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TABLE VII. Results of measurements on BeO. Density=3.01 g/cc.

		C_{11} C_{12} C_{13} C_{33} C_{44} C_{66} (in units of 10^{12} dyn/cm^2)					C_{66}	
1	Present work Bentle (Ref. 3)	$4.606 \\ 4.70$	1.265	0.8848 1.19	4.916 4.94	$1.477 \\ 1.53$	1.670 1.52(1.63) a	

^a Reported but considered in error. Estimated errors in $C_{ij} \pm 1\%$; $C_{ii} \pm 0.2\%$.

for the choice of the positive value, although a plausibility agreement has been discussed in the literature.¹⁷

There is very little anisotropy in these compounds as evidenced from the ratios of C_{66}/C_{44} and $C_{33}/_{11}$; however, the value of Bentle for $C_{66}/C_{44} = 1.00$ is not reasonable for a hexagonal crystal.

Figure 6 is a log-log plot of bulk modulus vs bond distance for the compounds of interest and a slope of -4 fits the data. Gilman¹⁸ has related the

¹⁷ E. S. Fisher and H. J. McSkimin, J. Appl. Phys. 29, 1473

(1958). ¹⁸ J. J. Gilman, Mechanical Behavior of Crystalline Solids (NBS Monograph 59, 1963), p. 79.

slope of -4 to the relationship of electrostatic forces between atomic particles and bond distance, which should reflect in the same way for the elastic moduli and bond distance.

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