

応用物理学セミナー

日 時	2014年 7月 24日 (木) 15:30~17:00
場 所	電子情報システム・応物系プレハブ講義棟プレ2B 講義室
題 目	Aspects of non-centrosymmetry and topology in novel superconductors
講 師	Manfred Sigrist (スイス連邦工科大学 教授)

要旨：

In metals without inversion center superconductivity can strongly influenced by symmetry-specific antisymmetric spin-orbit coupling. The symmetry classification of pairing states in these non-centrosymmetric superconductors leads to states of mixed parity. Among the most striking experimental results is the strong reduction of paramagnetic limiting. Besides the “uniformly” non-centrosymmetric metals there are also numerous materials which possess either local or regularly staggered non-centrosymmetric structures. In this talk I will characterize the pairing states and several properties of such superconductors. Two concrete cases will be address: (1) the artificial CeCoIn₅-YbCoIn₅ superlattices and (2) the pnictide superconductor SrPtAs. For the case (1), I discuss mainly the superconducting properties in a magnetic field and give reasons for the robustness of superconductivity against magnetic fields of these superlattice. Case (2) is a strong candidate for topological superconductivity of the chiral d-wave type.

This talk presents work done in collaboration with D.F. Agterberg, M.H. Fischer, J. Goryo, W. Hanke, F. Loder, D. Maruyama, T. Neupert, C. Platt, S.H. Rhim, A.P. Schnyder, R. Thomale, Y. Yanase, T. Yoshida and S.J. Youn.

以上の内容で応用物理学セミナーを開催いたします。

多数御来聴下さるようお願い致します。

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