



593rd ASRC Seminar



Date: 13:30 ~ , 26 May

Location: Meeting Room 103, ASRC bldg.

Speaker: Dr. Hiroaki Kusunose (Meiji University)

Title: Emergent magnetoelectric responses by electronic orders

Spin-orbital physics in solids has attracted much attention as a source of exotic phenomena such as magnetoelectric response and spin Hall effect. I will show consequences of spontaneous inversion-symmetry breaking in systems with local parity mixing [1-5]. On the basis of the minimal models on a honeycomb lattice, we discuss emergent antisymmetric spin-orbit coupling and resultant electromagnetic responses, spin splitting, and band deformation, where the toroidal moment, the polar vector with both space-inversion and time-reversal odd, plays a vital role.

These works were done in collaboration with S. Hayami and Y. Motome.

[1] S. Hayami, H. Kusunose, Y. Motome, Phys. Rev. B 90 (2014) 024432.

[2] S. Hayami, H. Kusunose, Y. Motome, Phys. Rev. B 90 (2014) 081115(R).

[3] S. Hayami, H. Kusunose, Y. Motome, J. Phys. Conf.: Ser. 592 (2015) 012101.

[4] S. Hayami, H. Kusunose, Y. Motome, J. Phys.: Conf. Ser. 592 (2015) 012131.

[5] S. Hayami, H. Kusunose, Y. Motome, J. Phys. Soc. Jpn. in press.



<Contact>

Yo Tokunaga (81-3525)

Advanced Science Research Center

