

# Representations:

Point Particles

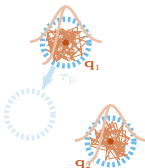
$$\mathbf{q}_i, \mathbf{p}_i, U$$

$$\dot{\mathbf{p}}_i = -\nabla U$$

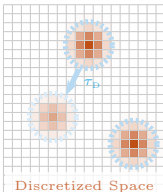
Density Field

$$\rho(\mathbf{r})$$

$$\dot{\rho} = \nabla^2 \left( \frac{\delta F}{\delta \rho} \right)$$



Vector Space



Discretized Space

# Timescales:

