomic, Molecular, and Plasma Physics, has sent us several newsletters from the new Texas Experimental Tokamak, which is scheduled to begin regular operation early in 1981. TEXT is a national user facility for research on fusion plasmas, built and operated by the University of Texas, and supported by the Office of Fusion Energy, U.S. Department of Energy. It is a general purpose device designed to provide facilities for fusion research which are not compatible with the commitments of major tokamaks. Further information can be obtained from Dr. Kenneth W. Gentle, TEXT Program Director, Department of Physics, University of Texas, Austin, TX 78712 (512-471-3926).

X. Call for Announcements

The DEAP newsletter is presently mailed three times a year -- in February, June, and September. Announcements of meetings or news of general interest to DEAP members may be included in the newsletter by sending a (very) short summary of the item to Pat Dehmer at the address given on the letterhead.