A new facility at Stanford University to exploit the intense electromagnetic radiation from circular high-energy electron device will enable scientists to probe new ways into the structures and characteristics of all types of material, including living tissue.\[\ldots\]

By using mirrors, crystals, gratings, and other diffraction devices, the scientists can "tune in" the particular kind of radiation that they desire. For medical and biological experiments they might require x-rays. For studies of chemical compounds or solid surfaces perhaps direct ultraviolet radiation, eminently from other sources, may be used. The planners expect to be able to run at least six experiments using different frequencies simultaneously with the radiation emerging from the window or "port" in the storage ring. The SSRP projects will be open to use by qualified scientists from institutions throughout the nation. Already more than 20 preliminary proposals for experiments have been received. A special board of experts from various research centers will oversee the project's operations and set up ways to decide priorities among proposed experiments. Although some SSR experiments are being done at other U.S. centers (U. of Wisconsin and the National Bureau of Standards) the high intensity and energy range of the Stanford radiation will be unique in this country, in Europe, Russia, and Japan. On the other hand, SSR research in underway in some cases well ahead of U.S. work in this field. What makes this radiation so useful is its very high intensity, ranging from the infrared region of the electromagnetic spectrum through the ultraviolet and x-ray region of the spectrum to the x-ray region. It is an unwanted byproduct of the fact that the circulating electrons are accelerating as they go, losing energy in the process. It is this energy loss, in fact, which limits the energy attainable in a storage ring such as that at SLAC.

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As for solving problems in solid-state and atomic physics, materials science, and both physical and organic chemistry, SSR can provide a valuable improvement in the present resolving power of ESCA (electron spectroscopy for chemical analysis) techniques. The method requires intense ultraviolet radiation from energetic electrons ejected from material being irradiated. With the new techniques made available by the SSR facility the scientists hope to accurately determine the electronic structure of the chemical elements together in different compounds. It should provide a new way to reveal the distribution of electron charge in a molecule.

The high resolution should improve the understanding of complex reactions involving chemical compounds in both the crystalline and smorgasbord, noncrystalline state. Details of binding characteristics in metal alloys and other materials could be studied with a view to more effective use in the Corrosion, metal fatigue, and many other materials problems could be affected by such studies.

Among other investigations also proposed for the Stanford SSR facility are studies of muscle binding, blood cell membranes, catalytic reactions, semiconductors, and proteins.

Preliminary tests at the SSRP site are now being carried out, said Doniach, and he expects construction of the facility to begin late this fall or early next. By late next year the expectation is to have much of the site in the summer or early fall. Preliminary tests at the SSRP site are now being carried out, said Doniach, and he expects construction of the facility to begin late this fall or early next. By late next year the expectation is to have much of the site in the summer or early fall.

The SSRP facility will be located at the SR site, not part of SLAC, and it will have much the same status as other SLAC experiments being carried out by both visiting and local scientists.

The radiation used will not interfere in any way with the SLAC experimental program in high-energy particle physics, said Doniach. Therefore SSR investigators will necessarily follow the same operating schedule as SLAC.

Others involved in the SSR facility include a group of scientists whose specialties range from the use of ultraviolet radiation to bio-physics: Dr. Frederick Brown of the Nuclear Research Laboratory in Palo Alto; Dr. Victor Rave of the Naval Weapons Research Center at China Lake; Dr. Robert Brown and Dr. John D. Schachter of the Chemistry Department; Dr. Nicholas Webb of Stanford's W. G. Baran Laboratory; and Dr. Al Klaassen, Stanford professor applied physics and materials science.

Dr. Gerhard F. Fischer (Group C) is the coordinator between SLAC and the SSR planners. In addition, persons on the SSR staff, was among others, was responsible for the feasibility studies for the SSR project to assure its compatibility with SLAC operations.
SLAC Families Gather

A sunny, warm day greeted all comers to the Family Day held August 11. Paintings by SLAC artists were displayed in the breezeway for all passers-by to enjoy. A big thanks to Shirley Livingston, Jet Lee, Mia Donia, Florence Schaefer, Bobbie Johnson (Don's sister), Glenn Hughes, John Alverno, and Marco Barbara for loaning in their work.

