

2010/1/22: Neutron Program Advisory Committee

Program ID: 2009S10

Title: "Development of advanced special diffractometer under extreme environment for materials"

Principal Investigator: FUKUNAGA Toshiharu

Decision: continue,

Beam allocation:  $\beta = 0\%$

Approval and suggestion(s) to IMSS: budget and resources

Only a running cost is necessary.

Comments:

This proposal is to construct a powder diffraction beamline based on a NEDO project “革新型蓄電池先端科学基礎研究事業”. The purpose of this project is to carry out basic studies to develop innovative storage batteries. Both neutron at J-PARC and synchrotron X-rays at SPring-8 are used to evaluate the materials for storage batteries under specific conditions. The research will be carried out by using both neutron and synchrotron complementary. They have passed the first peer-review process and they are now preparing the detailed proposal of the beamline and diffractometer for the secondary evaluation by the J-PARC Center. The design of the experimental hall that will be constructed outside of the MLF experimental building is progressing at the same time.

Although some powder diffractometers are constructed or under construction in MLF, this proposal has some specific feature to study the materials for batteries such as time-dependent structure analysis and in-situ structure analysis under specific conditions. We expect that more detailed specification and drawings will be indicated in near future. This proposal has a merit that the neutron diffraction experiment and other experiments such as sample preparation and off-line sample evaluation can be done in laboratories placed very close to the diffractometer. Thus it is very important to design the building, diffractometer and laboratories so that a series of experiment can be carried out systematically.

