c/a ratio $<1{\cdot}60$, the changes in the shear moduli, C_{44} and C_{66}, with pressure are strongly influenced by the change in c/a ratio.

(2) The Grüneisen γ computed from an averaging of the mode γ's, as derived from the hydrostatic pressure derivatives of the elastic moduli, can be widely different than the γ computed from thermal expansion data when the dC_{ij}/dP contain significant contributions from the changes in axial ratio and when the volume dependence of the axial ratio, or ratios, during hydrostatic compression differs from that during thermal expansion. This indicates that the high frequency thermal vibrations are also sensitive to changes in axial ratio with thermal expansion.

(3) A correlation of the quantitative effect of (c/a) on C_{44} and C_{66} for Ti and Zr with theoretical calculations for the strain energy contributions to h.c.p. crystals [28] indicates that $dC_{44}/d(c/a)$ is derived primarily from electrostatic forces whereas $dC_{66}/d(c/a)$ probably arises for electron transfer during Fermi surface distortion.

(4) The equations of state at very high pressures, predicted from the pressure derivatives of the bulk moduli of Ti and Zr at lower pressure, do not agree with the equations of state derived from shock-wave experiments for these two metals.

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