Possible future scientist study an equipment display in the breezeway.

Wille Roberts and Bob Rosenzweig also deserve thanks for setting up a display to the breezeway of various pieces of equipment from the Test Lab which drew much curiosity.

The karate demonstration definitely captured the attention of many.

USE Negotiations...

continued from front page

for employees in the bargaining unit. This non-exempt employees not in the bargaining unit may and will on September 1 receive range adjustments in addition to their normal salary reviews. Application of this policy to employees in the bargaining unit must await contract negotiation.

All University departments have been advised to be sure to clear any other contemplated changes with Opaen for SLAC or Sarpa for the remainder of addition to their normal salary reviews. Applicants on September 1 receive range adjustments in addition to their normal salary reviews. Application of this policy to employees in the bargaining unit may and will on September 1 receive range adjustments in addition to their normal salary reviews. Application of this policy to employees in the bargaining unit must await contract negotiation.

Energy Conservation...

continued from front page

except where larger vehicles are really essential and to supply air conditioning at a real need rather than as a wholesale basis. This will take time to accomplish meanwhile, measures for reducing fuel consumption in the use of our GSA and AEC vehicles will be identified and called to the attention of those who drive them.

Dr. Rundel notes the above measures to be accomplished without impact on SLAC's program,

and notes that energy consumption reduction is one of the few cost reduction measures available to us which do not also reduce personnel-related costs. Such energy conservation tends to preserve jobs at SLAC.

Employees are urged to submit any additional energy-saving ideas to their group leaders.

Job Openings at SLAC

Mathematics: The Spectrometer Facilities Group has an opening for a mathematician. The position involves programming, both in Fortran and assembly language, at a medium sized computer for scientific and largely real-time applications.

The duties include development and modification of programs for reading, interpreting, or controlling experimental equipment, development and documentation of routines for testing and operating experimental equipment, modification of installation wire listing program. Qualifications: Applicant should have B.S. or Degree in Mathematics and 2 years experience in Fortran and assembly programming and must be able to read/understand hebrew to previous experimental conditions. Salary: open.

Secretary II: applicant will act as secretary to a department head and assist engineering personnel. This position involves phone work, arranging visitor interviews, setting up conferences, typing of complicated technical material, opening mail, and maintaining secretarial functions. This position requires 20 hours technical typing, 50 hours of secretarial functions. Salary: $512-606.

Shipping/Receiving Furniture Assembler: applicant will be required to load and unload various pieces of equipment from the Test Lab which draws much curiosity.

Oxacan "Diplomats" at SLAC

Fifteen young visitors to Palo Alto from Oaxaca, Mexico visited SLAC on August 2. They were in the middle of a 6-week visit to Palo Alto as part of a program of exchange of students between the two Sister Cities. At the same time the Mexicans were observing the tiniest things in Palo Alto. By contrast, the visitors from Mexico visited to witness the dedication of an astronomical observatory made possible by the cooperation of the two Sister Cities. These Mexican students were able to look at the largest things in existence through an "instrument" that is two miles in length.

Oaxacan "Diplomats" who were not already aware of the exchange program were impressed by its possibilities for their own children. Each spring, some 15-16 dolls are chosen from interested applicants who attend one of the three high schools of the Palo Alto Unified School District. These Mexican students were aware of the dedication of an astronomical observatory made possible by the cooperation of the two Sister Cities. These Mexican students were able to look at the largest things in existence through an "instrument" that is two miles in length.

SLAC in the Sister City of Palo Alto.

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High school students from Oaxaca, Mexico give a tour of SLAC. Oaxaca is in the Sister City of Palo Alto.