

Preface

Youichi Murakami, Head of CMRC

We are pleased to present the annual report 2013 of the Condensed Matter Research Center (CMRC). The CMRC was established on April 1, 2009, in the Institute of Materials Structure Science (IMSS), KEK. The objective of the CMRC is to pursue cutting-edge research on condensed matter science through the comprehensive use of multi-probes supplied by the IMSS, such as synchrotron light, neutrons, muons, and slow positrons. The CMRC has four research groups: the correlated electron matter group, the surface/interface group, the matter under extreme conditions group, and the soft matter group. The members of these groups work closely with researchers at various universities and institutes around the world.

Through collaboration among these groups we are conducting nine bottom-up projects: 1. Hybridized orbital ordering project, 2. Geometrical correlation project, 3. Molecular crystal project, 4. Oxide hetero-structure project, 5. Surface/interface magnetism project, 6. Extreme conditions project, 7. Soft matter project, 8. Hydrogen project, and 9. Surface structure and electronic state project. In addition, the CMRC is conducting two types of MEXT project: the Element Strategy Initiative to Form a Core Research Center, and the Photon and Quantum Basic Research Coordinated Development Program. In these national projects, the CMRC members are focusing on the Element Strategy Initiative for Electronic and Magnetic Materials, and Tribology with Muons and Neutrons. This annual report of the CMRC describes some topics studied in these CMRC projects during fiscal 2013.

Youichi Murakami

