

#### Unit Fee

By 29413 votes in favour and only 1555 against, Council approved an increase in the unit fee from January 1982 to Sw.Fr. 9.—. This means that individual members in the 4A category will pay as annual subscription Sw.Fr. 126.— and those who are members of a member society will pay Sw.Fr. 36.—.

bers. Whereas the very big companies could look after themselves to a great extent and would sponsor EPS as a general investment in physics as a whole, there were many small companies who had a physics component that could be strengthened to both their advantage and that of the individual physicists. ACAPPI has this very much in mind.

#### EPS Conference Contributions

After long deliberations at past meetings, Council was able to agree the essentials of a new policy concerning contributions to conferences organized in the first instance by the Plasma Physics Division. In future, papers may only be submitted by Members of the EPS, members of its Member Societies or employees of Associate Members. Authors who are not in any of these categories (or in a society with whom a mutual exchange has been arranged) must submit them through an authorized member. After a suitable trial period, Council will decide whether it should extend the rule to all EPS conferences.

#### Atomic and Molecular Physics

This was not an occasion when major divisional reports were submitted, but advance notice was given by the Atomic Physics Division that in view of the large molecular content in the scope of the Division it would be more appropriate to change its name to the Atomic and Molecular Physics Division. General support for this proposal was evident and the matter will be taken up by the Executive Committee according to usual procedure.

#### Europhysics Letters

Progress was noted in the study of the proposals that had been received for a physics letters journal to be launched under the editorial supervision of EPS. Specific but independent offers of sponsorship had been received from the French and Italian Physical Societies involving the discontinuation of existing journals, and proposals for financial and marketing help as well as collaboration on contributions had been received from the UK Institute of Physics. In addition, the Eötvös Lorand Physical Society of Hungary had expressed a wish to participate in the production and the marketing to eastern European countries. There was general agreement that the study should be directed towards a general letters journal of the highest quality with minimum publication delay. Negotiations were taking place regarding the means, and market surveys would be made through the Divisions and other channels.

the future was in the coordination and encouragement of summer schools. This had also been discussed in the context of the seminar on physics in the developing countries of Europe (see p. 12).

3) Scientific Exchange. One of the objectives of the EPS was to increase the mobility of young scientists and provide the prospect of a stable future in physics that in turn would encourage the brightest students to come into the subject. We had the Student Exchange programme that should be developed and the Teaching Abroad scheme was at the pilot project stage. For more mature physicists there were the Erice scholarships which were now well established, and we had also designated the second EPS travelling lecturer (see p. 3). Members acclaimed the progress that had been made to establish closer relations in the first instance with APS and the contacts that were growing with other bodies (see Council report).

#### Scientific Freedom

As physicists we are all concerned with the personal and scientific freedom of our colleagues. Motivated by a number of letters sent to the President, alleging violations of fundamental rights, and the absence of any response to the letters of enquiry from him addressed to Member Societies, notably the USSR Academy of Sciences, Council had decided that a new Advisory Committee on Scientific Freedom should be set up, which Professor J. Charap (Chairman of the High Energy and Particle Physics Division) will chair. This Committee will collect and evaluate information and make recommendations to the Executive Committee where appropriate.

The precise method of working had not yet been defined, in order to allow Members the opportunity to express their opinions. It was evident that the investigation of complaints was regarded as an essential activity but no simple solutions were offered. The new Chairman stated that he was entirely aware of the delicacy of his task and the need for complete objectivity, and expressed the hope that the many connexions of EPS and its Members would enable his committee to arrive at the facts of any case, whatever the country involved. Particular concern was expressed at the meeting over the present position of Academician A.D. Sakharov, in view of the statement that had been made in Council (EN 11 (1980) 4) which seemed not to be consistent with his present situation. The delegate from the Soviet Academy replied that when this statement was made, it was correct and that there was nothing that could be added.

One basic principle which would be guiding the Society's actions would be Rule 32, which states explicitly that the venue of EPS meetings should be so chosen that there is no restriction on the attendance of members from anywhere. If it

## General Meeting

The General Meeting opened with a review by the President and discussion by the Members of the state of the Society, with emphasis on three aspects of our activities:

1) Publications. The President drew attention to the need to consolidate the initiatives that had been taken in regard to *Europhysics Conference Abstracts* and the *European Journal of Physics*, and the study now under way of a *Europhysics Letters Journal* (see also Council report). Members were of the opinion that if we launch a new letters journal, we must be very sure that it would be a success, as the credibility of the Society would be heavily involved. Fears were expressed that the compression of budgets and the restrictions on library funding created a difficult financial climate and it would not be easy to insert a totally new journal into the existing pattern. At the same time it was recognized that the simultaneous discontinuation of two journals was a significant aspect of current proposals and this would provide a base from which operations

could begin. On the other hand, members wished to be assured that all possibilities of including or extending existing publications in Europe were explored, particularly as in certain fields of physics, both contributors and readers were satisfied with their quality. It was noted that the sales price of journals in the USA was greatly helped by the application of page charges, but so far in the Society, we had adopted the principle with the *Europhysics Journals* that equal access required that no page charges should be applied. Moreover there were a number of important institutions in Europe which specifically prohibited money granted to universities, or for research projects, from being used to pay such charges. The ad hoc Committee set up by Council to study the project and the Publications Committee would be taking these factors into account.

