able at the upper end. The laboratory is under the direction of Professor A. Rostagni of the University of Padua. The station is open the year around.

Another important improvement is being made at the Pic du Midi laboratory in the Pyrenees. This laboratory, at about 9300 feet, was accessible only on foot with a freight cableway for heavy equipment. At present a new teleferique, the longest in Europe, is under construction. It is anticipated that in a year or so passengers and freight will be able to reach the laboratory much more easily.

At the Aiguille du Midi, above Chamonix on the shoulder of Mt. Blanc, a new teleferique is also under construction. Completion is expected in 1954, at which time access to this laboratory will also be greatly improved.

Serge A. Korff
New York University

European Physics Laboratory

Site in Switzerland is Chosen

The proposed European Nuclear Physics Laboratory is to be located on a plateau near Lake Geneva in Switzerland, it was decided on October 6th by the ten-nation European Council for Nuclear Research (CERN) during a conference held in Amsterdam. CERN, established with the help of the United Nations Educational, Scientific, and Cultural Organization, represents Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland, and Yugoslavia. The decision is reported to have been influenced by arguments that Swiss neutrality would offer some protection for the laboratory in the event of war. Also, as has been noted before, Switzerland possesses ample resources of hydroelectric power and offers a reasonably central location for the member nations of the Council.

Present plans call for equipping the nuclear center with two accelerators—a 600 Mev synchrocyclotron and a proton machine originally expected to provide beams of from six to ten billion electron volts, but which is now apparently visualized as a 30 Bev collossus. The latter figure, it is reported, was proposed following disclosure of a scheme developed at Brookhaven National Laboratory for a revised method of accelerator focusing that is expected to result in far higher than present energies with no corresponding increase in magnet size. Professor O. Dahl of Norway, head of the CERN working group responsible for planning the large accelerator, has estimated that construction will require approximately six years and that the machine will probably cost about five million dollars.

Northern Lights

Created in the Laboratory

The origin of the aurora borealis, a subject of much speculation and scholarly debate, may quite plausibly be ascribed to proton and alpha particle bombardment of the upper atmosphere, according to Aden B. Meinel of the University of Chicago's Yerkes Observatory. In experiments involving the kevatron at the University's Institute for Nuclear Studies, Meinel and C. Y. Fan have managed to produce effects resembling those of the northern lights in air at various pressures less than normal which they bombarded with both alpha particles and protons. Spectroscopic analysis of the visible light produced when these particles collided with atoms in the air indicated a striking similarity to the northern lights. It is surmised that much of the light of the aurora is produced by the movement of air molecules in the upper atmosphere when struck by heavy particles from outer space which have been trapped by the earth's magnetic field and directed toward the polar regions. Part of the effect, it is suggested, is light produced when electrons associated with atmospheric atoms are captured by protons. The experiments were aimed at confirming the theory advanced two years ago by Meinel concerning the origin of the aurora.

New Journals

Acta Metallurgica to Appear in January

The first number of an international journal for the science of metals, *Acta Metallurgica,* will be issued in January, 1953. Planned initially to appear every second month, the journal will be edited by Bruce Chalmers, professor of metallurgy at the University of Toronto, and will have the stated aim of providing a medium for the publication of papers describing theoretical and experimental investigations that contribute to the understanding of the properties and behavior of metals in terms of fundamental particles, forces, and energies. Suitable papers will be published in any language, with summaries in French, German, and English.

Acta Metallurgica was originally sponsored by the American Society for Metals, and steps preliminary to the initial publication have been taken by an interim board of governors for the ASM under the chairmanship of Cyril S. Smith, director of the University of Chicago's Institute for the Study of Metals. The Institute of Metals in Japan has recently become an additional sponsoring society.

The following societies are cooperating in the publication of *Acta Metallurgica:* Instituto del Hierro y del Acero (Spain); American Institute of Mining and Metallurgical Engineers; American Institute of Physics; Metallografiska Institutet (Sweden); Physical Society of Finland; The Indian Institute of Metals; Assoçiacão Brasileira de Metais; Institute of Metals (England); Iron and Steel Institute (England); Société Française de Métallurgie; The Chemical Society (England); Associazione Italiana di Metallurgia; Deutsche Gesellschaft für Metallkunde; and Verein Deutscher Eisenhüttenleute.

The sponsoring societies will support the journal financially and their representatives will have membership on the Board of Governors that establishes the policy for the journal. Cooperating societies assist in the mechanics of obtaining subscriptions for the journal, and from their representatives certain members of

the Board of Governors will be selected. Additional sponsoring and cooperating societies are welcome and it is expected that others will support the new journal in the future. The business management is being undertaken by the American Institute of Physics and the printing will be done at the University of Toronto Press.

