High Energy and Particle Research: New European Facilities

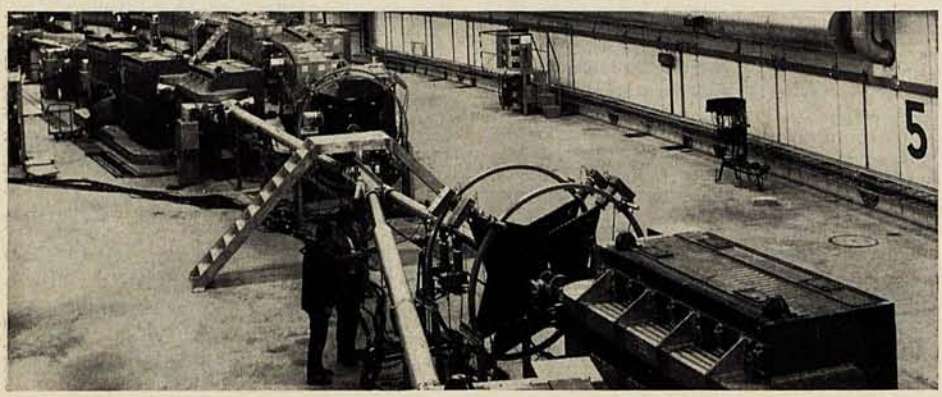
High energy and particle physicists in Europe can look forward with confidence to their future research work in view of the instruments that will be at their disposal at CERN, the European Organization for Nuclear Research situated on the Franco-Swiss border near Geneva.

In February during tests on the Intersecting Storage Rings, controlled p-p reactions at 45 GeV (centre of mass energy) were recorded. Also in February the long range programme to build a new large accelerator was approved by 10 European countries which are Member States of CERN.

The Intersecting Storage Rings, ISR, have been built for doing research with colliding beams of protons accelerated in the existing 28 GeV proton synchrotron ; the project was authorized at the end of 1965. The commissioning of this highly sophisticated machine has been remarkably smooth. On 30 October of last year a beam was circulated at the first attempt in No. 1 ring and successive pulses from the synchrotron were trapped and stored. Since then, currents of 0.5 A with negligible decay have been registered and maximum currents of over 3 A achieved. Then on 27 January, two days after No. 2 ring had been first tested, the two rings were operated together with beam energies of 15.3 GeV. On 17 February the energy of both rings was raised to 22.5 GeV and collisions recorded under good background conditions at the centre of mass energy of 45 GeV. The equivalent energy of an accelerator working against a stationary target would have been 1100 GeV. The experimental programme proper is due to begin in July.

On 19 February, at a resumed meeting, the Council of CERN agreed to start the construction of a new proton synchrotron to be built in a ring of 2.2 km diameter, which will be bored under ground near the existing laboratory complex, partly in France and partly in Switzerland. The existing synchrotron will be the injector, sharing its time between the new accelerator and physics research at 25 GeV and at regular intervals filling the ISR. The new 8-year project is for a 300 GeV accelerator and associated experimental facilities but the decision can be taken later to build first a 200 GeV accelerator with iron-cored magnets occupying half the ring, and to operate this accelerator from the 6th year of the project whilst at the same time filling the remaining spaces in the ring with superconducting magnets. These would make possible an energy of 500 GeV. At a subsequent stage the iron-cored magnets could be replaced by superconducting magnets to permit energies approaching 1000 GeV to be attained. Work on the project begins at once. A feature on CERN will appear in the next issue of Europhysics News.

One of the intersections of the Intersecting Storage Rings where particle interactions in colliding proton beams were first observed.



Society News

Individual Ordinary Members

Payment of **membership fees** from Individual Ordinary Members in **local currency** are possible in Czechoslovakia, France, Hungary and U.K.

Information regarding banking addresses and postal accounts may be obtained from the Main Secretariat.

The EPS appreciates the assistance in this matter from the following National Physical Societies :

Société Française de Physique
Eötvös Lorand Physical Society
The Institute of Physics and
The Physical Society

Associate Members

The following organizations have decided to join the European Physical Society as **Associate Members :**

Dunod Editeur, Paris, France
Istituto Nazionale di Fisica Nucleare, Frascati, Italy

New Europhysics Journal

Upon recommendation of the Publications Committee **Acta Physica Austriaca** has been recognized as a Europhysics Journal and has been granted the right to use the EPS emblem on its front cover.

Divisions

Division of the Physics of Condensed Matter

The Division serves as general adviser to the EPS within the divisional sphere of interests ; it encourages the organization of Europhysics Conferences and larger meetings and advises the EPS Conference Committee on relevant conferences in the field of Condensed Matter Physics. It hopes to extend its scope to Summerschools and to other professional matters. For a description of the Division see Europhysics News, No. 5 (September 1969) page 7 and No. 11 (September 1970) page 4.

The Division acts through its Board and several subject groups. The mem-

bers of the Board and of the Committees of the subject groups are listed in the box. Reports on two of these Groups follow.

