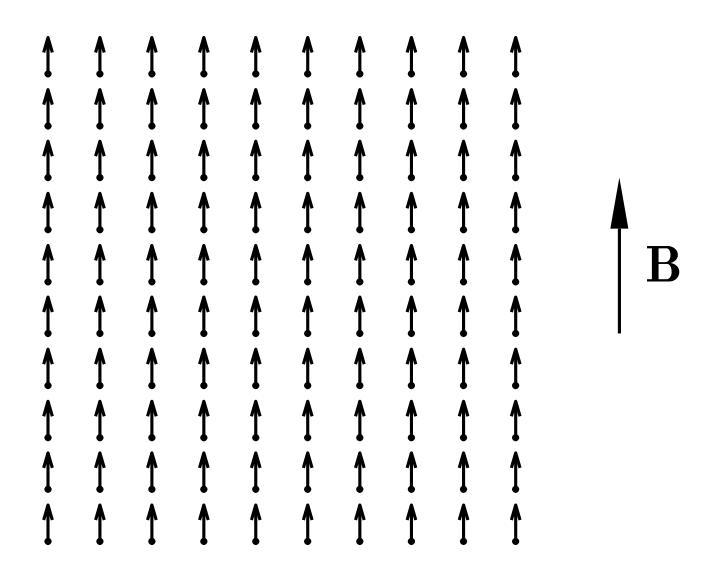


(a) high temperature



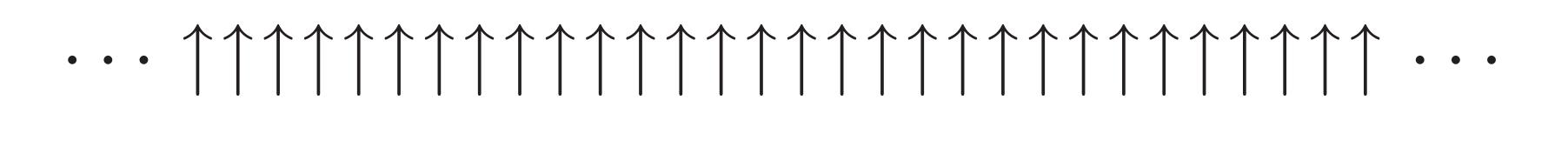
Picture of paramagnetic material

(b) low temperature

Energetics and States

Magnetic Field

This state has the lowest energy





But the there are many more states that look like this

At a fixed temperature and magnetic field we are to minimize, F=U-TS