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Search for electron-phonon coupling in superconducting BKBO D. PARSHALL, NIST Center for Neutron Research, Gaithersburg MD 20899, J.L. NIEDZIELA, Oak Ridge National Laboratory, Oak Ridge TN 37831, S. BAR-ILO, Institute of Solid State and Semiconductor Physics, Minsk, 220072, Belarus, J.W. LYNN, NIST Center for Neutron Research, Gaithersburg MD 20899 — Ba0.6K0.4BiO3 is a superconductor with a Tc = 30 K. While generally regarded as a BCS superconductor, previous work searching along the high-symmetry directions did not find characteristic signatures of electron-phonon coupling near the energy gap of ~ 9 meV. Making use of the new Multizone Phonon Refinement technique, we are able to examine the phonon spectrum at all symmetry points and look for signatures of electron-phonon coupling.

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