European Suppresion Shield Array (ESSA 30) gets started at Daresbury, UK

A major step forward in the measurement and understanding of phenomena in nuclei at high spin has been taken with the installment of an advanced multi-detector system for gamma radiation at the Nuclear Structure Facility at the Daresbury Laboratory in the United Kingdom. The European Suppression Shield Array (ESSA 30) is a pan-European effort, in which nuclear physicists from the UK, the Federal Republic of Germany, Italy and from the NORD BALL collaboration of the four Nordic countries Denmark, Finland, Norway and Sweden have brought together 30 units of high resolution Ge detectors surrounded by dense anti-Compton shields constructed of bismuth-germanate. These units, together valued at about £ 2 million, are arranged around the beam target with the same configuration as a soccerball with 20 hexagonal and 12 pentagonal faces. Two of the faces are used for entry and exit pipes, thus leaving 30 faces free to mount the 30 detector units. The set-up at the experimental area at the NSF tandem accelerator is seen in the figure.

The concept of the collaboration and the instrument was agreed upon almost two years ago and the first successful experiments were conducted at the end of April this year. For comparison, the largest array in the USA is at present operating at Berkeley, California, having 21 detector modules, while a Canadian project at Chalk River involves 20 units. The ESSA 30 collaboration thus has at its disposal a spectrometer array that is uniquely powerful and will enable this field of nuclear physics to be explored to a depth that would not be possible by physicists from a single country alone.

The physics of rapidly rotating nuclei has attracted considerable attention in recent years adding a new dimension to the study of nuclear dynamics. The field was recently reviewed in the Nuclear Physics issue of *Europhysics News* (Volume 15, Number 1, January 1984) by J.D. Garrett, G.B. Hagemann and B. Herskind. The many important experiments now being done at the very powerful heavy-ion tandem accelerator at Daresbury, UK, requires an international effort bringing together different expertise in the commissioning and the exploitation of ESSA 30 and in the analysis and interpretation of the data.

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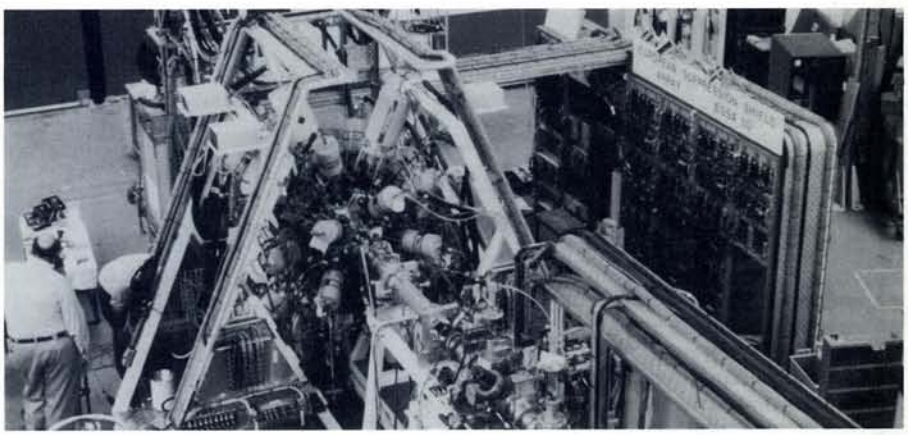

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