EUROPHYSICS STUDY CONFERENCE

Using Energy in an Intelligent Way

Trassenheide, Germany, 6-10 May 1993

It is nearly twenty years since an American Physical Society (APS) group met for a month in Princeton to analyse the *Efficient Use of Energy*. The landmark study aimed to identify areas in research which held promise of improved technology by bringing a physics approach to bear on energy problems. The main recommendation was that the efficiency of processes and devices should henceforth be defined in terms of the second-law of thermodynamics, in order to introduce the concept of available work.

A Europhysics Study Conference in May plans to evaluate progress since the historic APS study. The first invited speaker will be R.H. Soclow from Princeton, a member of the original APS group, who will discuss *The APS studies on the technical aspects of the more efficient use of energy: a physics perspective. What happened since?* G. De Lepeleire from the Catholic University, Louvain, in Belgium will then describe a *Critical assessment of energy use: economic and political aspects of the decision making* in order to place scientific analysis within a more general context.

The remainder of the programme is divided into technical sessions. The most theoretical is on thermodynamics with talks covering: *Energy efficiency considerations in the common context of thermodynamics* (J. Gretz, JRC, Ispra), *Energy of thermodynamic quality*, and *Non-integrable thermodynamic systems and intelligent ways of converting heat into work* (A.S. Silbergleit, A.F. Ioffe Institute).

Energy conversion: the physics of energy use deals with solar energy conversion (C.J. Winter, DLFR, Stuttgart), the exergy concept (C.D. Andriesse, Rijksuniversiteit, Utrecht), combustion, and energy use in transport (W. Elsner, CEC, Brussels).

Systems integration and energy saving: making efficiency the standard has talks on improvements in energy saving (W. Eichammer, Fraunhofer Institute, Karlsruhe), modelling (L. Schrattenholzer, IIASA, Laxenburg), the energy cost of building energy saving systems (M. Silvestri, Polytechnic, Milan), and energy in buildings (C. Boffa, Milan).

Research and development covers convective thermal rectification (A. Reis, Cenertec, Porto), thermoionic conversion, thermodynamics of solar energy conversion (P. Baruch, Université de Paris-Sud), and combustion diagnostics (M. Aldén, Lund Institute of Technology).

Areas of research still far from maturity analyses the concentrating of light (A. Zastrow, Fraunhofer Institute, Freiburg) and smart windows (C.-G. Granqvist, Chalmers University). K.K. Rebane from Tallin in Estonia will summarise the conference.

The meeting takes place on 6-10 May 1993 at the Hotel Waldorf in Trassenheide near the famous resort of Greifswald north of Berlin on Germany's Baltic coast. A generous grant from the W.E. Heraeus Foundation means that registration is free: accommodation and full board in the hotel will cost about DM 100.–.

Participation is by invitation: those interested in attending should send details of their interests and perhaps a *curriculm vitae* to R. Dekeyser, Secretary of the EPS Action Committeee on Physics and Society, who is organizing the meeting. His address is
Physics Dept., Celestijnenlaan 200 D,
B-3001 Heverlee.
Tel./fax: +32-16-20 10 15 / 23 91 23;
fgbda03 @ blekul11.bitnet.

NUCLEAR PHYSICS DIVISION

New Chairman and Secretary

R.A. Ricci (Lab. Nazionali INFN, Legnaro) has been elected as the Chairman of the Nuclear Physics Division from 1 January 1993, and A. Bertin of Bologna University as the Secretary.

Europhysics Notes

• Yugoslavia Embargo Applied

The UN Security Council Resolution 757 of 30 May 1992 amongst other things calls for a suspension of "scientific and technical cooperation and cultural exchanges and visits involving persons or groups officially sponsored or representing the Federal Republic of Yugoslavia (Serbia and Montenegro)". It is starting to take effect in physics across a fairly broad front. CERN, against its tradition and because it had little choice, decided last June to put Yugoslavia's Observer status in abeyance and to suspend an invitation to send observers to the CERN Council in December 1992 (a CERN founding Member, Yugoslavia has been an Observer since 1961); cooperation agreements signed in 1989 and 1991 have been discontinued. The only hiccup has been to unofficially tolerate, for a limited period, the presence of a small group of visitors who had been collaborating in the construction of a radio frequency system for a cyclotron in Belgrade.

Surprisingly few European organizations in physics had formal links with Yugoslavia. Apart from CERN, only the International Centre for Theoretical Physics (ICTP) in Trieste has officially applied sanctions, and this because the ICTP operates as an UNESCO organization.

Among physics publishers, Elsevier's initiatives by activists on the company's staff led to a clear directive last November that subscriptions be suspended, and editors of Elsevier-owned journals being asked not to process manuscripts until sanctions are lifted. Protests are not expected to lead to a revision of the policy in spite of obvious grey areas (*e.g.*, manuscripts with a coauthor from outside Serbia and Montenegro). Although sympathetic, other publishers have expressed surprise at Elsevier's stand. Scientific publishing is seen by many as lying outside the scope of sanctions, being essentially arranged with individuals. However, while its journals continue to accept manuscripts from Serbia and Montenegro, the IOPP has suspended subscriptions.

