Fig. 1, the transformation results in about 19% decrease in volume, a change that is in accordance with the earlier calculations [25] of 17% (along the c-axis) and 18% (along the a-axis).

Cadmium exhibits a fairly large elastic anisotropy, 9%. The Murnaghan parameters for single-crystal cadmium are B_o = 4.581 x 10^{11} dyn/cm^2 and B_o' = 6.28, whereas for polycrystalline materials these parameters are 5.012 x 10^{11} dyn/cm^2 and 6.14. The difference in the bulk modulus is about 10% and that in the pressure derivative is about 2%. Fig. 2 illustrates effects of these differences on the compression curve. The data points entered in the figure are isothermal compression measurements of Bridgman [27], McWhan [28], and Perez-Albuerne et al [17, 29]. The shock-wave compression data of Rice et al [18] and McQueen and Marsh [30] are also entered. Anderson [5] presented a similar diagram up to about 500 kb. The compression curves drawn from the Murnaghan equation of state fit the experimental compression points very well to about 1.4 mb, contradicting the result of Anderson (Figs. 6 and 7 of Ref. 5).

Fig. 3 shows the compression of SiO_2. The lines drawn in the figure are the results of the Murnaghan equation of state using the acoustic parameters given in Table 2. α-quartz possesses low elastic anisotropy in compression (see Table 1), and for this reason the compression curve drawn from the single-crystal acoustic parameters is very similar to that drawn from the computed polycrystalline parameters. Compared with these