

Physics 685 – Electronic Structure

Homework 8-9

Please read Martin, Electronic Structure, Chapter 5. Come prepared to answer questions based on reading.

1. Martin 5.3 – especially the scaling form.
2. Martin 5.4-5 – obtaining the expressions for k_{fermi} for each spin species. If we have a spin-unpolarized system, the overall k_f is equal k_f^σ for each spin.
3. Martin 5.16 – the average antiparallel hole for Al, Na, Cs.
4. Martin 5.17 – the expression for the total energy of Na, using equation 5.32.