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Electronic structure of graphene in the presence of disorder[1]
ALEXANDER KEMPER, MANOJ SRIVASTAVA, HAI PING CHENG, University of Florida, Gainesville — Graphene, a single layer of the carbon structure graphite, has a number of interesting electronic properties. To aid in the understanding of these properties we have performed first-principles calculations of single graphene layers in the presence of disorder of various forms, including single and double vacancies, Stone-Wales defects, and metallic dopants. We report the effects of defects and dopants on the charge density and electronic density of states. Furthermore, we discuss energetics of these systems and defect-induced spin-states.

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