



541st ASRC Seminar



Date: 10:30 ~12:00, 19 February

Location: Meeting room 302, ASRC Building

Speaker: Dr. Toru Sakai

(Quantum Beam Science Directorate, JAEA)

Title: Magnetic Properties
of Two-Dimensional Frustrated systems

Several two-dimensional frustrated antiferromagnetic quantum spin systems are investigated by the numerical exact diagonalization. We report some interesting results on the following topics:

- (i) Anomalous magnetization processes of $S=1/2$ kagome- and triangular-lattice antiferromagnets[1,2]
- (ii) Spin gap issue of $S=1/2$ kagome-lattice antiferromagnet[3],
- (iii) Quantum phase transition of $S=1$ triangular-lattice antiferromagnet[4],
- (iv) Spin flop transition of $S=1/2$ square-kagome-lattice antiferromagnet[5].

[1]TS and H. Nakano, Phys. Rev. B 83 (2011) 100405(R).

[2]H. Nakano and TS, J. Phys. Soc. Jpn. 79 (2010) 053707.

[3]H. Nakano and TS, J. Phys. Soc. Jpn. 80 (2011) 053704.

[4]H. Nakano, S. Todo and TS, J. Phys. Soc. Jpn. 82 (2013) 043715.

[5]H. Nakano and TS, J. Phys. Soc. Jpn. 82 (2013) 083709.

<Contact>

Michiyasu Mori (81-3508)

Advanced Science Research Center

