

r_c from the zero pressure equilibrium condition $\frac{dE}{dr_s} = 0$ as follows:

$$\begin{aligned} \frac{dE}{dr_s} = 0 &= -\frac{4.42}{r_s^3} - \frac{9r_c^2}{r_s^4} + \frac{2.708}{r_s^2} + \frac{0.031}{r_s} + \frac{dE_B}{dr_s} \quad (6) \\ \text{and } \frac{dE_B}{dr_s} &= 0.2036 \sum \frac{1}{x^4} \frac{0.166 F_L(x)}{r_s + 0.166 \frac{r_s^2 F_L(x)}{x^2}} \left[\cos^2 y - y \sin 2y - \frac{\cos^2 y}{(1 + \frac{0.166 r_s F_L(x)}{x^2})} \right] \end{aligned}$$

where x is a reciprocal lattice vector measured in units of twice the Fermi wave vector, and

$$y = 3.84 x r_c / r_s, \text{ and}$$

$$F_L(x) = \frac{1}{2} + \frac{1}{4x}(1-x^2) \ln \left| \frac{x+1}{x-1} \right|$$

The value of r_c is evaluated as 1.970. We then use eq. (4) and (5) to calculate B_0 , B_0' and B_0'' . The results are listed in the second column of Table II.
