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parameters were presented for 10 Bev and 100 Bev alternating-gradient synchrotrons.

M. G. White remarked that a small group in Princeton is now considering the design of a circular machine for about 10 Bev, perhaps for electrons. There might be some merit, he thought, in separating the focusing field from the bending field, particularly in view of the apparent necessity for keeping n -value constant.

Design studies being carried on at Brookhaven were summarized by J. P. Blewett. A magnet model has been designed to permit dc measurements of field patterns and to study the effects of saturation. A linear accelerator model is now partially designed that will test alternating-gradient techniques of radial focusing. A cooperative study is being made by Brookhaven and the Philips' Laboratories of Holland on the properties of ferrites in the range from 3 to 20 Mc for possible use in accelerating at a high harmonic of the particle revolution frequency.

Turning to linear accelerators, Blewett pointed out that the alternating-gradient focusing principle applies as well to electric fields as to magnetic ones and such a focusing technique can be particularly useful in overcoming the inherent radial instability present in the linear accelerator. The results of a theoretical study [*Phys. Rev.* 88, 1197 (1952)] were reviewed and attention was drawn to other possible electric field distributions than those in existing linacs.

The conversion of the Berkeley proton linac to alternating-gradient focusing by Nunan and Watt was reported by L. W. Alvarez. The focusing fields have been held down to 7 kv across a 2 cm gap so as to avoid breakdown difficulty, but with the new lenses the current density has been increased by a factor of about 20.

Further comments included the calculation by R. Sternheimer of Brookhaven for an alternating-gradient magnet system for focusing mesons from the cosmotron. L. Riddiford remarked on the possibility of using an air-cored magnet for an alternating-gradient synchrotron. Although the stored energy is so large, its small size and simplicity of construction should not be overlooked. Another type of lens was mentioned, by J. P. Blewett, wherein the field pattern rotates continuously instead of shifting discontinuously in 90° steps. Such a lens might be of interest because of its lack of fringing fields except at its extreme ends.

M. Hildred Blewett

Brookhaven National Laboratory

Bureau of Mines Symposium

On Nonequilibrium Statistical Mechanics

The United States Bureau of Mines is sponsoring a symposium to be held in Pittsburgh on March 23-24, 1953. The symposium is intended to emphasize the more general and fundamental aspects of the statistical mechanics of irreversible processes. Plans are being worked out by a five-man committee whose members are Herbert B. Callen of the University of Pennsylvania, John

G. Kirkwood of Yale University, Elliott W. Montroll of the Office of Naval Research, John M. Richardson (chairman) of the Bureau of Mines, and George E. Uhlenbeck of the University of Michigan. Requests for additional information should be addressed to Dr. John M. Richardson, Head, Kinetics Section, Explosives and Physical Sciences Division, U. S. Bureau of Mines, 4800 Forbes Street, Pittsburgh 13, Pennsylvania.

Radio Science

URSI-IRE Spring Meeting

A meeting of the USA National Committee of the International Scientific Radio Union (URSI) and the Institute of Radio Engineers Professional Group on Antennas and Propagation is being held at the National Bureau of Standards, Washington, D. C., on April 27-30, 1953. Sessions will be held concerning the following topics: radio measurement methods and standards; tropospheric radio propagation; ionospheric radio propagation; terrestrial radio noise; radio astronomy; radio waves and circuits, including general theory; and electronics.

A preliminary program and advance registration forms will be available after March 16th. These and further information concerning the meeting may be obtained from Professor A. H. Waynick, Secretary, USA National Committee of URSI, The Pennsylvania State College, State College, Pennsylvania.

Electronic Components

Annual Symposium in Pasadena

Sponsored by the American Institute of Electrical Engineers, the Institute of Radio Engineers, the Radio-Television Manufacturers' Association, and the West Coast Electronic Manufacturers Association, a symposium on electronic components will be held from April 29 through May 1 at the Shakespeare Club in Pasadena, California. Intended to bring together all those who share an interest in the development, design, performance, and future of electronic components parts, the symposium is one of a series of national meetings being held annually. The last one occurred in Washington, D. C. in the spring of 1952. Requests for further information should be directed to Dr. A. M. Zarem, Chairman of the Executive Committee, at the Electronics Symposium headquarters, Stanford Research Institute, Suite 1011, 621 South Hope Street, Los Angeles 17, California.

Crystallography

International Congress in Paris

The International Union of Crystallography has accepted an invitation from the French government to hold its Third General Assembly and International Congress in Paris from July 21st to 28th, 1954. Further particulars of the meeting will be given from time to time in Acta Crystallographica.



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