

Letter to the Editor

The Individual Ordinary Member and the European Physical Society

The Individual Ordinary Membership figures of the EPS give cause for concern. In the first 4-year period of the EPS (mid-'68 to mid-'72) Individual Ordinary Membership grew to 2170. In the next 4-year period, to mid-'76, membership had grown by merely 750, to 2920. This figure should be compared with a total membership of member societies in the region of 40 000. Here are some suggestions, not in any order of preference, for EPS services, in addition to those already offered, that might be able to attract I.O.M.s.

a) The recent supplement giving information such as membership figures, lists of Council and Executive officers, Division Boards, associate members, member societies, journals given the 'Europhysics' seal, etc., which has not been readily available since the closure of the Branch Secretariat in Prague, is an excellent idea. However, it should be expanded to include a statement of the accounts and highlights of the previous year, such as changes in Constitution, awards made, etc. This annual report should be published as early as possible

in the year.

b) A concession granting to I.O.M.s reduced subscription rates to all 'Europhysics' journals. This will need to be negotiated with the publishers concerned. A concession should also be made whereby the payment of page charges (for those 'Europhysics' journals charging them) is waived in the case of I.O.M.s.

c) A 'meetings booklet'. I do not believe it wise, as has now been decided, to increase the number of meetings issues of *Europhysics News* at the expense of non-meetings issues. For many I.O.M.s, *Europhysics News* is their only contact with the Society. By reducing the number of Green issues they receive, a sense of isolation is bound to result. Furthermore, there is already a profusion of meetings listings and it is quite time-consuming going through them all. In my opinion it would be more effective to produce a 'meetings booklet' once (or at most twice) each year, over and above monthly issues of *Europhysics News*. This should list all known meetings including those in, for example, *Physics Today* and *Physics Bul-*

letin, etc. The booklet would be provided free-of-charge to I.O.M.s and could be purchased by others.

d) The organization (by I.O.M.s themselves) of regional week-end or evening seminars. This will probably necessitate regional secretaries with lists of local members. Such seminars would prove most valuable to members (like myself) in industry who are unable to participate in many of the local University organized seminars from which our fellow members in academe derive so much benefit. (Incidentally, any members in the Stockholm area interested in participating in such seminars, please contact me.)

These would be in addition to providing free copies of *Europhysics News*, the possibility of membership in EPS Divisions and participation in EPS sponsored conferences and meetings. Members of member societies would still be entitled to a reduced *Europhysics News* subscription rate, membership in EPS Divisions and participation in EPS sponsored conferences.

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Conference Report

8th Conference on Atomic Spectroscopy, Oxford, 13-16 July

The European Group for Atomic Spectroscopy (EGAS) sees its main task as giving young physicists the possibility of presenting and discussing the results of their research work at an international meeting. Since 1968 when the problem of introducing students into scientific communication was discussed in Caen during an atomic-spectroscopy symposium, and officially since 1969 when the first EGAS conference took place in Paris, the importance of a conference with only a few invited but with a large number of contributed papers has become well recognized.

It is interesting to notice how the main activity in the field of atomic physics has changed during the past eight years. This year, one main subject was the one- and two-electron system (H, He, H₂ molecule). The extreme accuracy, e.g. due to doppler-free two-photon absorption, and new measuring techniques for highly ionized atoms brought some physicists back to "the spectroscopist's playground", as G.W. Series (Reading) entitled his invited paper. Another fascinating aspect of the interaction electron-nucleus is the influence of

the weak interaction (which is parity violating and is responsible for the β -decay) on atomic transitions. P.G.H. Sanders (Oxford) showed in a lecture on "parity and atomic physics" some possible ways of detecting the minute effects, and D.N. Stacey, the organizer of the conference and his colleagues reported on a first search for optical rotation in bismuth transitions due to the parity mixing weak interaction.

G. Backenstoss (Basel) reported on another kind of one-electron atom, viz. the "exotic atoms" (atoms in which one electron is replaced by a heavier negative particle, e.g. a π^- -meson). From the transition energies and relative intensities one can investigate the nuclear structure as seen by the electromagnetic and the strong interaction. Isotope shift measurements in atomic spectral lines (optical and X-rays) which are another means of studying nuclear shapes, however, were a little bit out of favour compared with former EGAS conferences.

Another group of papers reported on spectra of highly ionized atoms. The spectra are of particular interest in astronomy where they are observed in the solar corona and in nebula.

However, they also appear in the large plasma machines, for instance in a Tokamak. From the absolute and relative intensities one can learn much more than from the mere existence of these lines. Some papers were concerned with the excitation of atoms and atomic ions (M.J. Seaton, London) and the measurements and calculations of transition probabilities, oscillator strengths and lifetimes.

Not only the atoms, but also molecules were investigated. Particularly diatomic molecules formed in collisions were studied, among them peculiar helium and xenon compounds which are only stable in excited states. This leads us to the papers concerned with collisions, with scattering of laser light-excited atoms on noble gases and its scattering distribution.

