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No Evidence for Spin Density Waves in Pb using Phonon Imaging[1] TIMOTHY HEAD[2], JAMES WOLFE, University of Illinois Urbana-Champaign — Phonon-imaging in superconducting Pb has proven to be a sensitive probe of quasiparticle density due to the highly anisotropic absorption of ballistic phonons by quasiparticles. Slower than expected temperature dependences of quasiparticle density observed previously by Wolfe and Short (*Physica B* **316,** 107 (2002)) are explained here by taking into account the effects of nonequilibrium quasiparticles. Minimizing the effects of nonequilibrium quasiparticles enables us to extract a value of the zero-temperature superconducting gap parameter. We measure Δ=1.32 $\pm$0.07 meV consistent with tunneling measurements in Pb and the conventional BCS picture, and inconsistent with earlier specific heat data that motivated the proposal of a spin-density-wave ground state in Pb (Overhauser and Daemen, *PRL* **61**, 1885 (1988)).

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