

Abstract Submitted
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Apical oxygen electron-phonon coupling and poor screening in the cuprates¹ THOMAS DEVEREAUX, University of Waterloo — A theory of the effect of screening in anisotropic planar materials on the electron-phonon coupling for phonon vibrations out of the plane is presented. Specifically it is shown that the poor ability of electrons to propagate along the c-axis has consequences on the screened electron-phonon interaction. A theory for the coupling of charge-transfer excitations to apical oxygen phonons in the cuprates is presented, and strong doping dependence of the magnitude and anisotropy of the electron-phonon coupling is demonstrated.

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