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**Strong correlations generically protect d-wave superconductivity against disorder** SHAO TANG, V. DOBROSAVLJEVIĆ, Department of Physics and National High Magnetic Field Laboratory, Florida State University, E. MIRANDA, Campinas State University, Brazil — We address the question of why strongly correlated d-wave superconductors, such as the cuprates, prove to be surprisingly robust against the introduction of non-magnetic impurities. We show that, very generally, both the pair-breaking and the normal state transport scattering rates are significantly suppressed by strong correlations effects arising in the proximity to a Mott insulating state. We also show that the correlation-renormalized scattering amplitude is generically enhanced in the forward direction, an effect which was previously often ascribed to the specific scattering by charged impurities outside the copper-oxide planes.

Shao Tang  
Department of Physics and National High Magnetic Field Laboratory, Florida State University

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