

1975 III

The American Physical Society

Division of Electron and Atomic Physics

BENJAMIN BEDERSON, *Chairman*
New York University
4 Washington Place
New York, New York 10003

FRANCIS M. PIPKIN, *Vice-Chairman*
Lyman Laboratory
Harvard University
Cambridge, Massachusetts 02138

CHUN C. LIN, *Secretary-Treasurer*
Department of Physics
University of Wisconsin
Madison, Wisconsin 53706

To MEMBERS OF THE DEAP from Chun C. Lin

Contents

- I. EXECUTIVE COMMITTEE BALLOT (Separate sheet), please vote promptly. Use the enclosed envelope and sign your name on the upper left-hand corner of the envelope.
- II. 1976 Executive Committee
- III. 1975 Annual Meeting at Tucson
- IV. Other Meetings

* * * * *

II. 1976 EXECUTIVE COMMITTEE

The executive committeeman position is being contested and details are on the accompanying ballot. The remainder of the committee is as follows:

One Year Term:

Chairman	-Francis M. Pipkin (Harvard University)
Immediate Past Chairman	-Benjamin Bederson (New York University)
Vice Chairman	-George J. Schulz (Yale University)
Secretary-Treasurer	-Chun C. Lin (University of Wisconsin)

Divisional Councillor until Dec. 1978: G. King Walters (Rice University)

Executive Committeemen (terms expiring on the months indicated)

Eugen Merzbacher (University of North Carolina) December 1976

Earl W. McDaniel (Georgia Tech) December 1977

In addition the chairman may appoint two committeemen for one-year terms.

III. 1975 Annual Meeting

Arrangements

The Seventh Annual Meeting of the Division of Electron and Atomic Physics will take place in Tucson, Arizona on 3-6 December 1975. All scientific sessions

will be held at the Doubletree Inn, 445 S. Alvernon Way, Tucson, Arizona 85711, and most participants will be housed there. Those participants who cannot be accommodated at the Inn will be placed in quarters at nearby hotels; housing arrangements will be made by the Inn. Rates at the Inn are \$19.00 single and \$24.00 double. Participants are strongly urged to make their hotel reservations early so that they can be given rooms at the Inn.

Registration will be conducted in the lobby of the Doubletree Inn from 7-10 PM on Tuesday, December 2. Additional registration will be held on December 3 (8:30 AM to noon and 1:30-5:00 PM) and December 4 and 5 (9 AM to noon and 1:30-5:00 PM).

The registration fee is \$18 up to November 15 and thereafter \$25. Unsupported students and unemployed may register for \$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 Doubletree Inn (602-881-4200). Ask for the DEAP registration desk.

On Thursday, December 4, there will be an excursion to the Desert Museum and Old Tucson. At the latter, there will be a simulated gun fight and a barbecue. The barbecue will serve as the banquet of the meeting. The total cost, including bus transportation, admission to two attractions, all you can eat and all the beer you can drink, will be \$15.50 per person (\$5.00 for the excursion and \$10.50 for the banquet). Tickets must be purchased from the Registration Desk before noon on Wednesday, December 3.

Another special event is the First DEAP Tennis Classic. There will be a small fee to pay for the balls and trophy. We are not certain as to whether there will be competition in doubles as well as singles.

Arrangements have been made for an excursion to the telescopes operated by the Kitt Peak National Observatory. These telescopes are on a mountain some 50 miles from Tucson. Transportation will be by bus which will leave the Doubletree Inn at 9:00 on the morning of December 6, and return before 5:00 in the evening. Since there are no dining facilities on the mountain, participants in this excursion are advised to purchase a box lunch, which will be available from the hotel. The cost of the excursion will be \$2 for transportation and approximately \$3.75 for the lunch. Those who wish to visit the telescopes must make their reservations by noon on Friday, December 5. Since the mountain elevation is about 9000 feet above sea-level, warm clothing is absolutely essential. An outdoor jacket or coat is recommended; a heavy sweater would probably not be adequate. Needless to say, the weather on the mountain in December cannot be accurately forecast.

