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**Pairing Glue in High Tc Cuprates from Tunneling Spectroscopy**

JOHN ZASADZINSKI, OMID AHMADI, LIAM COFFEY, Illinois Institute of Technology, LUTFI OZYUZER, Izmir Institute of Technology, NOBUAKI MIYAKAWA, Tokyo University of Science — Break junction tunneling spectroscopy data in Bi2212 over a wide range of doping are fit using a d-wave Eliashberg model. Self consistency is achieved as the electron-boson spectral function,  $\alpha^2F(\omega)$ , that fits the tunneling conductance dip feature also leads to the correct superconducting gap. The anomalous negative  $dI/dV$  observed in break junctions on optimal doped Bi2212 is also reproduced in the analysis. The diagonal and off-diagonal self energies,  $\Sigma(\omega)$  and  $\phi(\omega)$ , respectively are generated in the analysis and they show trends with doping which are in agreement with numerical simulations of the Hubbard model. The peak in  $\alpha^2F(\omega)$  is consistent with the resonance mode in the spin fluctuation spectrum. Tunneling data of other cuprates are also discussed.

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