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