

1. To be solved in a group and explained in class. **The Curie Law**

Assuming that the permanent moments in a paramagnet are independent we can write the energy of a moment as $E_p = g\mu_B B J_z$.

Find the partition function. From the partition function calculate the average magnetisation, and then expand in small $x = g\mu_B B J/k_B T$.

Calculate the susceptibility from $\chi = \frac{M}{H}$.