

AROUND THE LAB



Lab employees win fusion energy research grant

By Anne M. Stark

NEWSLINE STAFF WRITER

Two Livermore Lab researchers are participating in one of two new projects nationwide to win a fusion research grant from the Department of Energy's Office of Fusion Energy Sciences.

Peter Beiersdorfer and Mark May have won a two-year \$230,000 grant to manufacture and install diagnostics on the tokamak at MIT.

The tokamak is a tool used in a laboratory setting to create and confine plasma within a powerful magnetic field. From there, scientists use a variety of diagnostic tools to determine temperatures and conditions that achieve the highest ener-

gy confinement.

The two scientists will manufacture a plasma rotation diagnostic to help determine what plasma parameters give the best confinement of energy, Beiersdorfer said.

"The diagnostics will use a six-inch transmission grating," he said. "This will give us a fast time response and high spatial resolution to monitor a localized area of good confinement."

If plasma with a high-energy confinement can be obtained, scientists believe that it could create a thermonuclear reaction.

The transmission grating originally was created by the laser program and used on the Lab's electron beam ion trap facility for basic atomic sci-

ence. Since it performed so well, Beiersdorfer said he and May were looking for new uses for it.

He said the diagnostics will take approximately two years to manufacture and install on the MIT tokamak. After that, Beiersdorfer and May hope to have their grant renewed so they can continue their research for another three years by conducting experiments with the new diagnostic.

DOE has awarded about \$4 million to 15 institutions, chosen from 39 proposals received. The two new efforts include May's and Beiersdorfer's proposal and a project by Manfred Bitter at the Princeton Plasma Physics Laboratory. The remaining 13 projects are renewals of previously funded efforts.