Number of configurations of two particles in one dimension

Δx

$0 < x_1, x_2 < L$

Δp

$p + \delta p = \sqrt{2m(E + \delta E)}$

δp

$p = \sqrt{2mE}$
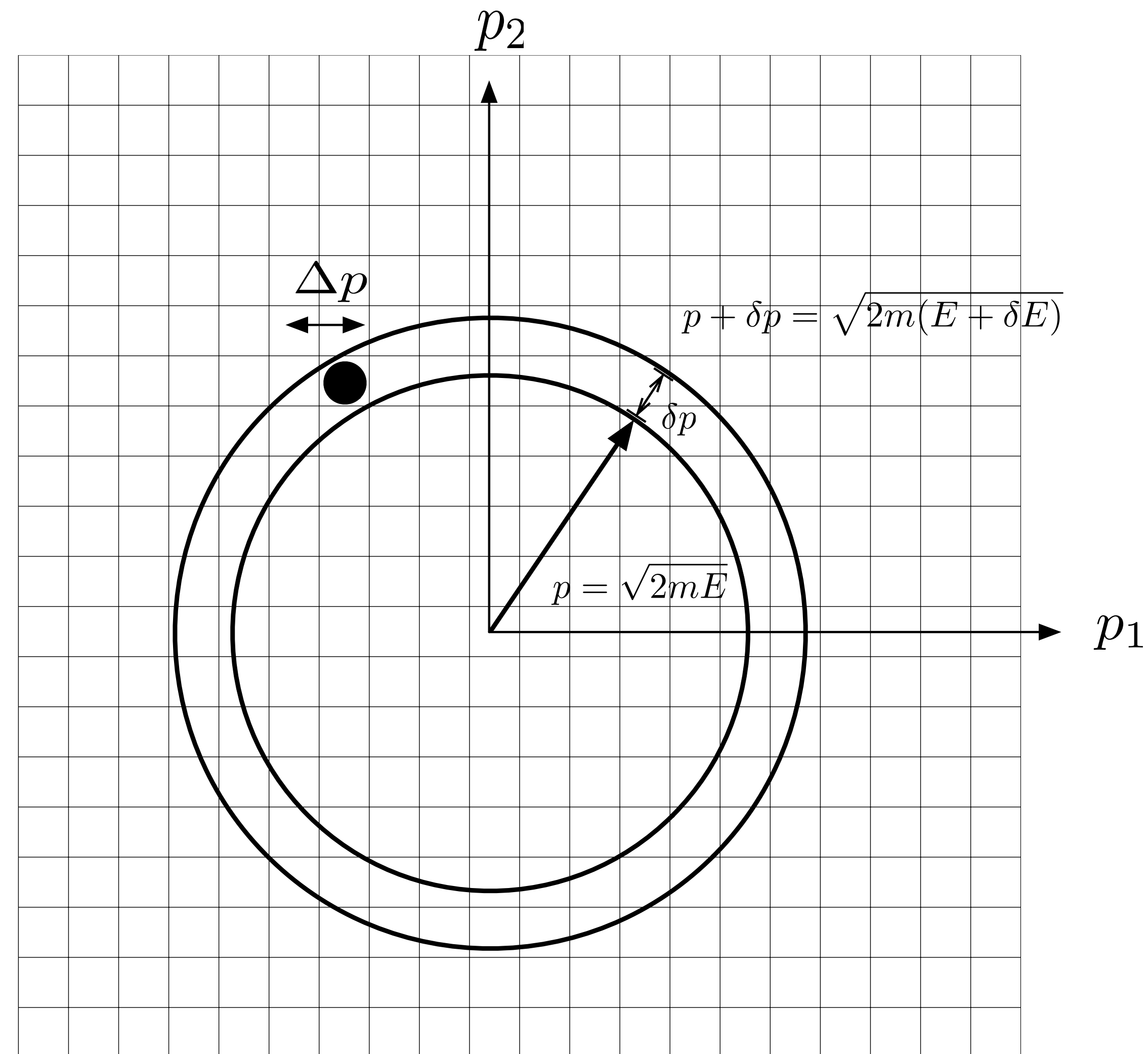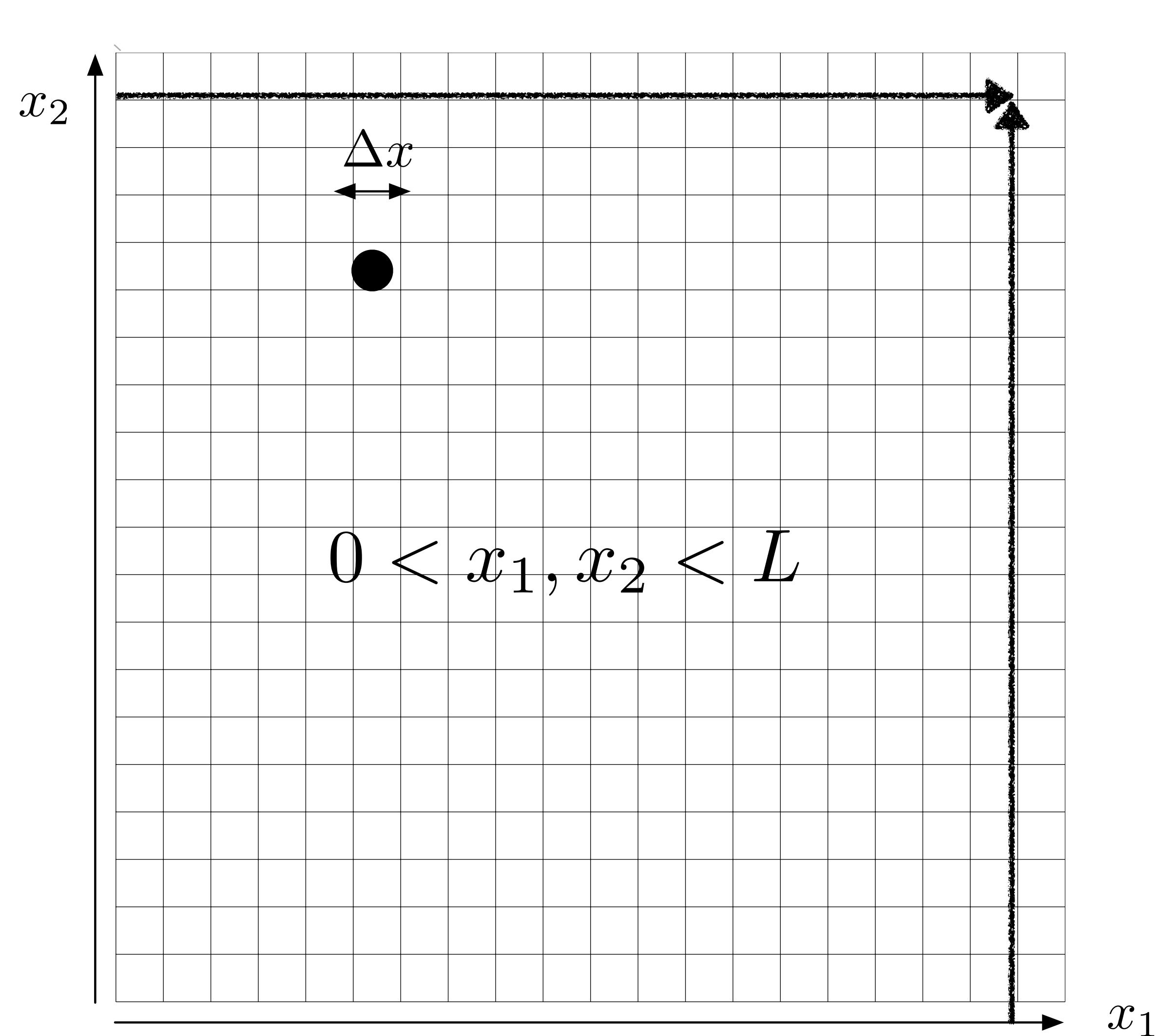
Two thermalized states, separated by a partition

