Cornell Cancels Accelerator Plan

Physicists at Cornell University have discontinued planning for a $220-million high energy accelerator that they wanted to build near the university. The machine, tentatively named CESR II, would have produced head-on collisions between circulating beams of electrons and positrons, thereby releasing up to 100 billion electron volts (GeV) for the creation of new elementary particles.

The immediate reason for the withdrawal, according to Boyce McDaniel, the director of the Wilson Laboratory at Cornell, was the nervousness of local landowners whose property would be needed for CESR II. Uncertainty over the prospects of federal funding for the project was the cause of the anxiety. "It was not fair to keep property owners on the hook," says McDaniel.

A mixed reaction toward CESR II on the part of the U.S. high energy community is part of the reason for the uncertainty in funding prospects. Physicists have two main goals: verifying in detail the existing theories of elementary particles, for which electron-positron colliders are considered ideal machines, and pushing to higher energies to look for new or rare phenomena, for which accelerators that collide protons with protons or antiprotons are better suited. The European countries are building a larger, more expensive, and eventually higher energy electron-positron collider (LEP) at the CERN laboratory near Geneva. And in the United States, the Stanford Linear Accelerator Center is nearing approval for an experimental linear electron-positron collider of the same energy as CESR II. Physicists have wondered how many of this type of accelerator are needed, when funds are scarce.

Cornell's somewhat out-of-the-way location in Ithaca, New York, also was an obstacle. It would be cheaper to build CESR II at an existing national laboratory than at Cornell, where the necessary support and services would have to be built up.

As for the likelihood of building CESR II elsewhere (Brookhaven National Laboratory and Fermi National Accelerator Laboratory have been mentioned), a subpanel of DOE's High Energy Advisory Panel recommended last January that a major new facility be initiated in the mid-1980's. Among the possibilities listed were a machine like CESR II and a less expensive version of Brookhaven's now suspended ISABELLE proton-proton collider. Cornell received high marks from the panel for the performance of CESR I, a 16-GeV electron-positron collider, and for its research on superconducting radio-frequency cavities, the devices that would do the accelerating in CESR II. Next June, a new subpanel will convene to consider the question further.

McDaniel says he prefers not to comment on what Cornell physicists will have to present to the study group next summer, but "if we were welcomed at another site with open arms, we would seriously consider it."

—**Arthur L. Robinson**

Knapp Nominated to Be NSF Director

President Reagan has nominated Edward A. Knapp to succeed John B. Slaughter as director of the National Science Foundation. Knapp, 50, whose name had been leading in speculation about the post (*Science*, 12 November, p. 662), has been serving as NSF assistant director for mathematical and physical sciences since September. He came to the foundation from a post as head of the accelerator technology division at Los Alamos National Laboratory. Knapp will assume his new post now. The Senate could vote on his confirmation when it returns from recess or after the start of the new Congress.

Edward A. Knapp

Former Los Alamos scientist

—**John Walsh**

Making Cells While the Sun Shines

A company in Maryland has borrowed a page from the book of nuclear power and created the world's first solar breeder power plant. Using the power generated by a huge array of solar cells on a slant roof, the plant will manufacture—or breed—a large number of new cells each year.

Its owner, the Solarex Corporation of Rockville, recently took reporters on a tour of the facility, which is located in Frederick, just past the Energy Department's suburban headquarters. It was a cloudless day, and lights inside the facility shone brightly. Missing, however, was the production equipment, which will not be installed until next year.

Solarex executives predicted that at peak production the plant will produce roughly 3000 solar cells each month, which would be enough to power another, identical plant. They hope that success with the first one will convince officials in Europe and the Middle East to order one or two of their own.

But broad commercial success seems unlikely soon. Solarex president Joseph Lindmayer admits that it would be considerably cheaper to run the plant on power from a standard electric utility. And even though the project received no direct federal support, the company benefited from a healthy conservation tax credit, as well as a low-interest state loan for land development.

Still, it was relatively cheap as energy demonstration projects go. The total company outlay was $6 million, approximately a thousand times less than the projected cost of its nuclear-powered counterpart at Clinch River, Tennessee.—**R. Jeffrey Smith**