

2010/1/22: Neutron Program Advisory Committee

Program ID: 2009S09

Title: "Dynamic and Static Structural Analysis by 3D polarimetry spectroscopy on Neutron Analysis System for Functional Materials"

Principal Investigator: Kenji Ohoyama

Decision: continue

Beam allocation:  $\beta = 0\%$

Approval and suggestion(s) to IMSS: budget and resources are approved as requested.

Comments:

This project is aiming at constructing a neutron polarization analysis spectrometer based on collaboration between Tohoku University and KEK, which will make it possible to investigate complicated spin correlations in novel magnetism, in particular, strongly correlated electron systems.

The polarization analysis technique is indispensable for investigations of mechanism of multipolar orderings, high- $T_C$  superconductivity, and multiferroics systems. Particularly, when inelastic scattering experiments with 3D polarimetry will be realised, its impact in novel material science must be extremely strong. The instrument in this project is a high-intensity and middle-resolution chopper spectrometer with short L1 and L2 in which a supermirror-type polariser and  $^3\text{He}$  spin filter-type analyser will be installed. Since many technical difficulties are expected in this project, strong supports of KEK, which has high ability of neutron instrumentations and generation of polarised neutrons, are indispensable to achieve the ambition.

As mentioned above, the object of the project is clear-cut. The planning of constructing the new spectrometer and the research content are reasonable. Therefore, the project should be accepted.