Determination of electron–phonon interaction parameters from time–domain terahertz spectroscopy

J. STEVEN DODGE, M. A. GILMORE, SAEID KAMAL, D. M. BROUN, Simon Fraser University — We present an analytical framework for determining metallic electron–phonon interaction parameters from time–domain terahertz spectroscopy measurements in the normal state. We apply this analysis to the case of lead, where we obtain values that are consistent with existing estimates. We discuss the statistical and systematic errors that limit the uncertainty in the parameter estimates.