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The effect of strong impurity scattering on superconductivity in the 2D Hubbard model[1] ALEXANDER KEMPER, University of Florida, THOMAS MAIER, Oak Ridge National Laboratory, MARK JARRELL, University of Cincinnati, CHENG HAI-PING, University of Florida — We study the effect of strong impurity scattering in the two-dimensional Hubbard model to model the effect of Zn substitution in the cuprates, using the dynamical cluster quantum Monte Carlo framework. The superconducting Tc is strongly suppressed by impurity doping, while the spin susceptibility indicates moment formation. We will discuss the dependence of Tc on the strength of the impurity scattering potential, and by investigating the properties of sites neighboring the impurity, the relevance to the experimental STM image of Zn impurity in cuprates.

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