Registration and Hotel Reservation forms are enclosed for your convenience. Please indicate whether you plan to participate in the excursion and the First DEAP Tennis Classic.

Transportation between the airport and Doubletree Inn will be provided by the Doubletree Inn in its own limousine. It is therefore important that arrival times be communicated to the Doubletree Inn well in advance. In case of congestion, members of the Physics Department will assist with their personal cars. If transportation is not available when attendees reach the airport, they should call

one of the following numbers: Doubletree Inn (Mr. Russell Valentine) 881-4200, Dr. S. Bashkin (University of Arizona) 884-2322 (office), 793-2028 (home).

The Annual Business Meeting will be held in the Boojum Room at 10:15 AM on Thursday, December 4. The meeting will be conducted by Benjamin Bederson as Retiring Chairman. The officers for 1976 are Francis M. Pipkin (Chairman), George J. Schulz (Vice-Chairman), and Chun C. Lin (Secretary-Treasurer).

The technical session will include six symposia and four separate invited papers. One symposium ("Ab Initio Theory of Molecular Processes") is sponsored jointly with the APS Division of Chemical Physics. The DEAP program committee consists of Francis M. Pipkin (Chairman), Lloyd Armstrong, Jr., Stanley Bashkin, Benjamin Bederson, Richard Brewer, Robert Celotta, Joseph H. Eberly, E. Norval Fortson, Robert Freund, Edward Gerjuoy, William Happer, Chun C. Lin, John T. Park, David E. Pritchard, Hugh Robinson, Rolf M. Sinclair, Ronald Stebbings.

The invited papers are "Resonance Ionization Spectroscopy on $\text{He}(2^1\text{S})$ " by G. S. Hurst, "Van der Waals Molecules" by W. Klemperer, "Atomic Transition Probabilities - Status and Needs" by W. L. Wiese, and "Group Theoretical Classification of Two Electron Spectra" by D. R. Herrick.

The symposia and names of organizers are "Ab Initio Theory of Molecular Processes" (W. A. Lester, Jr. and C. C. Lin), "Alkali-Inert Gas Atom Interactions" (D. Pritchard), "Current Theoretical Progress in Heavy Ion-Atom Collisions" (J. D. Garcia), "High Rydberg States" (R. S. Freund), "Electron Attachment and Detachment" (J. B. Delos), "Multi-Photon Optical Resonance" (J. H. Eberly).

Contributed papers will be given in parallel sessions and the conventional variety of projection equipment will be available. Anyone requesting special equipment should advise Stanley Bashkin (Department of Physics, University of Arizona) as soon as possible. Space will be available for informal sessions.

This year we have 101 contributed papers, and obviously some conflicts are inevitable. Persistent complainers may face the traditional sentence of a term on the Program Committee. The sessions were arranged by Benjamin Bederson, Robert Freund, Chun Lin, and Frank Pipkin.

The DEAP is indebted to the local committee, spearheaded by Stanley Bashkin, for the excellent preparation work, and to William A. Lester, Jr. and Jerome D. Swalen for their efforts in arranging the joint symposium with the Division of Chemical Physics. We also express our appreciation to the University of Arizona for acting as host to the meeting.

Program of Symposia

A. Ab Initio Theory of Molecular Processes

(W. A. Lester, Jr. and C. C. Lin, organizers)

1. Application of MC SCF Technology to Diatomic Molecules, Frank P. Billingsley, II, Air Force Cambridge Research Laboratories.
2. Progress in Theoretical Calculation of Electron-Impact Processes of Diatomic Molecules, Sunggi Chung, University of Wisconsin.

