Preface

All of us at the UVSOR facility would like to send our deepest sympathy to the many people who lost their families, friends, and homes as a result of the earthquake in the northeast of Japan in March. Okazaki is located more than 500 km away from the most severely affected area. We felt the quake but it was not strong. At the UVSOR facility, there was no damage.

This Activity Report covers the research activities carried out at the UVSOR facility in FY2010 (April 2010-March 2011). This is the eighth volume in the new series for the third decade of UVSOR.

After the major upgrade in 2002–2003, we renamed the machine UVSOR-II. This is the only low-energy third-generation light source in Japan. UVSOR-II has been operated with a small emittance of 27 nm-rad and four undulators. Over the past four years, we have been preparing for the top-up operation and, this year, we started operating the ring fully in the top-up mode with a beam current of 300 mA.

The fifth undulator beam-line BL1U is currently under construction—it will be dedicated for coherent synchrotron radiation under the Quantum Beam Technology Program of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). For this construction, two beam-lines, BL1A and BL1B, are currently being moved to vacant dipole ports.

Another upgrade program has been funded that includes replacement of the dipoles with combined function ones to reduce the emittance, installation of an undulator and construction of a microspectroscopy beam line. The reconstruction works will be carried out in spring 2012. After this upgrade, we shall call the machine UVSOR-III. Then, our efforts regarding the future plan will shift to design a completely new machine.

In UVSOR, we have four research positions for accelerator physics (1 full professor, 1 associate professor, and 2 assistant professors) and four research positions for photophysics and photochemistry (2 associate professors and 2 assistant professors). In April 2010, two young researchers, Drs. Masaharu Matsunami and Hiroshi Iwayama, joined the photophysics and photochemistry divisions as assistant professors.

We look forward to more exciting achievements in the coming years of UVSOR-II.

April 2011

Masahiro Katoh
Director of UVSOR