

Abstract Submitted
for the 4CF06 Meeting of
The American Physical Society

High-pressure Raman studies of both hcp phases of Ba.¹ HELMUT OLIJNYK, Department of Physics, Colorado State University, Fort Collins, CO 80523, USA, SATOSHI NAKANO, KENICHI TAKEMURA, Institute for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan — Both hcp high-pressure phases of Ba were studied by Raman spectroscopy. Combining the Raman data with existing equation of state data, the pressure dependence of the elastic shear modulus C_{44} has been derived. The pressure shift of the E_{2g} phonon frequency is discussed in terms of elastic parameters. Though the pressure response of the observed phonon mode shows normal behaviour in both phases, more subtle differences can be traced back to differences in the interatomic interactions in both phases.

¹H. O. acknowledges a fellowship by the Japanese Society for the Promotion of Sciences (JSPS) under L-04519

Helmut Olijnyk
Department of Physics, Colorado State University,
Fort Collins, CO 80523, USA

Date submitted: 11 Sep 2006

Electronic form version 1.4