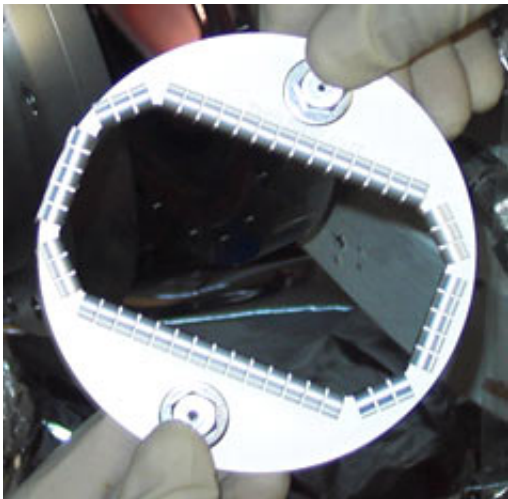


# The B-Factory Returns for its Last Hurrah

December 12 2007

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During the B-Factory's last major downtime this fall, the vacuum group replaced almost 190 RF seals with this new model in PEP-II's High Energy Ring. Credit: SLAC

This week, the B-Factory will begin running practically non-stop for 10 months, aiming for the endurance of a marathoner and the peak performance of a sprinter. Early this week, the PEP-II accelerator crew plans to begin circulating beams in the PEP rings after a three-month downtime, readying for collisions in the BaBar detector later this week.

This is the final run for the hugely successful B-Factory program, which will end on Sept. 30, 2008.

"Now that all the safety checks have been properly done, we're anxious

to start up quickly and have a nice long and productive run," said John Seeman, head of the Accelerator Systems Division.

A small crew of PEP-II members, BaBar collaborators and operations staff will keep beams and data collection going throughout the SLAC holiday shutdown.

During the project's last major downtime, the PEP-II crew replaced nearly all the radio frequency (RF) seals in the accelerator.

Inside the vacuum chambers, the RF seals act like filler in sidewalk cracks, allowing the beam to smoothly traverse from one vacuum chamber to the next without depositing beam power at the joint between the two chambers. In past runs, the beam has melted the metal seals at these internal joints, which can consequently cause beam loss.

"Replacing almost 190 RF seals in the High Energy Ring [of PEP-II] was a tremendous achievement. The technicians in the Mechanical Fabrication Department produced the seals and installed them," said Run Coordinator Mike Sullivan. "We think it will greatly reduce the number of beam losses we have every day."

Even during August, the B-Factory's best month ever, the beam was lost an average of nine times a day, hurting overall data collection.

The accelerator crew also upgraded the interaction region in various ways to tolerate higher beam currents.

"We have quite ambitious goals. We're anxious to see how this machine behaves with the improvements we've put into it," Sullivan said.

On the detector side, the crew finished small-scale upgrades to enhance reliability, replaced radiation-damaged electronic components, refreshed

the magnet cryogenic systems and power supply, and performed routine maintenance.

Source: by Heather Rock Woods, SLAC Today

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