

UVSOR
ACTIVITY REPORT
2006

edited by
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Preface

This Activity Report covers the research activities carried out at the UVSOR facility in FY2006 (April 2006-March 2007). This is the fourth volume in the new series for the third decade of UVSOR, corresponding to the fourth year of the use of the low-emittance UVSOR-II storage ring. The UVSOR-II ring has been stable in operation at the initial beam current of 350 mA for every 6-hour injection and the beam emittance of 27 nm-rad for these two years. We increased the beam energy of the booster synchrotron from 0.6 GeV to 0.75 GeV to realize the full energy injection and reinforced the radiation shield wall surrounding the storage ring of 53 m in circumference. Most upgrade plans to realize the top-up operation in the UVSOR-II ring have been completed. We hope we will succeed in it within FY2007.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) has been supporting SPring-8, Photon Factory, and UVSOR as three major facilities in Japan, where UVSOR is exclusively responsible for the high-brilliant VUV light source as a low-energy third generation ring. To enhance advanced VUV and soft X-ray study, some beamline upgrade projects were completed in FY2006. One of the highlights is BL7U, where we installed a new long undulator and a high-resolution normal incidence monochromator and now high-resolution VUV photoemission study is ongoing. In addition, we have started design of the surface chemistry and physics beamline BL6U using the short in-vacuum undulator previously installed at BL7U. Our final goal is to have 6 insertion device beamlines for the four 4 m-long and two 1.5 m-long straight sections and 8 limited dipole beamlines for the 8 bending magnets on the UVSOR-II ring.

IMS has reconstructed its organization this April. Now the UVSOR and Laser Research Center belong to the same research department, Department of Photo-Molecular Science, together with four research divisions I-IV. This Department is devoted to cultivating interdisciplinary Photo-Molecular Science in areas of the chemical, physical and life sciences. Furthermore, Dr. Masahito Hosaka, who is a key person in upgrade of our storage-ring FEL was promoted to associate professor of Nagoya University in November 2006. We hope strong collaboration with the Laser Research Center and Nagoya University will accelerate development of new light sources at the UVSOR, e.g. storage-ring FEL, Terahertz (THz) coherent synchrotron radiation (CSR), and coherent harmonic generation (CHG), and ensure more exciting activities at the UVSOR in the coming years.

April, 2007

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Director of UVSOR