

SOLID STATE PHYSICISTS

IMPORTANT APPOINTMENTS TO BE MADE AT THE AEROSPACE RESEARCH CENTER

Your interest is enlisted in a recently established scientific community entirely concerned with scientific and technical investigations; totally divorced from administrative or development duties.

Studies here are related as closely as possible to urgent needs of government agencies, determined through personal consultation with their representatives. Particular (but not exclusive) emphasis is placed on problems bearing on navigation, guidance and control of upper atmosphere and space vehicles . . . areas where General Precision has long held a leadership position in the development of systems and components.

Principal staff scientists are now sought. Very brief descriptions of these positions follow below. For more detailed information and to discuss your own professional interests, we invite you to communicate directly with Dr. Raymond Guard, Principal Staff Scientist, at the Aerospace Research Center.

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Principal staff scientist will be responsible for the development of programs on new materials and new techniques for evaluation of materials. Research programs will encompass work in solid state and crystal physics and experimental analysis using x-ray and electron diffraction techniques and electron microscopy. Background should include experience in electroluminescence and photo-conductivity. PhD plus 3 years' related experience required.

SOLID STATE PHYSICIST

Senior scientist who has specialized in electronic materials research will initiate programs in this field in cooperation with Principal Staff Scientist in the Research Center and with scientists from the Operational Divisions. Solid state background should be extensive—including a knowledge of electro-optical conversion; crystal physics; properties of semiconducting and electro-luminescent materials, fluids, magnetics, and dielectrics. PhD required.



**GENERAL
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RESEARCH CENTER

Dept. 16-F, 1150 McBride Avenue,
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ical building, which will provide 7000 square feet of space for mechanical and electric service equipment and controls.

The third building will be known as the laboratory building and will have an area of 70 by 277 feet. It will be used for setting up and testing experimental equipment prior to use and will contain a large two-story bay with a crane, plus 6400 square feet of smaller laboratories and offices. Completion of the buildings is scheduled for late next year. Planning for the facility was in the hands of a committee consisting of faculty members of both universities and members of the accelerator staff.

National Magnet Laboratory

Dedication ceremonies for the new National Magnet Laboratory at Cambridge, Mass., were held on April 30. The laboratory, directed by Benjamin Lax, will be operated by the Massachusetts Institute of Technology and will serve as a center for basic research involving magnetic phenomena and strong magnetic fields. Its facilities will be available to scientists from universities, governmental and industrial laboratories, and other research organizations throughout the United States. The laboratory's research operations will be sponsored by the Air Force Office of Aerospace Research, which also provided the funds (\$6 million) for its establishment. The NML is located in a former bakery at 120 Albany St. The five-story building has been completely remodeled to suit its new occupant.

Central to the Laboratory's experimental capability is its power supply, consisting of two motor-generator units. Coupled together, they can produce a continuous direct current of 40 000 amperes at 250 volts. If fed to a single magnet, this amount of power can produce a continuous field to a maximum of 250 000 gauss. (The strongest magnetic field previously reported was 152 000 G at the Naval Research Laboratory during the summer of 1962.) Each of the motor-generator units is equipped with an 85-ton flywheel, and, when their stored energy is applied, current pulses of a few seconds' duration can be achieved at a power level of 32 million watts. Pulsed magnetic fields of 400 000 gauss or higher are anticipated with this arrangement.

The building is fitted with ten test stations, each with individual power and coolant connections; the magnets are mounted on wheels for easy transport to any desired station. The distilled-water coolant is run through a central piping system, which puts it through a heat exchanger where it passes its heat to water from the Charles River.

Nuclear-Structure Laboratory

The University of Rochester is currently planning the construction of a nuclear-structure laboratory to be equipped with an MP two-stage Van de Graaff accelerator that is now being designed by the High Voltage Engineering Corporation. Funds for the ac-