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Fingerprints of the superconducting pairing glue via inelastic tunneling spectroscopy PATRIK HLOBIL, JRG SCHMALIAN, JASMIN JANDKE, WULF WULFHEKEL, Karlsruhe Institute of Technology — In the past, tunneling spectroscopy has been interpreted as a direct probe of the fermionic density of states in superconductors. However, in this talk we discuss the impact of inelastic tunneling on tunnel spectra and show that depending on the actual system these interpretations have to be revisited. We show how such inelastic tunneling processes can occur in bulk systems and how they affect the analysis of the experimental data. Considering the spin-gap for spin excitations in the high- T_c superconductors we can trace back the peak-dip-hump features observed in many unconventional superconductors to the shift of the spin spectral weight to higher energies below the critical temperature T_c .

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