Professor Chalmers will be advised and assisted in his editorial chores by the following associate cooperating editors in various countries: Harvey Brooks (North America); Alan Cottrell (United Kingdom); P. Laurent (France); P. Coheur (Belgium); W. G. Burgers (Holland); G. H. H. Wassermann (Germany); E. Rudberg (Sweden); W. Boas (Australia); Antonio Scortecci (Italy). Additional associate editors for other areas will be appointed by the editor in the near future.

Requests for further information should be addressed to *Acta Metallurgica*, 57 East 55th Street, New York 22, New York.

Michigan Mathematical Journal

A new medium for publication of mathematical research is to appear under the above title, also in January. The journal, which will be issued semiannually, is to be published in lithoprinted form by the University of Michigan Press, and since close cooperation between author and typist is called for, articles are in general expected to be contributed by authors living in or near Ann Arbor. All inquiries should be addressed to *Michigan Mathematical Journal*, Mathematics Department, 3012 Angell Hall, University of Michigan, Ann Arbor, Michigan.

A Cornell Experiment

Televised Physics Teaching

Cornell University has announced a program for the televising of laboratory experiments in freshman and sophomore physics courses, an innovation that is expected to give students a better view of experiments, and instructors more opportunity to explain them. The main lecture room in Rockefeller Hall has been equipped to permit experiments to be televised from the instructor's desk to a viewing screen visible from all corners of the room, according to Lloyd P. Smith, chairman of the Cornell physics department. The television setup will be used to demonstrate phenomena such as Brownian movement, light interference, surface tension, and the behavior of high-energy particles in a cloud chamber. Planned with the cooperation of the Radio Corporation of America, the program will be carried out with the help of a midget RCA television camera which has been made available on loan. Faculty members who will use the equipment are Guy E. Grantham, F. L. Moore, Jr., Herbert F. Newhall, and D. H. Tomboulian.

Miscellany

The National Science Foundation has contracted with the National Academy of Sciences for a broad survey to determine the nature and extent of research and of teaching in applied mathematics in the United States. The survey, to be carried out with the cooperation of the Office of Naval Research, the Office of Ordnance Research of the Army, and the Office of Scientific Research of the Air Force, is expected to take one year. As part of the study, a conference on training and research needs in applied mathematics will be held during the spring of 1953 to consider the findings of the survey and to examine the future of research and teaching in the field. Data and recommendations of the survey and the conference will be made available to all agencies.

The Atomic Energy Commission's committee of senior reviewers, established six years ago to advise the AEC on the classification and declassification of scientific and technical information, has been increased from four to six members. The new members are R. H. Crist (Carbide and Carbon Chemicals Company), J. R. Richardson (University of California at Los Angeles), Thomas B. Drew (Columbia University), and John P. Howe (Knolls Atomic Power Laboratory). Previous committee members Warren C. Johnson (University of Chicago) and J. M. B. Kellogg (Los Alamos) have been reappointed. The two other members of the original committee, W. F. Libby (University of Chicago) and R. L. Thornton (University of California), requested that their resignations be accepted because of the press of other duties.

Case Institute of Technology has accepted an Air Force contract to study causes of adhesion. The project, directed by Case chemists J. E. Rutzler, Jr. and R. L. Savage, will be carried out by a team of workers which includes one physicist, S. M. Skinner, former chief scientist with the Air Research and Development Command's Office of Scientific Research.

A soundproof and echo-free ("anechoic") chamber for determining and calibrating the performance of all types of radio communications equipment has been installed at the Air Research and Development Command's Wright Air Development Center at Dayton, Ohio. Modeled after the sound chamber in Harvard University's Cruft Laboratory, the new facility was built at a cost of $35,000 for use in the Center's communications and navigation laboratory.

Argonne National Laboratory's new sixty-inch constant-frequency cyclotron, intended for use in Argonne's chemistry division, is reported to be in operation. Designed, constructed, and installed and adjusted to full performance by the Collins Radio Company of Cedar Rapids, Iowa, the machine is designed to accelerate deuterons to an energy of 22 Mev.

Neptunium 237, the long-lived isotope of element 93, has been isolated in extremely small amounts from pitchblende, it was reported to the American Chemical Society at Atlantic City in September. Heretofore undiscovered in a natural state, the neptunium sample was obtained by researchers at the Argonne National Laboratory whose work was described in a paper presented by Donald F. Peppard of Argonne. The isotope was first discovered ten years ago at the University of Cali-