

凝縮系物理学ゼミナール

Condensed Matter Theory Seminar

Location: Room 413, School of Science Bldg. 5 (理学 5 号館 413 号室)

Time and date: 13:30 – 15:00, Wednesday, 13 May 2015

Magnetism, multipole, and superconductivity in electron systems with mixed parity

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Abstract:

Recently, exotic quantum phases induced by spin-orbit couplings in condensed matter are attracting growing interests. I focus on the antisymmetric spin-orbit coupling in crystals lacking (local) inversion symmetry and discuss unusual magnetic, multipole, and superconducting states. I will speak about (1) odd parity multipole order in $\text{Sr}_3\text{Ru}_2\text{O}_7$, (2) odd parity superconductivity in superlattice $\text{CeCoIn}_5/\text{YbCoIn}_5$ and gate-tuned MoS_2 , and (3) topological superconductivity in $\text{CeCoIn}_5/\text{YbCoIn}_5$, gate-tuned high- T_c cuprates, and CeIrSi_3 .