

Prospects of Neutron Sciences at KENS

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Neutron Science Division (KENS) of KEK owns 5 neutron science instruments at J-PARC/MLF for the inter-university research cooperation. These instruments are managed by research groups approved by IMSS as S-type projects. In addition, 5 S-type projects intending to construct new instruments and 1 project for the development of neutron devices have been approved. From these projects, 3 more instruments will be constructed in the near future.

1. SPICA

A special environment powder diffractometer, SPICA, is being constructed under collaboration with NEDO and Kyoto University in the field of rechargeable batteries. A dedicated beamline building is now under construction. The first beam will be expected at the end of 2011.

2. Polarized Chopper Spectrometer

The neutron polarization analysis technique is indispensable to achieve breakthroughs in investigation of strongly correlated electrons systems. There is few polarized spectrometers in pulse neutron sources, and a polarized neutron chopper spectrometer which will be a "flag-ship" of J-PARC/MLF is planned to construct with Tohoku Univ.

3. VIN-ROSE

VIN-ROSE (Village of Neutron Resonance Spin Echo Instruments) is proposed by a group led by Prof. Hino at Kyoto University. A Mieke type neutron spin echo spectrometer is useful to investigate slow dynamics of small molecules and magnetic materials because interference from sample environments could be neglected.