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**Magnetic impurities in graphene with defects** FEIMING HU, RISTO NIEMINEN, COMP/Department of Applied Physics, School of Science and Technology, Aalto University, Finland — We theoretically study magnetic impurities in graphene with defects. The defects are described by vacancies which can be realized in graphene experimentally. The occupancy number, local moment and spin susceptibility of the impurities are calculated by quantum Monte Carlo simulations. When the Fermi energy of the system is changed by gate voltage, it is found that the behaviors of these physical quantities are very different from those in perfect graphene. The spectral density of the impurity is also studied by maximum entropy methods to explain these unusual behaviors.

Feiming Hu  
COMP/Dept of Applied Physics, School of Science and Technology,  
Aalto University, Finland

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