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**Effects of local moments on a Mott transition** RAJESH NARAYANAN, Department of Physics, Indian Institute of Technology Madras, Chennai 600036, India, SERGE FLORENS, Institut Neel and UJF, CNRS, Bp 166, 3082, Grenoble Cedex 9, PRIYANKA MOHAN, JANANI CHANDER, Department of Physics, Indian Institute of Technology Madras, Chennai 600036, India, TRIBIKRAM GUPTA, Institute of Mathematical sciences, C. I. T. campus, Taramani, Chennai-600113, India — In this work, we study the influence of interacting (long-ranged) local moments on a Mott-transition. We show that at low temperatures even in the presence of these local moments the Mott-transition remains first order. However, at higher temperatures the Mott tricritical point is depressed. We also show that the transitions lines are bent due to the effects of these local moment fluctuations. Finally, we study the behavior of various thermodynamic observables as we scan the various parts of the phase diagram. These results were obtained by using a Hubbard- Heisenberg model with a local Coulomb repulsion and infinite ranged spin interactions. The model is solved by allying dynamical mean field theory equations with the slave- rotor technique.

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