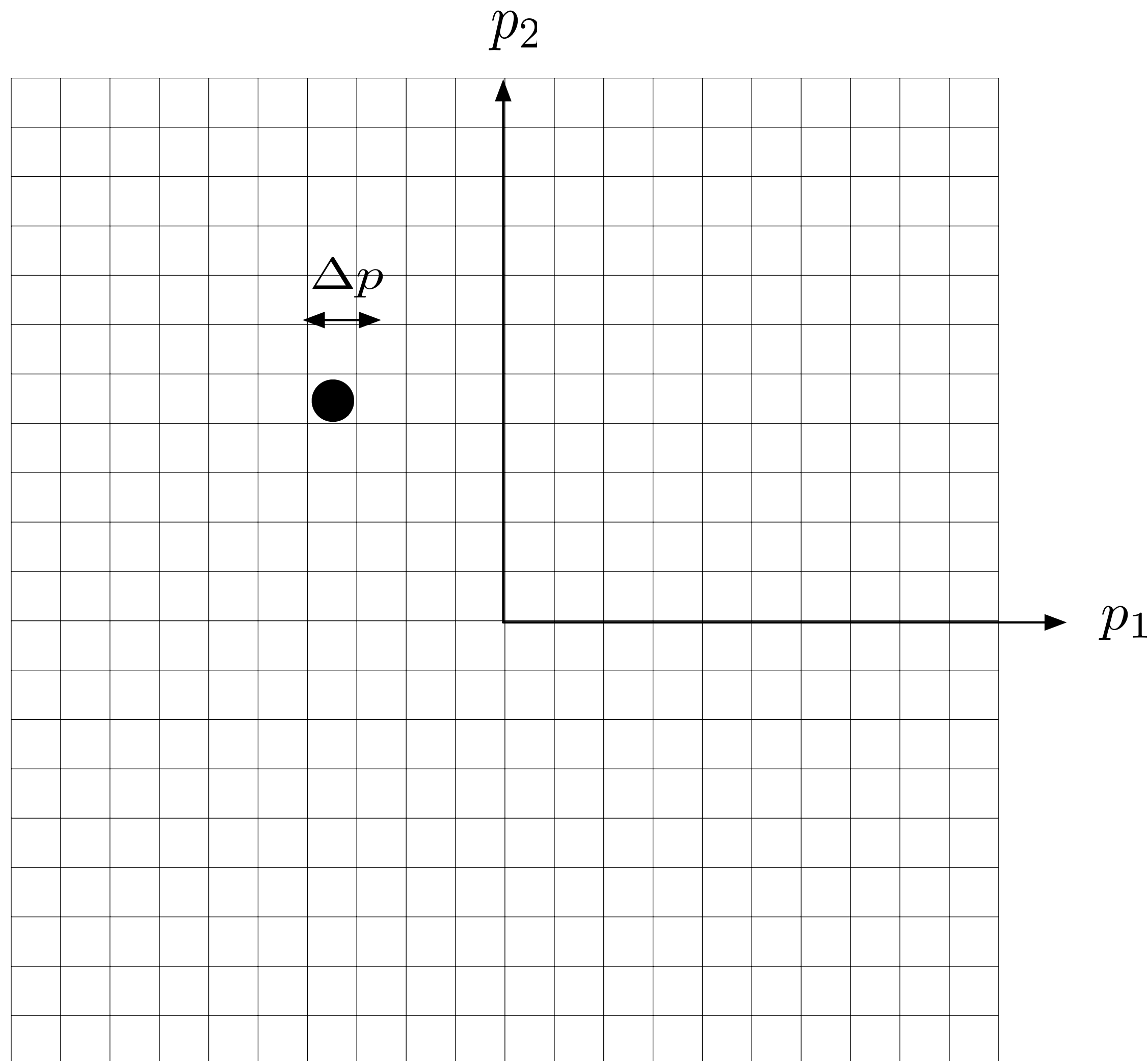
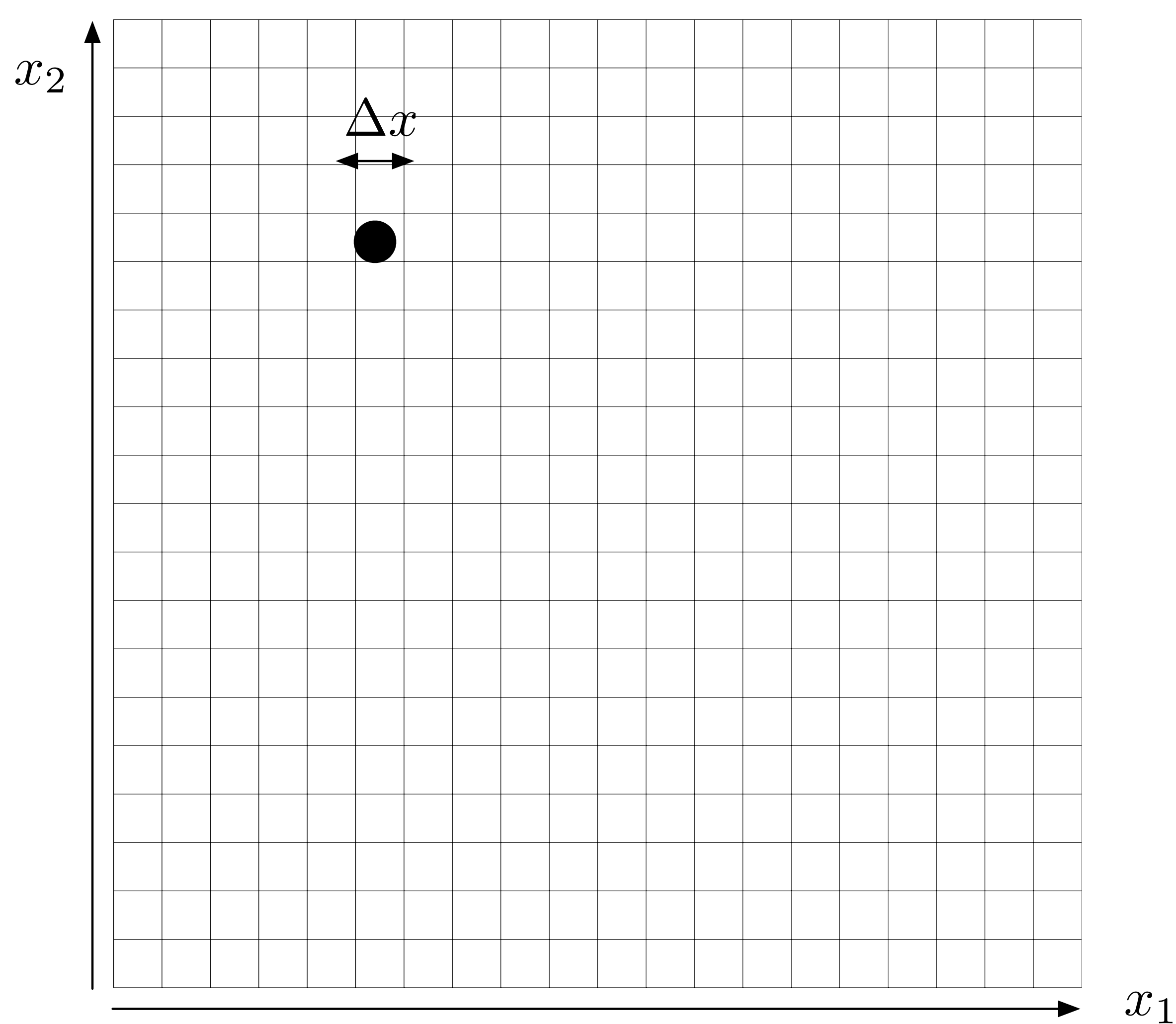


Two particle phase space: the dot represents a micro state

