

The American Physical Society

Division of Electron and Atomic Physics

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TO MEMBERS OF THE DEAP from Tom Miller

I. Report on the 1977 DEAP Meeting at Knoxville

It is pleasing to report a successful annual meeting. The 1977 DEAP meeting at Knoxville, under the guidance of Ivan Sellin and Stuart Elston and their colleagues, had a paid attendance of 336 persons, with 154 contributed papers, 23 invited speakers, and a banquet attendance of 255. Our first poster session was enjoyed by most. Sixty-six persons responded to a questionnaire on the poster session and 92% of them felt the poster session was at least comparable to an oral session in effectiveness, and most felt it was actually superior. A similarly large majority responded favorably to other questions regarding the size (73% felt it was about right), the scheduling (again, 73% approved of the final afternoon for the poster session), and 88% said they would voluntarily present a paper at a poster session in the future. About one-third of the poster contributors themselves filled out questionnaires, and all were happy with the arrangements except that one-third of the respondents complained that their displays were so popular that they missed seeing the other posters.

II. APS March Meeting, Washington, D.C. (27-30 March 1978)

There will be a symposium on "Excited vibrational states: classical and quantum theory," sponsored jointly by the DEAP and the DCP and organized by John Delos. The speakers will be:

John Delos, "Ergodic and quasiperiodic motion; regular and irregular spectra"

Joseph Ford, "Ergodic and quasiperiodic motion in classical mechanics"

Rudolph Marcus, "Calculation of energy eigenvalues by quantization of classical trajectories"

Ian Percival will speak on variational principles in semiclassical calculations;

Martin Gutzwiller, "Classical ergodic motion and quantum mechanical irregular spectra"

III. APS Spring Meeting, Washington, D.C. (24-27 April 1978)

1. There will be two DEAP-sponsored symposia. One is "Polarized electrons and positrons; new sources and their role in research and scattering." The speakers are:

Philip G. Burke, "Analysis of electron and positron scattering by atoms"

T. S. Stein, "Positron and electron scattering from atoms and molecules at low and intermediate energies"

Wilhelm Raith, "Production of polarized electrons by field emission"

R. J. Celotta, "The GaAs source; a stimulus to electron polarization research"

A second symposium is being organized by Rolf Sinclair, on "Fundamental constants and concepts."

2. The DEAP Executive Committee will meet on Sunday evening, April 23. The newly elected committee member is Daniel Kleppner. The agenda includes: the selection of a Divisional Councillor for a four-year term beginning January 1979; the possibility of changing the time of year of the DEAP annual meeting; the no-smoking resolution voted at the 1977 meeting; and a change in the by-laws which would permit the Divisional Councillor to vote during Executive Committee meetings. Members are urged to transmit opinions or new topics for discussion to Neal Lane, Herbert Broida, or myself. In particular, volunteers and recommendations are needed for the Divisional Councillor's position on the APS Council.

3. The Program Committee will meet at noon on Monday, April 24. Symposia and invited speakers for our 1978 annual meeting as well as for general APS meetings through April 1979 will be discussed. Suggestions for topics and speakers should be sent to Herb Broida.

4. The Nominating Committee will meet at noon on Tuesday, April 25. The committee consists of Frank Pipkin (chairman), John Park, Arnold Russek, and a fourth member to be appointed by W. W. Havens. The nominating committee will select a slate of candidates to be presented to the DEAP membership later in the year. Offices to be filled are vice-chairman, secretary-treasurer, and one committee member. Suggestions should be sent to F. M. Pipkin, Department of Physics, Harvard University, Cambridge, MA 02138.

IV. Physical Review A Editorship

The position of Editor of the Physical Review A is open and it is hoped that a new editor can be chosen by April. Much discussion has centered around whether the editor should be a full-time career editor at Brookhaven or a part-time remote editor who is still engaged in research. Comments and suggestions of persons for the post would be welcomed by Chalmers Frazer, Managing Editor, Physical Review, Brookhaven National Laboratory, Upton, NY 11973, and by the chairman of the APS Publications Committee, King Walters, who is at SRI International-106B, Menlo Park, CA 94025 for the coming months.

V. NSF Advisory Panel on Physics

The Physics Division of the National Science Foundation has an Advisory Committee for Physics which consists of physicists chosen from the various sub-disciplines and which meets twice a year - once in December and once in May. The committee is chaired by Dr. Marcel Bardon, who is at present the director of the Physics Division. The purpose of the committee is to advise the NSF Directorate concerning the physics program supported by the NSF. Although the members of the committee are chosen so as to be somewhat representative of the various areas supported by the NSF Physics Division, they are not meant to represent their vested interests but to be concerned with the integrity of the physics program as a whole.

