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**HTSC Measurements Explained by Defended Superconductivity Theory** JOHN JAMES, St. Louis University — Resonance between the superconducting gap and the low energy optical phonon mode creates a burst of coherent phonons which prevents the unstable superconducting state from collapsing. Surrounding lattice defects with charge states prevents interactions which would stop the coherent phonons from forming. This simple model of why Tc is high can explain many other phenomena, such as; insufficient density of states and instability in BCS model, variation of the gap energy in a single sample, the irreversibility line, sensitivity of Tc to impurities, high slope resistivity transition with impurities, isolation of magnetic impurities accept praeseodymium, long lived quasiparticles at low T, pseudogap, gapless pairs above Tc, proximity of phases, phase diagrams, low and high values of the tunneling gap, rise and fall of Tc with number of Cu layers, sensitivity to radiation damage at low temperature, normal state metal at the surface of samples cleaved at low temperature, eventual lowering of Tc with overdoping, remaining states in the photoemission gap, peak in the conductivity below Tc and many more.

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