phase all the way down to 0°K. Also, the value of B_o^T extrapolated to 0°K at zero pressure is based on the data obtained for the bcc phase.

From thermodynamic definitions, we have at the absolute zero of temperature:

$$P = - \frac{dE}{dV} \tag{5}$$

$$B_o = \lim_{\substack{P \to o \\ V \to V_o}} \left(V \frac{d^2E}{dV^2} \right)$$

$$B_o' = \lim_{\substack{P \to o \\ V \to V_o}} \left[- \left(\frac{V}{B} \frac{d^2E}{dV^2} + \frac{V^2}{B} \frac{d^3E}{dV^3} \right) \right]$$

$$B_o'' = \lim_{\substack{P \to o \\ V \to V_o}} \left[(1+B')\frac{V}{B^2} \frac{d^2E}{dV^2} + (3+B') \frac{V^2}{B^2} \frac{d^3E}{dV^3} + \frac{V^3}{B^2} \frac{d^4E}{dV^4} \right]$$

For the bcc phase, the relation between the lattice constant a and the parameter r_s is

$$a = \left(\frac{8\pi}{3} \right)^{1/3} r_s .$$

Using Siegel and Quimby's[9] thermal expansion data, again assuming no phase change, we estimate the value of r_s at 0°K and zero pressure as 3.936 in Bohr units. From this value, we evaluate