Magnetism

A Magnetism Group has been established whose committee members are drawn from several countries in Europe and elsewhere (see list in box). The first meeting of the committee took place in Grenoble in September 1970. News about the activities of the Group will be circulated by means of Europhysics News and the national physics bulletins. Any physicist interested in magnetism may become a member of the Group by joining EPS. The group needs the support of a great number of European scientists. Magnetism in Europe has a very long tradition, and this fascinating subject should be further advanced as a combined European endeavour. National Groups already exist in the Federal Republic of Germany, in the German Democratic Republic and in the United Kingdom. Their work should clearly continue, but it would benefit everyone if national activities were fully coordinated by the new Magnetism Group. By publicity through EPS channels, full scope can be given to wider European participation and the various countries interested in magnetism can now encourage new international efforts in a number of ways.

The Magnetism Group will take an active part in the Florence Conference of the Condensed Matter Division in September 1971. It intends to organize its own Gordon-type meetings, i.e. Europhysics Conferences, the first of which will probably be concerned with the theory of magnetism. The chairman of the Group (E.P. Wohlfarth, Department of Mathematics, Imperial College of Science and Technology, Exhibition Road, London SW 7, UK) would be glad to receive any ideas to this end. A joint meeting with the Metals Group is also envisaged.

The following is a selection of meetings on magnetic topics to be held in Europe during 1971 :

29-31 March	Annual Meeting, Arbeitsgemeinschaft Magnetismus, Salzburg
30 March	Rock Magnetism, The IPPS, London
22 June	Magnetic Phase Transitions, London
14-17 September	EPS Meeting on Physics of Condensed Matter, Florence
28 September	Resonance and Magneto-optics, The IPPS, London
Autumn	Critical Phenomena, Arbeitsgemeinschaft Magnetismus, Federal Republic of Germany
December	Magnetic Films

The Physics Section of the Technical University Dresden, German Democratic Republic, is planning an Autumn School on Magnetism and Neutron Scattering to be held in November at Gaussig, where similar schools have taken place in recent years.

Division of the Physics of Condensed Matter

Members of the Board of the Division and Committee Members of Subject Groups are listed below.

Board of the Division

S.F. Edwards, Manchester (Chairman)
A.B. Lidiard, Harwell (Secretary)
S. Apkinar, Istanbul
V. Bezak, Bratislava
G. Boato, Genoa
A. Corciovei, Bucharest
G. de Vries, Amsterdam
J. Diehl, Stuttgart
A. Guinier, Orsay
S. Lundqvist, Göteborg
A. Many, Jerusalem
W.J. Merz, Zurich
H.J.G. Meyer, Eindhoven
Y.A. Osipyan, Moscow
G. Szigeti, Budapest
L. van Gerven, Heverlee-Leuven

Subject Group Committees

Magnetism
E.P. Wohlfarth, London (Chairman)
A.S. Borovik-Romanoff, Moscow
G. Busch, Zurich
S. Krupicka, Prague
A. Mager, Hanau
A.R. Miedema, Amsterdam
H.B. Møller, Roskilde
G. Montalenti, Turin
H.P. Myers, Göteborg
L. Pal, Budapest
R. Pauthenet, Grenoble
S. Shtrikman, Rehovot
D. Ulku, Ankara
L. van Gerven, Heverlee-Leuven

Liquid and Amorphous Materials
L. Verlet, Orsay (Chairman)
W. Baltensperger, Zurich
J. Krempasky, Bratislava
J.G. Powles, Canterbury, Kent
H. Ruppersberg, Saarbrücken
A. Weinreb, Jerusalem

Metals
A.R. Mackintosh, Copenhagen (Chairman)
O. Beckman, Uppsala
A. Blandin, Orsay
J.J. Caisso, Poitiers
R.M.J. Cotterill, Lyngby
F. Fumi, Palermo
V. Heine, Cambridge
A. Isin, Ankara
E. Nagy, Budapest
P. Penning, Delft
M. Peter, Geneva
W. Pitsch, Dusseldorf
N. Wiser, Ramat-Gan

Semiconductors and Insulators
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M. Rodot, Bellevue
K.H. Seeger, Vienna
G. Szigeti, Budapest
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Polymer and Macromolecular Physics
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A. Weinreb, Jerusalem

High Pressure — European High Pressure Group
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G. Bäckström, Umeå
E.F. Bertaut, Grenoble
T. Evans, Reading
E.U. Franck, Karlsruhe
J. Lees, Harlow
C.J.M. Rooymans, Eindhoven
K.F. Siefert, Bonn

Semiconductors and Insulators

The Board of the Semiconductors and Insulators Group has been constituted (see list in box) and it held its first informal meeting at Cambridge, Massachusetts, in August 1970. The most important task of the Group is to serve as a link between the activities in the field of semiconductors and insulators in the different European countries. All physicists working in this field are asked to inform the Chairman on any activities of interest.