RESEARCH FACILITIES AND PROGRAMS

Needs in Astronomy

The National Academy of Sciences has established a panel under the chairmanship of Albert E. Whitford, director of the Lick Observatory, to estimate the need for major new astronomical facilities in the United States during the next five to ten years. Its task will be to recommend to the federal government a set of guiding principles and estimates of cost for effective use of federal funds in promoting the advance of astronomy. The panel will be concerned in particular with possible imbalances in federal support of independent and university-connected observatories, solar and galactic astronomy, optical and radio astronomy, and ground-based and space-based astronomical programs. It will also consider manpower needs and requirements for new ancillary devices such as high-speed computers, electronic image tubes, and radio-astronomy receivers.

The Academy asks that the astronomers of the United States contribute their comments on the subject of the panel's inquiry to Dr. Whitford, in care of the Committee on Government Relations, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington 25, D. C.

Other members of the panel, in addition to Dr. Whitford, are R. N. Bracewell of Stanford University, Frederick T. Haddock, Jr., of the University of Michigan, Frank D. Drake of the National Radio Astronomy Observatory, William Liller of Harvard College Observatory, W. W. Morgan of Yerkes Observatory, Bruce H. Rule of the California Institute of Technology, and Allan R. Sandage of Mt. Wilson and Palomar Observatories.

The Bevatron Reactivated

The Bevatron at the Lawrence Radiation Laboratory returned to service in mid-February after being shut down since June of last year for major overhaul and modifications. The modification program, which began in 1960, was carried out under the direction of Edward J. Lofgren, physicist in charge of the Bevatron, and was completed on schedule. The alterations were financed by the Atomic Energy Commission at a cost of $9.6 million, which is approximately equal to the original investment in the machine, and they were directed primarily toward improvement of beam intensity and control. Although the peak energy of the primary beam protons remains the same (6.2 BeV), the intensity at present is 8×10^{11} particles per pulse, four times the original beam intensity, and potentially it may be raised to 25 times the earlier level.

The major modifications include a new injector (a 19.5 MeV proton linear accelerator), rewinding of the magnetic pole faces to permit more precise control of the beam, improvements in the internal target system, the installation of apparatus to deflect the primary proton beam outside the chamber, the overhauling of the rf system and installation of new electronic equipment, increased shielding, and an increase of approximately 5000 square feet in the experimental space available in the Bevatron building. The external-beam system

An over-all view of the Bevatron at the University of California's Lawrence Radiation Laboratory in Berkeley during the two-year modification program that has now been completed. *LRL photo*