At each of its meetings the Advisory Panel reviews in depth one of the programs of the Physics Division. At present this review consists of two stages. Several months prior to the scheduled meeting of the Advisory Panel, Dr. Bardon appoints a

subcommittee to prepare a review in depth of the program to be considered by the Advisory Panel at its next scheduled meeting. The subcommittee is made up of two to three members from the Advisory Panel plus one to three individuals not on the Advisory Panel chosen for the purpose of the review in depth by Dr. Bardon. The subcommittee is normally chaired by someone who is not a member of the Advisory Panel. Two or three months prior to the meeting of the Advisory Panel the subcommittee meets in Washington and prepares an in-depth review. At this time the subcommittee is provided access to the reviews of the proposals accepted or declined; they can, if they wish, review the decisions made by the program officer. They also have access to any other information which they feel would contribute to the review. The subcommittee then prepares a draft report for the consideration of the parent Advisory Panel which is distributed to the Advisory Panel prior to the next scheduled meeting. At the meeting the Advisory Panel uses this report as an ingredient for its independent review of the field. The Advisory Panel meetings are open to the public and anyone who wishes is free to attend. Access to the reviews and the proposals cannot be provided at a public meeting. Members of the Advisory Panel can, however, inspect them privately if they so wish. At the meeting of the Advisory Panel summary presentations are made by the NSF program directors, the program directors for other agencies supporting the type of research under consideration, and representatives or groups of individuals with a special interest. At the end of the meeting the Advisory Panel prepares an official report for submission to the NSF. This report is widely circulated and reaches the top levels of the NSF management.

At the meeting in December, 1977, the Advisory Panel reviewed the theoretical physics program. Among the subjects considered was support of theory related to the field of atomic physics. Some concern was expressed by witnesses and by letters sent directly to the NSF that there was too little support for theory related to atomic physics and that the theoretical physics program supported by the Division of Physics was devoted dominantly to work in elementary particle physics. After a prolonged discussion the Advisory Panel concluded that the NSF program directors were responding in an unbiased manner to the proposals submitted and that there was no evidence for bias toward one area of physics as opposed to another. In other words, the cutoff used for selecting proposals was uniform and not biased in favor of one area of theory.

At the May 1978 meeting the Advisory Panel will review the program in Atomic, Molecular and Plasma physics of which Rolf Sinclair is program director. The DEAP may, if it wishes, send an official representative to the meeting of the Advisory Panel to give the views of the atomic physics community on the support in this area and the special problems of this area. Any individual may also, if he wishes, attend this meeting. Individuals with strong views should feel free to communicate them either directly to the NSF or to the chairman of the DEAP. The reviews of a given area occur roughly one every three years and thus, if you wish to express your concerns, now is the time to do so.

On a separate matter, a subcommittee of the NSF Advisory Committee has been formed to analyze various actions which can be taken to prevent the loss of young scientific talent which is presently occurring due to the job situation. The subcommittee's charge includes both theory and experiment in all fields of physics. Input is invited. The chairman of this subcommittee is Peter Carruthers; DEAP members might wish to communicate ideas to the subcommittee through one of its members

familiar to us: Ron Geballe, Physics Dept., University of Washington, Seattle, WA 63130. The subcommittee will make recommendations to the Advisory Committee in May.

VI. Tenth Annual DEAP Meeting (1978)

The next DEAP meeting will be held at the Wisconsin Center at The University of Wisconsin, Madison, on 29 November-1 December 1978. L. Wilmer Anderson of the University of Wisconsin is heading the local committee. The participants will be housed in a number of nearby hotels. Forms for preregistration and hotel reservation will be mailed with the next newsletter. Abstracts for contributed papers (one original and two copies for each paper) should be sent to the Program Committee Chairman, Herbert Broida, Department of Physics, University of California, Santa Barbara, CA 93106, and must be received by 1 September 1978.

VII. Other Meetings

There are a number of conferences during the coming year which are of interest to DEAP members. Most are topical conferences of the APS and are sponsored by the DEAP.

1. The Symposium on Computer Films for Research in Physics and Chemistry is an international symposium concerned with computer-generated motion pictures in research in physics and chemistry, and will be held at JILA on 20-22 March 1978. The symposium will focus on the ways in which films are used to display and understand the results of large scale numerical calculations of complex natural phenomena. The objective is to bring together research workers in the chemical and physical sciences who have used films, or who are considering their use, as an aid in numerical calculations. The program will include scientific research lectures, both current and retrospective, incorporating film as a display medium. Among the scientific fields to be discussed that are of particular interest to DEAP members are: atomic and molecular dynamics, multiphoton ionization, soliton collisions and interactions, light-plasma interactions, and molecular photodissociation. You may contact J. H. Eberly, JILA, University of Colorado, Boulder, CO 80309.

2. The 38th Annual Physical Electronics Conference will be held in Gatlinburg, Tennessee, 19-21 June 1978. The conference deals with the physics and chemistry of solid surfaces and intersurfaces. Interested persons may contact L. H. Jenkins or D. M. Zehner, ORNL, P.O. Box X, Oak Ridge, TN 37830.

3. The Gordon Research Conference on Atomic and Molecular Interactions will be held at the Brewster Academy, Wolfeboro, NH, 24-28 July 1978. Information may be obtained from W. A. Lester, Jr., IBM Research Laboratory K34/281, 5600 Cottle Road, San Jose, CA 95193.

4. The 31st Annual Gaseous Electronics Conference will be held at the Statler-Hilton Hotel in Buffalo, 17-20 October 1978. Information should be obtained from D. M. Benenson, Faculty of Engineering and Applied Science, SUNY-Buffalo, Buffalo, NY 14214. The deadline for the receipt of abstracts for contributed papers is 11 August 1978 (or 21 July for long-paper requests).

5. The 2nd Conference on Atomic Processes in High-Temperature Plasmas will be held at JILA on 17-19 January 1979. In charge of the meeting will be Gordon Dunn and David Norcross, JILA, University of Colorado, Boulder, CO 80309.