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Dynamical Mean Field Study of the Mott Transition on the Triangular Lattice Employing the Quantum Monte Carlo Technique KARAN ARYANPOUR, RICHARD T. SCALETTAR, WARREN E. PICKETT, Department of Physics, UC DAVIS, ALEXANDRU MACRIDIN, MARK JARRELL, Department of Physics, University of Cincinnati — We present results on the Mott transition on the triangular lattice with nearest neighbor hopping employing the Dynamical Mean Field Theory (DMFT) and the Quantum Monte Carlo (QMC). DMFT and QMC can yield the critical value of electron-electron interaction U as a function of temperature T for the metal-insulator transition. By using the Maximum Entropy (MaxEnt) method, we calculate the Density of States (DOS) for a variety of U and T values. The formation of an Abrikosov-Suhl resonance peak in the intermediate coupling regime and a Mott gap in the strong coupling regime is observed. In addition, we discuss the behavior of the magnetic moment as a function of U and T .

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