THE A_{1g} MODE IN THE Hg-1201 PHONON SPECTRUM AS AN INDICATOR OF N→S TRANSITION

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S u m m a r y

By analyzing the structure of and the temperature changes in $HgBa_2CuO_{4+y}$ phonon spectra, the electron-phonon coupling constant g has been determined for the first time. It is shown that this compound is a superconductor with strong coupling. A frequency interval around 60.4 meV in the $HgBa_2CuO_{4+y}$ phonon spectrum, which may be classed as a "soft mode", is revealed. The dominant partial contribution to the density of phonon states in that spectral range is found to be given by O(2) atomic vibrations.