



FIG. 2.—Compressibilities of solid noble gases and alkali metals, both at 0°K (and 0 pressure) vs. atomic volume at 0°K.

EXPERIMENTAL AND THEORETICAL INVESTIGATIONS

The above comparison is the result of numerous recent experimental and theoretical studies, primarily by physicists, of the compressibilities of the solid noble gases and also the alkali metals at 0°K.

While the compressibility of solid xenon has not yet been measured, STEWART⁽⁷⁾ determined the compressibility, in the pressure range of 0 to 4000 kg/cm², of neon at 4°K, of krypton at 77°K and of argon at 65 and 77°K.

SWENSON⁽⁸⁾ measured the compressibility of all five alkali metals at 4.2°K in the pressure range of 0 to 10,000 atmospheres. Together with BRIDGMAN'S data⁽⁹⁾ at room temperature, covering the range up to 100,000 atms, a complete picture of the alkali metal compressibilities is now available.

Although, in contrast to the alkali metals, the experimental data on the noble gases are far from complete, the theoretical understanding of their properties at absolute zero is much further advanced; in fact, we have here the simplest case, a

⁽⁷⁾ J. W. STEWART, *Phys. Rev.* **97**, 578-582 (1955).

⁽⁸⁾ C. A. SWENSON, *Phys. Rev.* **99**, 423-430 (1955).

⁽⁹⁾ P. W. BRIDGMAN, *The Physics of High Pressure*, (1st. Ed) p. 162, Bell, London (1931); reprinted (1949).