PREFACE

This is the 27th issue of the “Activity Report on Neutron Scattering Research” which describes the experiments performed under the General-User Program (GUP) of Neutron Science Laboratory, Institute for Solid State Physics, The University of Tokyo. The GUP is conducted with 12 university-owned spectrometers installed at the research reactor JRR-3 of Japan Atomic Energy Agency (JAEA) in Tokai.

JRR-3 restarted in February 2021 after long shutdown caused by the earthquake in 2011 and the normal GUP came back from July 2021. During the shutdown period, we made a lot of efforts on upgrading the instruments and neutron beam circumstances. Specific actions taken include: the installation of focusing collimation systems, such as focusing monochromator and focusing analyzer, polarization optics, and non-magnetization neutron shield for high magnetic field experiments. The neutron guides in the Guide Hall have also been upgraded by replacing the previous ones with super-mirror guides. These upgrades should result in increase in neutron beam flux several times. For example, the neutron intensity of AGNES (high resolution cold neutron spectrometer) increased seven times. The sample environments such as cryostat and pressure cells have also been upgraded. In 2021, we had 4 operation cycles and 91 days of beam time. 107 experiments, selected from 176 proposals by NSPAC, were performed and many significant results were obtained.

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Osamu Yamamuro
Director,
Neutron Science Laboratory
Institute for Solid State Physics
The University of Tokyo