Impurity States on the Kagome Lattice Using Green's Function Method MOHAMMAD MAHDI VALIZADEH, SASHI SATPATHY, University of Missouri - Columbia — The kagome lattice is a 2D lattice that has been of recent interest owing to its graphene-like band structure, the existence of flat band states and exotic quasiparticle excitations. Materials hosting the kagome lattice such as the rare-earth compound RCo_5 and the herbertsmithites have been recently synthesized and efforts have been made to change the Fermi energy to the Dirac-like point by introducing impurities into this system. In this work, we study the electronic states introduced by impurities in the system by applying the Green's function approach within a tight-binding model Hamiltonian. The impurities introduce localized states close to the Dirac point, in many ways similar to graphene, which will be discussed.

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