

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Mott and Band Insulator Transitions in the Binary Alloy Hubbard Model** ANDREW BALDWIN, RICHARD SCALETTAR, NORMAN PARIS, University of California, in Davis — We use determinant Quantum Monte Carlo simulations and exact diagonalization to explore insulating behavior in the Hubbard model with a bimodal distribution of randomly positioned local site energies. From the temperature dependence of the compressibility and conductivity, we show that gapped, incompressible Mott insulating phases exist away from half filling when the variance of the local site energies is sufficiently large. The compressible regions around this Mott phase are metallic only if the density of sites with the corresponding energy exceeds the percolation threshold, but are Anderson insulators otherwise.

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Date submitted: 20 Nov 2006

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