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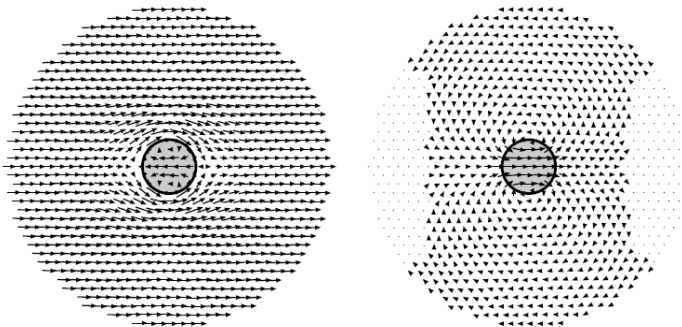


Non-equilibrium behaviour:

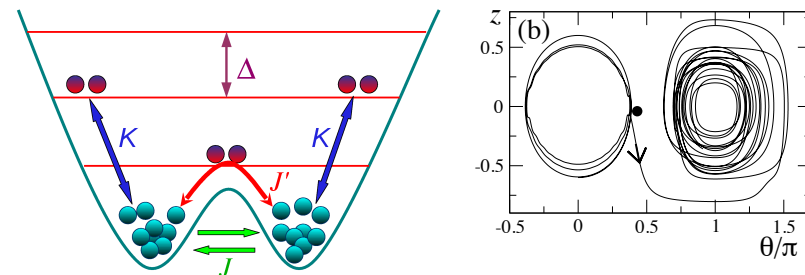
- long timescales of cold atomic gases
- sudden switching and subsequent relaxation and thermalisation
- SC vortices in time-dependent fields

Emergent behaviour:

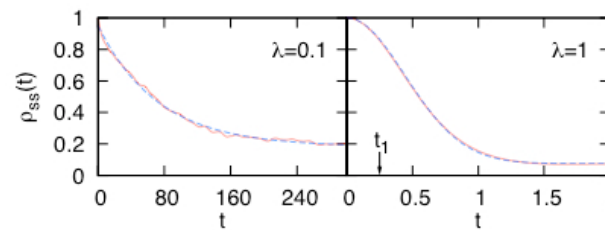
- Topological excitations, emergent collective modes, quantum fluctuations



Supercurrents around pinned vortex in time-dependent external field



BEC in a double-well potential after abrupt decrease of barrier height; oscillations show different time scales (right)



Exponential relaxation vs. Gaussian relaxation towards equilibrium in a small system coupled to a bath.