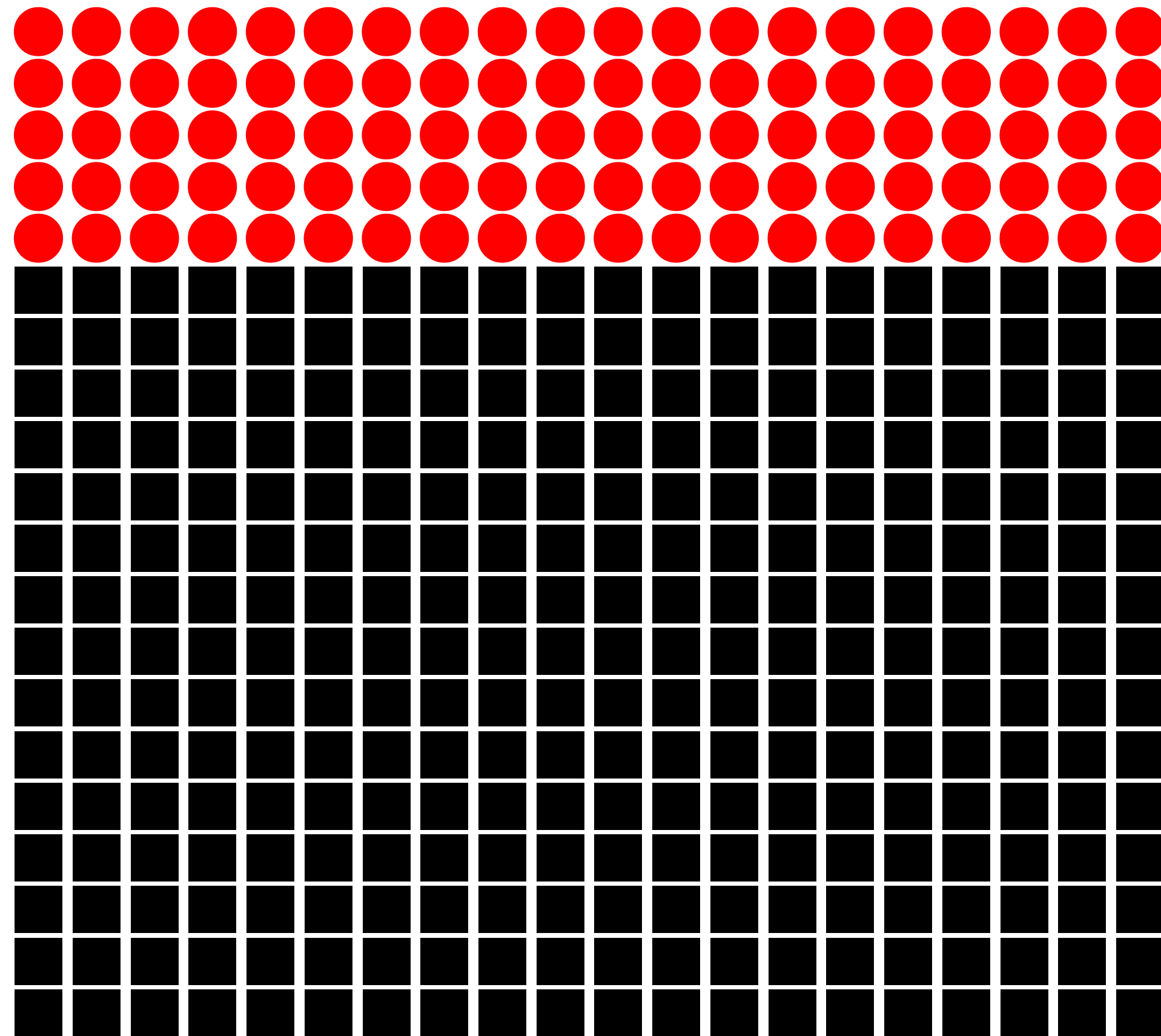
To count the phase space we divide it in bins of size  $h = \Delta x \Delta p$

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