

Quiz 15

Monday, May 15, 2017 12:22 PM

DETERMINING THE FERMI ENERGY, E_F .

Consider a material with volume V and density of states

$$D_{3d}(E) = \begin{cases} (\text{constant}) \cdot E^{1/2} & E > 0 \\ 0 & E < 0 \end{cases}$$

These states are occupied by N electrons.

Find an expression for E_F , the energy of the "highest occupied wavefunction."