Hiroshima Synchrotron Radiation Center, Hiroshima University

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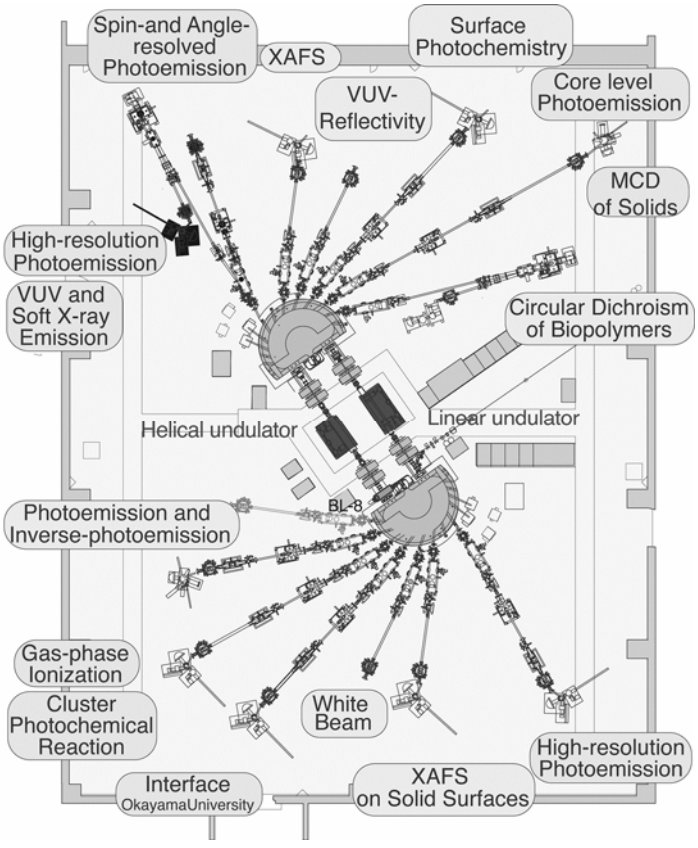
The Hiroshima Synchrotron Radiation Center (HSRC) has been a common facility for both research and education in the field of synchrotron radiation science from vacuum ultraviolet to soft x-ray region since 2002. The mission of the center is to promote original research in the Hiroshima university, training of young scientists, international exchange and cooperative research with neighboring universities, public organizations.

The construction of the facility was started in 1995. The administrative framework of the center was approved and started from May 1996, and the formal operation of the light source was started from March 1998.

The storage ring HiSOR is operated at 700 MeV and the electron injector Microtron is operated at 150 MeV. The machine has a racetrack shape with a circumference of 22 m, and has 14 photon beam ports on the bending sections with an opening angle of 20 mrad and 2 ports on the straight sections with one linear and one helical undulators. In summer of 2003, the RF cavity was improved to decrease harmful HOM's (higher order modes) and a Landau cavity was newly introduced for tuning flexibility of the electron beam control. The operational control system for the storage ring was also upgraded in collaboration with SPring-8 team. HiSOR is now in operation with an electron beam current of 350 mA under the active linear and helical undulators and the lifetime is longer than 11 hours @ 200 mA-current.

A total of 13 beamlines has been constructed so far; three normal-incidence monochromators, seven grazing-incidence monochromators, two double crystal monochromators and an apparatus for white beam irradiation. Many subjects of physics, chemistry, biology, etc. in science and technology are running. Since 2002, four beamlines BL1 (linear undulator, high-resolution photoemission and angle-resolved photoemission spectroscopies (high-resolution PES and ARPES)), BL9A (helical undulator, high-resolution PES and ARPES), BL3 (x-ray absorption spectroscopy for surfaces), BL7 (PES), BL15(circular dichroism spectroscopy for water solution of biomolecule in VUV range), BL6,13(photochemistry) and off-line experimental station SPPES(spin resolved photoemission spectroscopy) and RIPES(resonant inverse photoemission spectroscopy) have been opened for users. BL14 (Magnetic circular dichroism) and BL9B (Spin resolved photoemission) are construction now. In particular, total energy resolution of the high-resolution PES experiments at BL1 and BL9A is now achieved to be 0.66-15 meV at 6-100 eV. Research proposals are regularly submitted in the beginning of every year and additionally anytime on demand from users not only in Japan but also in worldwide countries. From 2003 to 2005, total 177 proposals were approved. From these proposals, some interesting results have been published [1-4].



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[2] F. Iga *et al*., Phys. Rev. Lett. **93**, 257207 (2004).
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[4] K. Yang et al., Phys. Rev. B73, 144507(2006).