One might ask why the laser was not mentioned much earlier. The reason is that during this conference, laser was perhaps the word most often used. Lasers were used in all kinds of experiments, in the parity violating weak interaction experiment as well as in Lamb shift experiments on hydrogen-like fluorine ions, in hyperfine structure, in optical pumping, and in lifetime measurements, in measurements on vapours, atomic beams and fast atomic beams, in doppler-

free two-photon experiments (the Laboratoire de Spectroscopie Hertzienne in Paris reported on a doppler-free three-quantum experiment), in saturation spectroscopy experiments, in beam foil experiments...

Despite the large number of applications of lasers in atomic spectroscopy one has the impression that not all the possibilities offered by laser spectroscopy have yet been explored by the atomic physicist. Perhaps, at the next EGAS conference which will be held in Cracow, Poland, 12-15 July, 1977, we shall learn more about this topic. Preliminary registration for this conference should incidentally be made by Oct. 31 because of difficulties in reserving accommodation.

H. Hühnermann

Atomic Physics Division

The Board Members of the **Atomic Spectroscopy Section (EGAS)** from July 1976-77 are as follows:

D.N. Stacey, Clarendon Lab., Oxford (chairman)

E. Meinders, Zeeman Lab., Amsterdam Univ. (secretary)

T. Anderson, Inst. of Phys., Aarhus

J. Bauche, Aimé Cotton Lab., Orsay

W.R.S. Garton, Imperial Coll., London

H. Hühnermann, University, Marburg

M.D. Kunisz, Jagellonian Univ., Cracow

J.C. Lehmann, Herz Spectroscopy Lab., Paris VI Univ.

I. Martinson, Inst. of Physics, Lund University

R. Winkler, Optics Inst., Berlin T.U.

We apologize for the inversion of the chairman and secretary in the directory section of the June issue of *Europhysics News*.

The composition of the Board of the **Molecular Physics Section** has now been confirmed. It is identical to that of the provisional board listed in the directory section of the June issue.

Condensed Matter Division

The Third General CMD Meeting, following those in Florence (1971) and Budapest (1974) will be held at Leeds, UK, 26-29 July, 1977. As in the previous meetings two topics will be discussed, one related to a phenomenon of interest to all sections of the division: "Electron transport in condensed matter"

and one related to a class of materials: "Molecular solids including polymers, liquid crystals, 1- and 2-dimensional solids".

The deadlines for contributed papers are:

1 October, 1976

(preliminary intentions)

1 February, 1977

(final abstract)

Further information can be obtained from the Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1X 8QX. Abstracts of contributions should be sent to Professor G.J. Morgan, Department of Physics, University of Leeds, Leeds LS2 9JT.

Joint European Torus

Appointment of the Head of Project

The post of Head of Project (director) of the Joint European Torus (JET) is to be created on 1st January 1977.

JET is the largest plasma confinement experiment in the current five-year European Community fusion research programme. It is a tokamak designed to produce plasmas of the type needed for the thermo-nuclear reactors and for experiments on them. Its construction is planned to take five years.

The design of this machine is largely completed, and a decision is expected shortly on its construction, and on its location within the European Communities.

JET has been designed by a team bringing together the experience of all fusion research laboratories associated with the European Community, and these organizations will co-operate in its construction and operation.

The Head of Project will take executive responsibility for the successful construction and operation of JET. He will be responsible to a Community management committee and will lead a multinational team.

He must have leadership and management experience, and a wide professional competence preferably including both engineering and experimental physics. He will receive support in fusion-physics and technology, engineering and administration (including financial and personnel expertise) but he should himself have a wide enough experience to form his own judgments.

The salary will be in the A/2 range of staff of the Commission of the European Communities. The appointment will last for five years with the prospect of renewal. The candidate will be expected to work outside his country.

Applications, which should be accompanied by a curriculum vitae, with names of two referees, should be sent by November 15th., 1976 to:

The Secretary, JET Management Committee
Fusion Directorate, DG XII
Commission of the European Communities
rue de la Loi, 200 B-1049 Brussels

Further information can be obtained from the same address.

Reduced Rates for Individual Ordinary Members

Individual Ordinary Members of EPS benefit from reduced rates of inscription to many conferences. Details of these rates are given in the list of Meetings published in the yellow issues of *EN*.

The Institute of Physics announces the special rates to EPS Individual Ordinary Members in 1977 for their personal copies of the following publications (normal rates are shown in brackets)

Physics Bulletin: £ 7.50 (£ 18.00)

Physics Education: £ 6.25 (£ 14.00)

Physics in Technology: £ 5.00 (£ 20.00)

The American Institute of Physics offers to Individual Ordinary Members and to members of Member Societies for their personal use the following special rates:

Physics Today: surface mail, \$ 16 (\$ 30); airmail, \$ 20 (\$ 34)

Current Physics Index: surface, \$ 55 (\$ 102); airmail, \$ 62 (\$ 110)

The publishers of the interdisciplinary journal of the Ettore Majorana Centre, *Progress in Scientific Culture*, announce the special rate of 95 Sw. Fr./an. for EPS Individual Ordinary Members for personal use, compared with 120 Sw. Fr./an. for other individuals and 160 Sw. Fr./an. for institutions. Orders through EPS secretariat.

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