2) Conferences. This is probably the most successful activity of the Society which had led to a major transformation of the situation in Europe. An area to which perhaps more attention should be paid in

could be shown that violations of this rule had occurred, the matter would have to be considered by Council.

Overall the members welcomed the fact that EPS was prepared to be involved, not only because of the direct value of its action but because of the support this would give to the many individual groups concerned with scientific freedom. Again it was underlined that the essential objective was to work towards an alleviation of physicists' difficulties whenever possible.

### The Arms Race

The Meeting ended with a vigorous criticism by one Member of the fact that *Europhysics News* had not published in full the lecture on Physics and the Arms Race that F. Barnaby had given at the 4th General Conference in York. The President explained that the Executive Committee had confirmed the view of the Editorial Board of *EN* that the summary which had appeared in *EN* 9 (1978) 10 was adequate to draw the attention of physicists to the lec-

ture, which had been published in full in the Proceedings of the York meeting.

### Next Time

It was agreed that, in future, more time should be allowed for discussion at the General Meeting. *Nota bene*, it would have been helpful in planning this meeting if members had responded to the appeals in *Europhysics News* and in a letter to all individual members from the President, for items to be placed on the agenda.

## Inauguration of EISCAT

On 26 August 1981, H.M. King Carl Gustaf of Sweden inaugurated the installations of the European Incoherent SCATter project from the receiving centre at Kiruna in the north of Sweden. Telephone links with the two other stations at Tromsø in Norway and Sodankylä in Finland meant that all three countries could participate in the ceremony and, rising to the occasion, the UHF transmitter at Tromsø began emissions that were successfully picked up by all stations.

EISCAT is the result of a cooperative effort between research councils in these three nordic countries plus France, the Federal Republic of Germany and the UK. Its primary objective is a study, in three dimensions, of the upper atmosphere at high latitudes by analyzing the scatter from pulsed transmissions in the 32 cm band. Correlation between the signals with a precision of about 1  $\mu$ s is made on the basis of absolute time as measured by caesium clocks located at the receiving stations. (These are periodically checked against each other by transporting a clock from one station to another!) Signals are transformed into digital records and those from Norway and Finland are then relayed to Kiruna where they are collated and reduced, following which copies are made and sent to the participants. Approximately 50% of the operating time is reserved for experiments falling within the common programme and the rest is used for special programmes of the participants, allocated in proportion to their contributions: 25% D, F and the UK, 10% N and S and 5% SF. Still to be worked out are the working terms for scientists and technicians coming from a country other than the one in which the station is located, as at present, this is still causing difficulties.

EISCAT has not come into operation easily and the Chairman of the Council, Sir



*The King of Sweden inaugurates EISCAT from Kiruna with, as background, the 32 m receiver dish.*

Granville Benyon dryly remarked in his introductory speech at the inauguration that one solar cycle had been completed between the initial moves at Ottawa in 1969 and the present day. The EISCAT agreement was eventually signed in 1975 having lain dormant between 1971 when the feasibility study was completed and the autumn of 1973. The agreement provided for a three year construction period followed by 10 years operation, but technical problems, largely connected with the UHF power source have seriously delayed the start up.

In addition to the 2 MW UHF transmitter/receiver at Tromsø there is a 6 MW VHF radar system, but receivers for the UHF signals only are installed at Kiruna and Sodankylä. Each comprises a 32 m fully steerable dish reflecting into a 5 m secondary reflector and from there into a helium cooled collector operating at 20 K. The VHF radar operating on a wavelength of 1.34 m comprises a 120 m parabolic trough, 40 m wide containing 128 pairs of dipoles along the focal line. The trough is divided into four sections the elevation of which can be independently set. Although physically fixed along the magnetic meri-

dian, by adjusting the dipoles and phasing the signals, the direction can be swung in azimuth  $\pm 20^\circ$ .

The first experiment in the common programme will have the UHF transmitter pointing up along the magnetic field, while the remote sites focus on one area in the F region (over 150 km) and six heights in the E region (100-150 km altitude). From the measurements made it will be possible to determine electron density, neutral density and plasma motion. A second experiment is designed to map ionization intensities at fixed altitudes and latitudes in the auroral zone and their evolution with time, the transmitter on this occasion scanning on a N-S line. Third experiment is designed to scan three different locations in the F and E regions and correlate the signals with ground-based measurements.

EISCAT will also be collaborating with the other incoherent scatter laboratories in the world but its own facilities are sufficiently unique with the three stations working together that it will have its hands full exploiting the wide range of experimental possibilities that are now opened.