

January 14, 2011  
RIKEN Harima Institute  
Research Promotion Division

## Quantum Order Research Group Midterm Review

Group Director : Masaki Takata (D. Sci)

Date : Saturday, November 27, 2010

Venue : RIKEN Harima Institute (SPRING-8)

Reviewers :

Prof. Di Jing Huang (National Tsing Hua University, Taiwan)

Prof. Naoto Nagaosa (School of Engineering, University of Tokyo)

Prof. Setuko Tajima (Graduate School of Science, Osaka University)

Prof. Yoshio Kitaoka (Graduate School of Engineering Science, Osaka University)

Prof. Yoichi Murakami (Institute of Materials Structure Science, KEK)

Abstract of the reports :

The design of the project including the setup of the goals and selection of the research teams are very appropriate and successful, judging from the scientific achievements during these 3 years. The scientific impacts of the works are very high, exploring the cutting-edge new directions. The ability of the management by Dr. Takata is also quite high. He organizes the whole activity of the project well designed to maximize the efficiency of the research. Overall, the excellent scientific and technical achievements presented in the review meeting reflect a fact that the RIKEN SPRING-8 center provides world-leading X-ray facilities for frontier sciences. For the further progress of the project, we are suggesting the followings:

1. It is recommended to enhance the collaborations among the three teams in the group. The synergy and collaborations among the different fields would be fruitful especially between physics and chemistry.
2. Collaboration with theorists is better to be promoted furthermore. Especially the large scale calculations such as the first-principles electronic structure calculations can be coordinated with the activity in this research group. Some formal connection with peta-flop supercomputer research center might be useful.

3. It is desirable to increase the man-power including the graduate students and technical staff members.
4. Some new systems to enhance the communications within each team such as the TV meeting system are recommended.