• Human Capital Deadlines

The first round of network grants in physics in the EC Human Capital and Mobility programme announced late last year has disappointed many as the average award (≈ 300 kECU) is too small to support more than one or two fellowships per network. The physics, chemistry and maths CODEST panels evidently found it difficult to choose between the huge numbers of proposals. February 20 is the deadline for the second round of applications to institutes for HCM fellowships (there will be a third call in 1994). It is also the deadline for the the second and final call for proposals for preselected institutes. The HCM budget for 1993 remains as in the original work programme (260 MECU) and the possibility of an extra 60 MECU remains undecided. The deadline for calls for tenders in the main part (Areas I and II) of BRITE-EURAM II is 26 February.

The new EC Commissioner for science and technology replacing P.M. Pandolfi when his term expired at the end of 1992 is Professor A. Ruberti, a computer engineer from the Unversity of Rome and until 1992 the Italian minister for universities, research, science, and technology.

• Nuclear Theory Centre Begins Activities

B. Mottelson was appointed in January the Director Designate of the recently established [see *EN* **23** (1992) 180] European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT) based at the Institute for Physics, Povo (Trento) in Italy. Activities begin this year with an informal summer institute in July, an inaugural symposium on 10-11 September, a workshop on chiral symmetry in Sept./Oct., and a programme on high spin/novel deformation in autumn 1993 or January 1994.

Send requests for information and proposals for 1-2 week programmes to: D.M. Brink, Acting-Director, ECT, Ist. di Fisica, I-38050 Povo (tel./fax: +39-461-88 15 23 / 88 16 96; brink @ itncisa.bitnet).

• Space Programme Maintains Rhythm

The European Space Agency's Science Programme will have a relatively quiet year, in operational terms, as no launches are scheduled for 1993. A meeting in Paris at the end of April 1993 will chose between the four candidates [INTEGRAL, PRIMA, MARSNET, and STEP — see *EN* **22** (1991) 209] for ESA's second Medium-Sized Mission (called M2) with a launch planned for about the year 2000. Proposals for the third Medium-Sized Mission are due by the end of May 1993, and 6 or 7 will be selected during the summer for assessment studies. ESA decides in September which of the two outstanding Cornerstone missions will be given priority. Finally, the Council of Ministers agreed at its last meeting that a proposal for the successor to

the present Horizon 2000 science programme should be submitted in February 1995. It is too earlier to say how the proposal will be tackled as the overall framework has yet to be defined.

• MPI Plans Complex Systems Institute

Following a review by a panel of experts, The Senate of the Max-Planck-Gesellschaft decided in December to create, subject to assured financing, a Max-Planck Institute for the Physics of Complex Systems in the former east Germany. The founding Director would be Professor Peter Fulde who has been the Director of Stuttgart's MPI for Solid-State Physics since 1974. The aim is to have a fairly small permanent staff and a wide variety or visitors. The Max-Planck currently has two institutes in the former DDR (microstructural physics, colloids and surfaces), branches in Berlin for plasma physics and for extraterrestrial physics, and groups in seven universities. The new institute is one of four agreed to by the Senate (subject to financing); six additional topics (including gravitational physics) are presently being reviewed by international experts with a view to forming more institutes.

• Coordinating Medium-Scale Physics

The heads of some national research funding councils, and of national organizations responsible for coordinating and managing physics research, have decided to promote collaboration and coordination between national programmes and facilities related to medium-scale physics by establishing the European Union of Physics Research Organizations (EUPRO). A Charter has been signed by the heads establishing objectives, a general meeting, chairmanship, a secretariat, and an executive group. Activities are supported by member organizations drawn from EC and EFTA countries.

• Document Delivery Goes Electronic

More electronic document delivery projects are getting off the ground. ICSTI reports that 20 university libraries in Scandinavia are trying out the Ariel system developed in California. Bit-mapped images of computer-archived pages are sent *via* the Internet network for storage in a receiver's computer and for printing.

Meanwhile, in a cooperative research project in the USA called TULIP, Elsevier provides twice-monthly electronic files of 42 journal titles consisting of bit-mapped pages and edited and structured "headers". The files are archived in an Internet database host, and bibliographic information and journals subscribed to are sent to libraries in 15 participating universities.

• Job Oportunities Database

Several Italian research organizations have teamed up to operate a online database of fellowship and job opporunities, both in Italy and abroad. Called *Sportello Giovani*, it uses Italy's DEC network. Young scientists can also use the system to distribute their profiles *via* the network. Access to other research networks is planned. Users must establish a connection with the node INFMGE (command: set host 39615) and enter the username "giovani".
For information, contact INFM, Genoa (tel./fax: +39-10-60 26 76 / 650 63 02).