Exercise 2.1-3

Calculate Formation Entropies

Illustration

Calculate the formation entropy for a simple cubic crystal.

- Assume that there are two kinds of springs holding the atoms together: Springs between next neighbors, and springs between second next neighbors.
- Look at the resonance frequency as a function of the spring constant D (make some assumptions about the spring constant D_2 of the second-next-neighbor spring in terms of the spring constant D_1 of the next neighbors).

Calculate the formation entropy first by only considering the D_1 springs; than consider the D_2 springs, too.

Link to the Solution