3. Computational Studies of Atomic and Molecular Processes, Bowen Liu, IBM Research Laboratory, San Jose.
 4. Intermolecular Potentials and Inelastic Molecular Collisions, Russell T. Pack, Los Alamos Scientific Laboratory.
- B. Alkali-Inert Gas Atom Interactions
(D. E. Pritchard, Organizer)
1. Magnetic Interactions in Alkali-Rare Gas van der Waals Molecules, R. R. Freeman, MIT.
 2. Alkali-Noble Gas Potentials from Continuum-Radiation Intensities, A. Gallagher, JILA.
 3. Molecular Beam Determination of Alkali-Noble Gas Interactions Along the Lowest Energy Surface, L. Wharton, University of Chicago.
 4. Differential Scattering of Excited State Atoms, D. E. Pritchard, MIT.
 5. Pseudopotentials and Static Changing Collisions, J. Pascale, Centre D'Etudes Nucleaire de Saclay.
- C. Current Theoretical Progress in Heavy Ion-Atom Collisions
(J. D. Garcia, organizer)
1. Application of the Glauber Approximation to Heavy Ion-Atom Collisions, Brian K. Thomas, Brooklyn College of CUNY.
 2. The Binary Encounter Approximation in Ion-Atom Collisions, J. H. McGuire, Kansas State University.
 3. Recent Developments in Theoretical Descriptions of Heavy-particle Collisions, M. R. Flannery, Georgia Tech.
 4. Slow Collisions and Their Problems, Walter Thorson, University of Alberta.
 5. Pseudopotential Calculations of Ion-Atom Collisions, J. N. Bardsley, University of Pittsburgh.
- D. Electron Attachment and Detachment
(J. B. Delos, organizer)
1. Introduction, J. B. Delos, College of William and Mary.
 2. Theory of Electron Attachment and Detachment, J. C. Y. Chen, University of California at San Diego.
 3. Direct Electron Detachment in Low Energy Collisions of Negative Atomic Ions with Atoms, L. D. Doverspike, College of William and Mary.

4. Recombination of Electrons and Small Molecules, G. H. Dunn, JILA.
5. Fundamentals of Electron Attachment and Detachment, R. S. Berry, University of Chicago.

E. High Rydberg States

(R. S. Freund, organizer)

1. Production and Detection of Atoms in High Rydberg States, R. F. Stebbings, Rice University.
2. Fine Structure of Rydberg States, W. H. Wing, University of Arizona.
3. Collision Processes Involving High Rydberg States, W. A. Chupka, Yale University.

F. Multi-photon Optical Resonance

(J. H. Eberly, organizer)

1. Electric Quadrupole Contributions in Near Resonant Multiphoton Ionization, M. Lambropoulos, JILA.
2. The Resonant Stark Effect, C. R. Stroud, Jr., University of Rochester.
3. Recent Advances in High Resolution Two-Photon Spectroscopy, T. W. Hänsch, Stanford University.
4. Laser Atomic Beam Spectroscopy, W. Walther, University of Köln.

IV. Other Meetings

1. The Fifth International Conference on Atomic Physics will be held at the Berkeley campus on July 26-30, 1976. Announcement of the conference will be sent to DEAP members in due course.
2. The Thirty-Sixth Annual Physical Electronics Conference will be held at the University of Wisconsin, Madison, 7-9 June 1976. The conference is sponsored by the American Physical Society (Divisions of Solid State Physics and Electron and Atomic Physics) and is organized by the Physical Electronics Conference Committee: R. L. Park, General Chairman, J. A. Appelbaum, J. M. Blakely, J. W. Gadzuk, M. G. Lagally, R. J. Madix, A. H. Madjid, P. M. Marcus, R. L. Schwoebel, G. A. Somorjai, and M. B. Webb.

The conference committee invites the submission of experimental and theoretical papers concerned with the physics of solid surfaces. Such papers may relate to electronic, crystallographic, or chemical structure of surfaces 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.

It is the intention of the organizing committee to continue the policy of limiting the number of papers to that which can be accommodated in a three-day conference with ample time for presentation and discussion. Papers to be presented will be selected on the basis of the submitted abstract according to the criteria which have guided the conference in the past. An announcement of the meeting including a detailed statement of paper selection criteria and other pertinent information will be sent to the conference mailing list and is available to anyone upon request to the local chairmen.

Abstracts submitted for consideration must be received by Monday, 26 April 1976; they should be sent to the Local Chairmen, M. G. Lagally and M. B. Webb, Department of Physics, the University of Wisconsin, Madison, WI 53706, to whom inquiries relative to the conference should also be directed.