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Signatures of strong correlations in the tunneling spectra of superconducting doped Mott insulators TIAGO C. RIBEIRO, University of California, Berkeley, XIAO-GANG WEN, Massachusetts Institute of Technology — We compare the tunneling spectra from BCS mean-field theory and from a mean-field theory of superconducting doped Mott insulators to address the signatures of strong correlations in tunneling experiments, namely the bias sign asymmetry, the generic lack of evidence for the Van Hove singularity and, in some cases, the absence of coherence peaks. We also establish the connection between tunneling spectroscopy and ARPES observations in the cuprate superconductors. Thus, we provide a consistent description of these two experimental techniques which probe the single electron microscopic physics of the cuprates.

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Tiago C. Ribeiro
tribeiro@lbl.gov
University of California, Berkeley

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