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 Bulletin*, 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.

A.L. Smith-Haenni,
Research Instruments Division,
LKB-Produkter AB,
S-16125 Bromma

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, H_2 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 atomics 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-