

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Aspects of the electron-phonon interaction in the Cuprates

STEVE JOHNSTON, University of Waterloo, WEI-SHENG LEE, THOMAS DEVEREAUX¹, Z.X. SHEN, Stanford University — The ubiquity of the “kink”-structures observed in the band-dispersion of the High-Tc cuprates have made this feature the subject of debate for many years now. At present, the community agrees that the feature is due to electron-boson coupling to a collective mode, however, a consensus has yet to be reached on its identity. In this talk we will review the arguments typically made against the phonon interpretation, which are grounded in knowledge gained from metallic systems. We will then show the complications one encounters in extrapolating from these systems to strongly correlated systems such as the cuprates. We will also discuss some of the common methods for extracting information from photoemission spectra that are cited in the modern literature in order to highlight the strengths and weaknesses of each and their reliability for extracting realistic estimates for parameters such as the electron-boson coupling strength λ .

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Date submitted: 02 Dec 2007

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