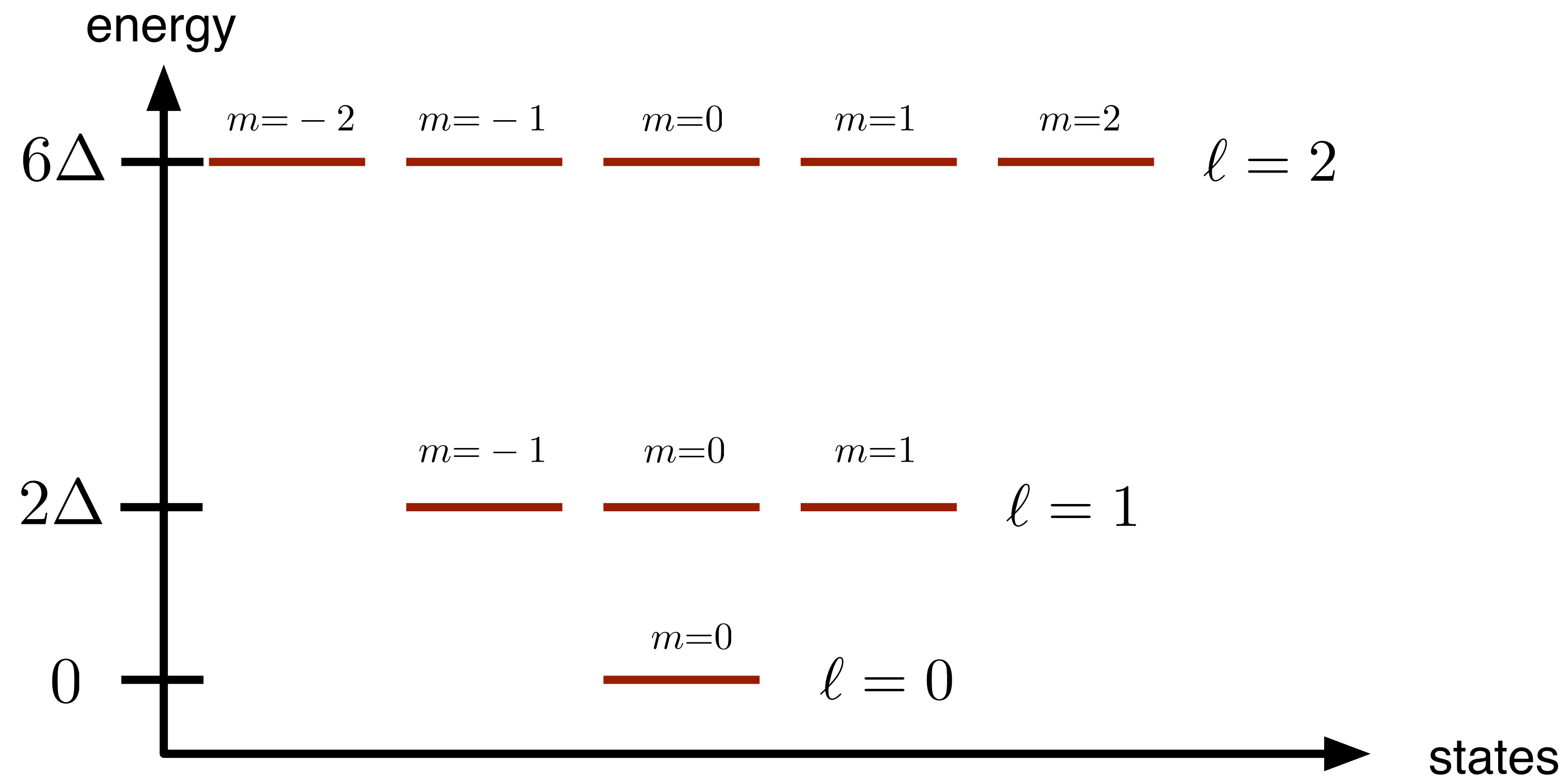


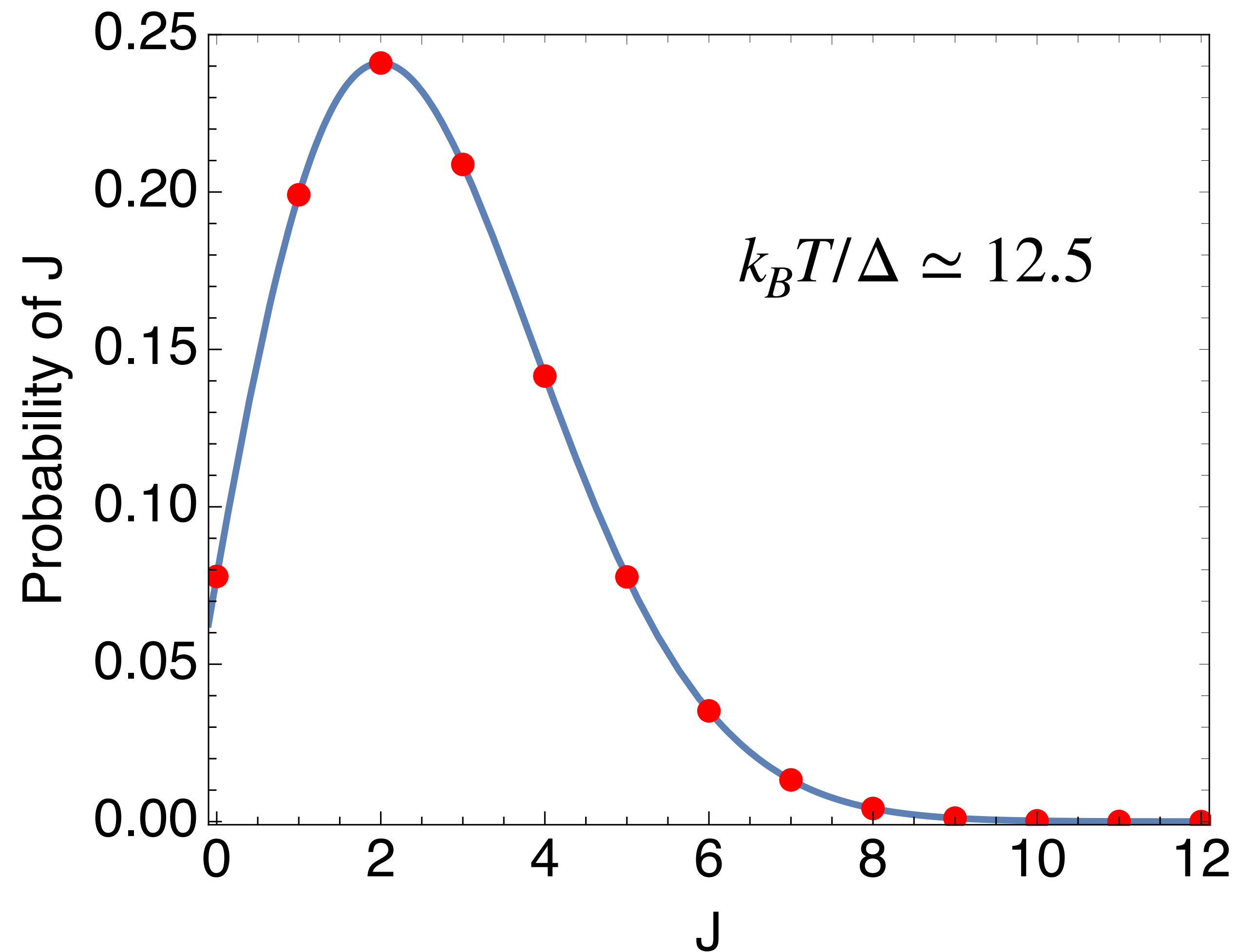
Energy Levels of Rotation:



For example for $\ell = 2$:

$$\epsilon_2 = \ell(\ell + 1)\Delta = 6\Delta$$

Rotational Partition Function



$$P_J = \frac{2J + 1}{Z_{\text{rot}}} e^{-\beta \Delta J(J+1)}$$