measure at constant volume the anharmonic shift of phonon energies with temperature, and (3) to measure the quasi-harmonic volume dependencies of phonon energies. In carrying out (3), inelastic neutron scattering studies are planned on crystals grown at a series of pressure points, exploiting thereby the change of density of the solid along the melting line. To achieve an acceptable level of accuracy in a reasonable length of experimental time, it will first be necessary to prepare larger single crystals than the one used in the present work.

A detailed analysis of this experiment and its results will be published later.

The authors gratefully acknowledge many stimulating discussions with R. Nathans and V. J. Minkiewicz and the invaluable assistance of F. Langdon and R. A. Bartels in the design and testing of the experimental equipment.

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