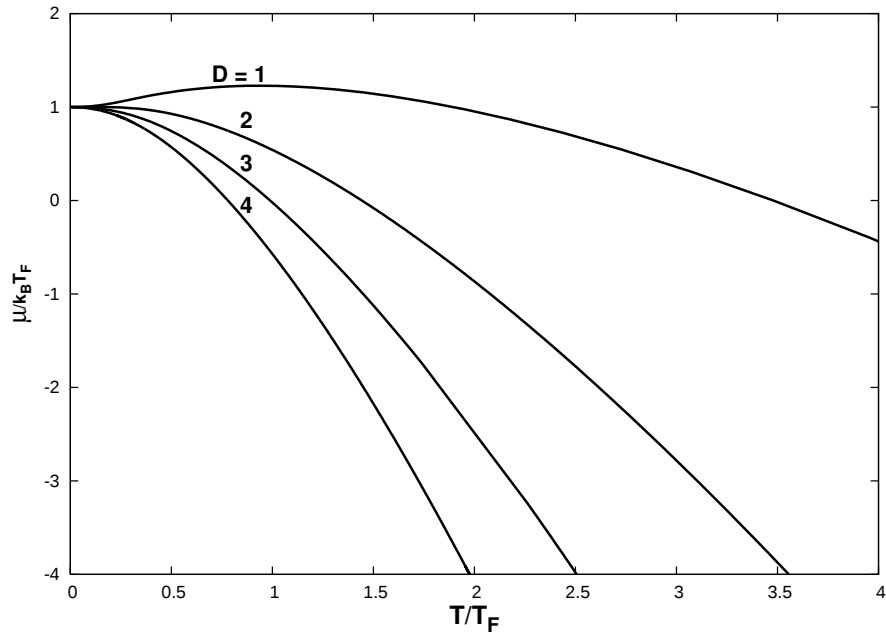


Ideal Fermi-Dirac gas: chemical potential [tsl43]

Fugacity z from

$$\frac{\lambda_T^{\mathcal{D}}}{v} = f_{\mathcal{D}/2}(z), \quad v \doteq \frac{gV}{\mathcal{N}}, \quad \lambda_T = \sqrt{\frac{h^2}{2\pi m k_B T}}.$$

Chemical potential [tex117]: $\frac{\mu}{k_B T_v} = \frac{T}{T_v} \ln z$, $\frac{T}{T_v} = [f_{\mathcal{D}/2}(z)]^{-2/\mathcal{D}}$.



Reference temperature: $k_B T_v = \frac{\Lambda}{v^{2/\mathcal{D}}}$, $\Lambda \doteq \frac{h^2}{2\pi m}$.

For a complete list of reference values see [tln71].

Fermi energy: $\lim_{T \rightarrow 0} \mu = \epsilon_F = k_B T_F$.

Fermi temperature from [tex117]: $\frac{T_F}{T_v} = [\Gamma(\mathcal{D}/2 + 1)]^{2/\mathcal{D}} \stackrel{\mathcal{D} \gg 1}{\sim} \frac{\mathcal{D}}{2e}$.