

10⁻¹⁸ AMPERES TO 1 MA BEAM DETECTION, ANALYSIS, AND MEASUREMENT

Energy Physics. Actual work on the site began in 1960.

Like all Soviet accelerators, the Serpukhov machine was designed in Leningrad, at the Research Institute for Electrophysical Equipment. Pieces of the accelerator are built by industry and then put together under the supervision of a large engineering firm. The minor modifications and repair usually needed during assembly are done at Serpukhov, where there are some limited workshop facilities.

A. A. Logunov is director of the laboratory, R. M. Sulaiev is vice-director and Y. D. Prokoshkin is director of research.

Argonne supermagnet

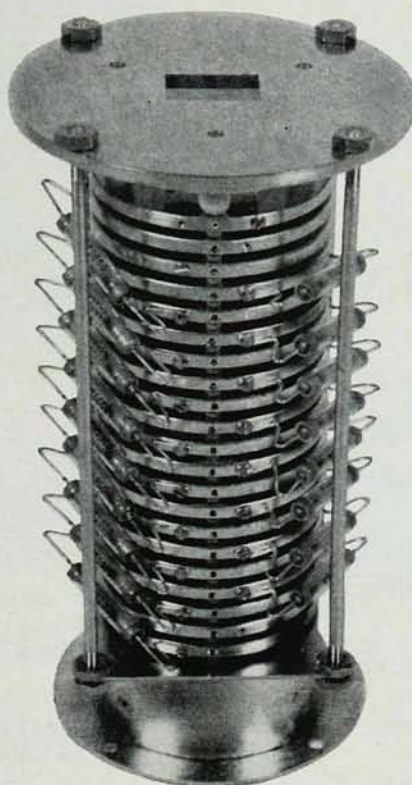
A superconducting magnet is being used for the first time in a high-energy experiment. Charles Laverick and Thomas H. Fields performed the magnet work at Argonne National Laboratory in collaboration with the staffs of Argonne and Carnegie Tech. The supermagnet provides the Argonne-Carnegie Tech 25-cm bubble chamber with a 44 000-gauss field for investigating hyperfragments that result from K⁻ capture by helium.

While development work is proceeding on a 100 000-gauss superconducting magnet for this chamber, tests are being conducted to determine the feasibility of using a supermagnet for a planned 3.6-meter bubble chamber. With their advantages of small size and economy, which results from very low power consumption, large supermagnets became feasible only after the development at Argonne of superconducting cables that could sustain the severe thermal and mechanical stresses to which they would be subjected.

Cosmic rays for high energy

The National Science Foundation has granted funds to investigate the feasibility of using cosmic rays to study particle interactions in the range between 100 and 1000 BeV. The project was proposed by Lawrence W. Jones of the University of Michigan and will be done under the auspices of the Midwest Universities Research Association. NSF gave \$279 800.

The idea of using cosmic rays was



NUCLIDE'S EM 1 "pie" type electron multiplier. This unit offers a high stable gain (between 10⁵ and 10⁶) and a low noise level (5 x 10⁻¹⁸ amperes).

IONS NEUTRALS ELECTRONS DETECTED MORE ACCURATELY

NUCLIDE CORPORATION offers components and complete systems for precision measurements (± 1 percent), ready for operation:

- Electron Multipliers (Bakeable) and Power Supplies.
- Dual Electrometer With Millisecond Response.
- Automatic Electrometer Range Changer, Six Decades.
- Constant Current Sources For Calibration.
- Current Integrator, Measures Coulombs and Amperes.



NUCLIDE CORPORATION

NUCLIDE ANALYSIS ASSOCIATES • ALLOYD GENERAL VACUUM DIVISION
642 East College Avenue 81 Hicks Avenue
State College, Pa. 16801 Medford, Mass. 02155

TELEPHONE: 814/238-0541 TELEPHONE: 617/395-8100