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Two magnetic impurities in graphene¹ FEI-MING HU, Aalto University, School of Science, Finland, JAME GUBERNATIS, Los Alamos National Laboratory, Los Alamos, New Mexico, USA, HAI-QING LIN, Beijing Computational Science Research Center, Beijing, China and The Chinese University of Hong Kong, Hong Kong, China, RISTO NIEMINEN, Aalto University, School of Science, Finland — We theoretically investigate two magnetic impurities in graphene. We mainly study the indirect interaction between the two magnetic impurities mediated by conducting electrons, which is so called RKKY interaction. The spin-spin and charge-charge correlation functions are calculated by quantum Monte Carlo simulations when the Fermi energy of the system is changed by gate voltage. The spectral density of the two impurities is also studied by maximum entropy methods.

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