

# RKKY interaction in graphene

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We consider RKKY interaction between two magnetic impurities in graphene. The consideration is based on the perturbation theory for the thermodynamic potential and Matsubara technique. We present a new proof of the theorem, which states that the RKKY interaction on the bipartite lattice at half filling is ferromagnetic between magnetic impurities on the same sublattice and is antiferromagnetic between impurities on opposite sublattices. We also propose a method of analytical calculation of the integrals, defining the interaction, which is simpler than the methods, used previously, and allows to evade some problems which plagued those methods.

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