equation of state (following Murnaghan [1]) for single-crystal magnesium is

$$\frac{V}{V_O} = [1 + 1.2126 \times 10^{-2} p]^{-0.2398}, \tag{17a}$$

whereas the corresponding equation for polycrystalline magnesium is

$$\frac{V}{V_O} = [1 + 1.2122 \times 10^{-2} p]^{-0.2398}. \tag{17b}$$

In both equations, p is expressed in kilobars. At a typical pressure, say $p = B_O^T/2$, these equations result in $(V/V_O) = 0.763$; this value compares favorably with 0.760, a value found from a smoothed curve based on the experimental data [15-18] on compression.

Fig. 1 is an illustration of the compression of CdS. The line shown is the result of the Murnaghan equation of state with the parameters given in Table 2. The experimental points are the results of isothermal compression measured by Lewis, Perez-Albuerne, and Drickamer [19]. The discontinuity in the compression curve at 20 to 30 kb, observed also in other physical properties [19-26], was attributed to a change from CdS-I(Wurtzite) to CdS-II(Rocksalt) structure. The mechanism of this transformation is not fully understood, but the transformation is generally recognized as first-order. As seen in