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Magnetic properties of bilayer triangular lattice¹ FEI-MING HU, SHI-QUAN SU, TIAN-XING MA, HAI-QING LIN, Department of Physics and the Institute of Theoretical Physics, the Chinese University of Hong Kong — We study magnetic properties of the single-band Hubbard model on a coupled bilayer triangular lattice by using the determinant quantum Monte Carlo method. Simulations are focused in the region near the van Hove singularities. We perform investigations on two kinds of double layer triangular lattices, one is a simple triangular structure which has only one nearest neighbor between two layers for every atom and another one is a graphene-like structure which has three nearest neighbors between two layers for every atom. We compare their magnetic properties in the view of the itinerant electron ferromagnetic theory of attribute their behaviors to the density of states on the Fermi surface.

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