Europhysics Notes

Compiled from correspondents' reports.
Contributions should be sent to the Editor.

● Large Experimental JET Fusion Torus Produces Neutrons

On 9 November, the JET Undertaking, near Culham, UK, became the first organisation to successfully operate a plasma fusion tokamak with a (dilute) deuterium-tritium mixture. There was the expected massive production of high speed neutrons (7×10^{17} of 14 MeV neutrons over 2 seconds, implying a thermal power output of 2 MW) which serve to heat an enveloping gas blanket. Initial results from two runs agree with predictions. Surprises were unlikely owing to relatively conservative operating conditions to avoid exceeding irradiation limits in view of a planned 18 month intervention, after a short cool-down period, to modify the magnetic configuration. JET is working on the assumption that a six-year project extension forming part of the European Community's third Framework programme will eventually be approved, leading to experiments with the working (equiatomic) fuel mix during 1995/6.

● ILL Reactor Refurbishment Not Decided

It was hoped that the Institut Laue-Langevin's Associates meeting on 28/29 October would give the green light for refurbishing the ILL's high flux reactor, shut down in April when cracks in a coolant baffle were discovered [*Europhysics News* **22** (1991) 91]. The ILL's management was instead asked to commission a group of companies to carry out a detailed assessment of a refurbishment involving replacement of the reactor vessel (essentially out of the operating budget) before the Associates choose between three options. The ILL will meanwhile carry out all possible preparatory work.

Dr. Peter Schofield, the ILL's new British Director and a theoretical physicist from the UK Atomic Energy Authority, Harwell (now AEA Technology), replaces Professor Peter Day who recently became the President of the Royal Institution, London, and whose position as ILL Director was taken over by the French Director, Professor Jean Charvolin in an understandable break with precedent. The UK will seek a reduction in its contribution and should soon start renegotiating its contract effective in 1994, about the time a refurbishment could be completed.

Some 240 of the 1700 scientists who have been using ILL facilities came in October, at their expense and in spite of the shutdown, to the ILL's first User's Meeting to discuss replacement of five instruments over the next few years (which the ILL will now try to maintain by having collaborative research groups take responsibility). The enthusiastic response boosted morale and testified to the need to have the reactor back on-stream.

● ICTP Budget Difficulties

The International Centre for Theoretical Physics (ICTP) was founded in 1964 with Italian government and International Atomic Energy Agency (IAEA) funding to foster Third World fundamental science, largely *via* meetings, training programmes and publication activities. The 17 M$US p.a. Italian contribution, presently covering 90% of the operating budget, was transferred through the IAEA (the ICTP's owners) and was generally agreed every four years. Professor Abdus Salam, who directs ICTP's research, writes to say that owing to procedural delays, an Italian parliamentary bill ensuring a longer term funding basis has not passed into law in time to avoid cash-flow difficulties. The Presidents of the INFN, the Italian Physical Society and the Accademia Lincei have noted the serious nature of the situation in a letter to the President of the Italian government. A government solution seems imminent. Meanwhile, short-term financial help has been offered by the Iranian and regional governments so the announcement of staff lay-offs was deferred.

● Nuclear Physics Recommendations

A NuPECC report *The Future of Nuclear Physics in Europe - Opportunities and Perspectives* to be distributed early next year recommends: a detailed study of the design and physics case for a Euroball **nuclear structure** detector based on upgrading existing multidetector arrays; intensity upgrades of existing radioactive beam facilities; and the formation of a study group to evaluate the two-accelerator method for exploiting cooled beams. The detection of electroweak interacting particles should be emphasised in further developing existing facilities for understanding bulk **hadronic matter**: a study group should be formed to consider a high-luminosity heavy ion collider for high baryon densities. Advantage should be taken of new opportunities offered at planned and proposed light hadronic probes to establish **properties of hadrons**. A major initiative for a 15 GeV class cw electron accelerator to probe quark dynamics in nuclei should launched, starting with exploratory work at existing high energy storage rings. Finally, adequate beam facilities should be made available for **low energy** studies of fundamental matter, and access to underground experiments coordinated.

● LHC Magnets and Detectors

A one metre long model of CERN's twin-dipole magnet for the proposed LHC collider reached 10.3 Tesla at 1.8 K on 21 October — a record for accelerator magnets and above the required 9.5 T. On the detector front, a CERN-ECFA meeting will be held on 5-8 March 1992 in Evian, France, to set the stage for a Letters of Intent phase.

CERN also reports that a beauty baryon was identified for the first time by a team using the UA1 detector.

● Mobility Questionnaire

A draft convention for a European physics student mobility scheme, an explanatory note and a questionnaire have been mailed to the 180 institutions which responded to the April 1991 call-for-interest. Other physics departments will receive the package once addresses are forwarded by national societies. If reactions are sufficiently positive by the end of 1991, preparations for an autumn 1993 implementation will continue. To receive the documents, please contact the EPS Secretariat or send the Email message: ''SEND *x* document'', where *x* is CONVENTION.OCT91 or NOTE.OCT91 or LIST.OCT91 or QUESTION.OCT91, to MAILSERV @ CGEUGE53.BITNET or MAILSERV @ UNIGE.CH [see *Europhysics News* **22** (1991) 114, for instructions].

● 1993 ERC Proposals

K. Bethge, Chairman of the Working Group for European Research Conferences in physics (tel./fax: +49 (69) 798 42 42 / 798 42 12) has written to the Divisions and Groups to say that at least outline proposals for 1993 ERC's should be sent to him well before the end of February 1992, when the first planning meeting for 1993 ERC's will be held.

● Electronic Publishing Efforts United

The European Working Group on SGML and the EPS Electronic Publishing task force agreed at an EPS Publications Committee workshop in October to combine their efforts aimed at developing a Document Type Definition table that designates components of compuscripts, thus facilitating processing or down-loading into databases. Most representatives of the many European physics publishers who attended indicated they would help test a draft DTD. A full report will appear shortly.

● EC Programme Modified

Adoption of a common position for the final part of the third Framework R. & D. programme by European Community Member States and Council is close to finalisation following the Council of Ministers meeting last month. For the 488 MECU **Human Capital and Mobility** programme, the position differs somewhat from the EC Commission's amended proposal which adopted EC Parliamentary recommendations. The allocation for Area 1 (fellowships) has been reduced from 58 to 46% of which 85% (instead of 90%) is to be spent on individual researchers; and that for Area 2 (networks) increased from 30 to 42% of which 25% is for individuals (instead of 75%). It is not sure how Parliament will react in the final stages of the decision process which will last at least three months. It favours mobility aspects so accepting the reductions for individual mobility may require provisions to limit overheads.