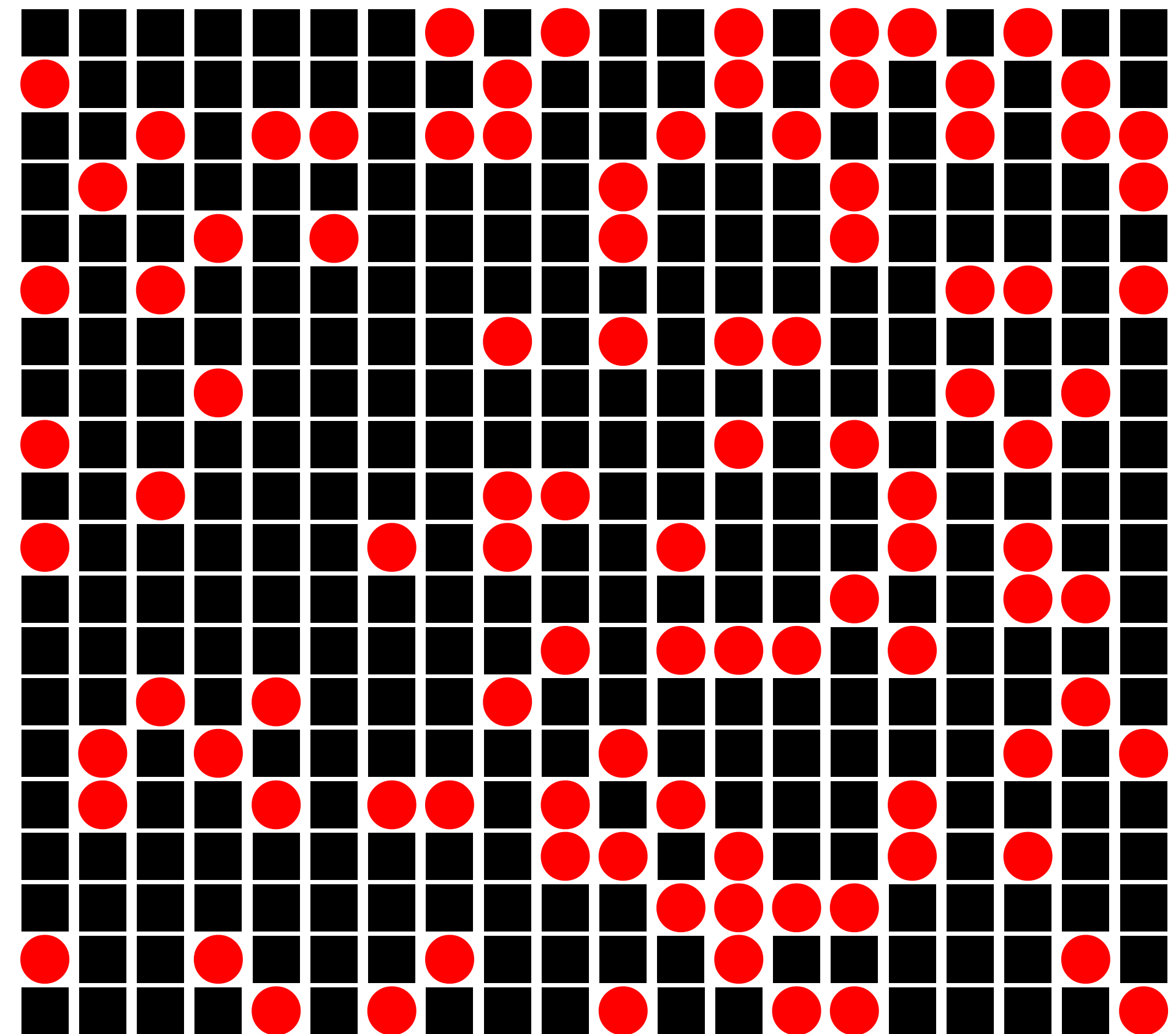


Ordered versus typical state:  $e^{225}$  states in total

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Ordered state: 400 atoms,  $1/4$   
are excited,  $E = 100 \Delta$



a typical state: the  
energy is still,  $E = 100 \Delta$