

The Beams and Applications Seminar Series

Commissioning of the SSRF Storage Ring

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**Bldg. 401, Room B2100
Friday, June 04, 1:30 PM
Host: K. Harkay ASD**

The Shanghai Synchrotron Radiation Facility (SSRF) is a third generation light source based on a 3.5-GeV storage ring with circumference 432 m, and is located at Zhangjiang High-Tech Park, Shanghai. It is the biggest light source in China at present.

The storage ring has a 20-Cell DBA structure, and an emittance of 3.9 nm-rad. There are four 12-m-long straight sections and sixteen 6.5 m standard straight sections. Totally, more than 50 beam lines can be accommodated at SSRF. The commissioning of the storage ring started on Dec. 21, 2007. At that time, three normal conducting cavities were used and the beam energy was set to 3.0 GeV. Very luckily, 3 days later, the beam was stored. After a couple of weeks, the current was increased to 100mA. Extensive efforts were made to calibrate the linear lattice using the LOCO method and to optimize the beam orbit using BBA and SVD orbit correction methods. On March 16, 2008, both horizontal and vertical closed orbits were corrected to less than 50 microns RMS.

In August of 2008, we switched to super-conducting cavities at 3.5 GeV. The main focus at this stage is orbit stability. After careful checking of the BPMs, the achieved level is 2 microns/5microns drift (V/H plane respectively) in 15 hours. The facility was opened to users in May 2009.

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