ICANS XX,
20th meeting on Collaboration of Advanced Neutron Sources
March 4 – 9, 2012
Bariloche, Argentina

Current status of a cold neutron disk-chopper spectrometer AMATERAS

K. Nakajima[1], S. Ohira-Kawamura[1], T. Kikuchi[1], M. Nakamura[1], R. Kajimoto[2], Y. Inamura[1], N. Takahashi[1], K. Aizawa[1], K. Suzuya[1], K. Shibata[1], T. Nakatani[1], K. Soyama[1], W. Kambara[1], H. Tanaka[1], T. Iwahashi[1], Y. Itoh[1], T. Osakabe[3, 1], S. Wakimoto[3, 1], K. Kakurai[3], R. E. Lechner[4], F. Mezei[5, 1], and M. Arai[1]

[1] Materials and Life Science Division, J-PARC Center, [2]Comprehensive Research Organization for Science and Society, [3]Quantum Beam Science Directorate, Japan Atomic Research Agency, [4] Guest at Helmholtz Centre Berlin, [5]Hungarian Academy of Science

kenji.nakaijma@j-parc.jp

Abstract

AMATERAS is a disk-chopper-type spectrometer installed at beam-line No. 14 at Materials and Life Science Experimental Facility (MLF) of J-PARC. AMATERAS is equipped with an extra chopper for pulse shaping at the upstream position, in addition to a monochromating chopper. Owing to the use of these choppers and the high peak intensity from a coupled moderator source at MLF, AMATERAS is designed to realize high-intensity and fine and flexible energy resolution measurements in quasielastic and inelastic neutron scattering experiments in cold and sub-thermal neutron energy region. [1, 2] The spectrometer had the first neutron beam in May 2009 and user program started from December, 2009. During the course of commissioning and users' experiments, the performance of the spectrometer was confirmed by conducting test experiments. In this presentation, we will show the current status of AMATERAS including the results of performance tests and some of examples of scientific outputs.

References

[1] K. Nakajima *et al*., J. Neutron Res. 15, 13 (2007).

[2] K. Nakajima *et al*., to be published in J. Phys. Soc. Jpn.