

One superconducting gap and Fermi Arcs lead to 2 distinct energy scales seen by Raman Spectroscopy in cuprate

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Two distinct scales, scaling with T^* and T_c have been reported at low temperature, respectively in the B_{1g} and B_{2g} symmetries of the electronic Raman response. Performing temperature dependence of this feature allow us to claim that they are the signature of a unic phenomena: the superconductivity (SC). Our phenomenological analisis shows that these two scales can arise with a single SC gap, and that B_{2g} scale is governed by the pairing energy and the spectral weight which is very anisotropic along the Fermi surface. We investigated different shapes of the SC and a comparison with other experiments seems to indicate that the gap at low temperature is close to a pur d-wave gap.