$E_1 = 80\ \Delta$

$E_2 = 20\ \Delta$
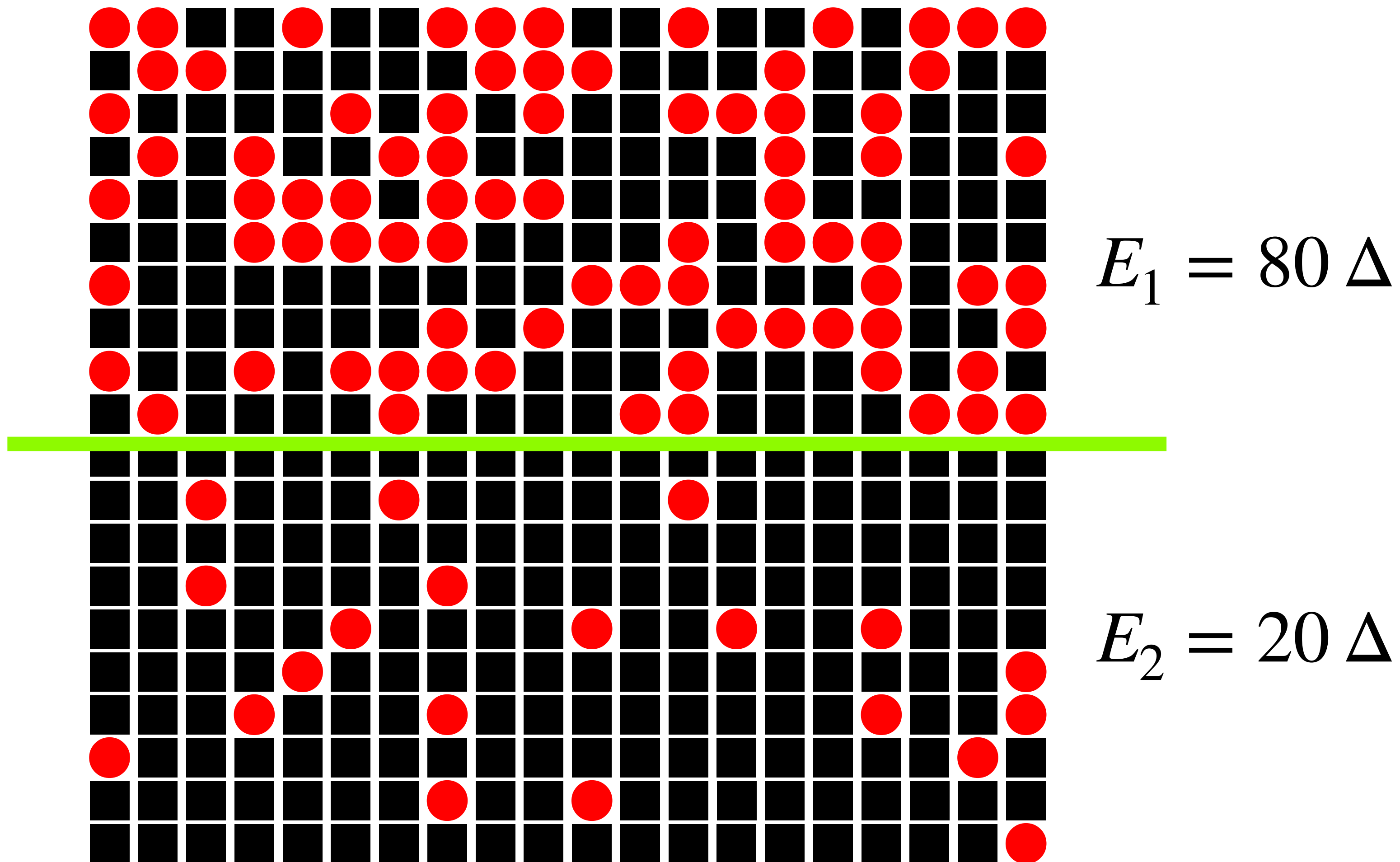
The macro state is
$$(E_1, E_2) = (80, 20)$$

When the partition is removed the system hops exploring configurations with different partitions of energy.