Anisotropic Fermi Superfluidity of Repulsive Origin

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Origins and properties of "anisotropic fermi superfluidity" is reviewed mainly paying attention to the spin-triplet state.

1) A canonical example is the superfluid state of ^{3}He in which the concept of spin-fluctuation mediated pairing interaction seems to have been established, and the internal Josephson effect and other collective modes associated with broken spin-orbit symmetry were discovered. I will review a development of these ideas.

2) Recently, a variety of ferromagnetic superconductors, UGe_2, URhGe, and UIr, have been identified. I will briefly review these interesting aspects which are still in controversy.

3) A model for spin-triplet superconductor Sr_2RuO_4 will be briefly discussed paying attention to the role of local Coulomb repulsion of 2p electrons at O sites which gives rise to a short range ferromagnetic correlations and pairing interaction in the spin-triplet channel [1].

[1] K. Hoshihara and K. Miyake, J. Phys. Soc. Jpn. **74**, 2679 (2005)