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The interplay of the gap, the magnetic resonance, and the van Hove singularity[1] GIORGIO LEVY, CHRISTOPHE BERTHOD, OYSTEIN FISCHER, DPMC, University of Geneva, Switzerland — The characteristic features of the tunneling spectra in the Bi-based HTS are a d-wave like gap structure, strong and often asymmetric coherence peaks, and an asymmetric dip-hump structure at higher energy. Hoogenboom *et al.* [1] analysed the spectra of the two-layer compound Bi2212 and showed that all of these properties can be understood assuming d-wave superconductivity, a band structure as measured by ARPES, and an interaction of the quasiparticles with the magnetic resonant mode. In particular the asymmetric dip-hump results in this model from the interplay of the gap, the mode and the van Hove singularity present in the band structure. Here we analyse new data for the three-layer compound Bi2223. Unlike in Ref. [1], we perform full unconstrained least-square fits in order to determine the various parameters of the model directly from the experimental data. This allows us to determine the doping dependence of the gap and of the magnetic resonance energy. [1] B. W. Hoogenboom, C. Berthod, M. Peter, Ø. Fischer, and A. A. Kordyuk, Phys. Rev. B **67**, 224502 (2003).

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