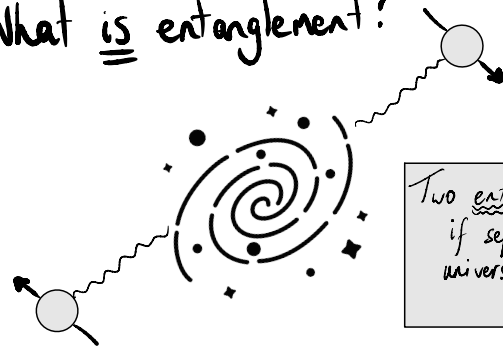


How does entanglement evolve in quantum gases?

What is entanglement?

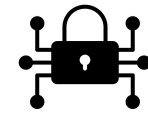


Two entangled particles — even if separated by the entire universe — can 'communicate' without time delay

Why study entanglement?



Quantum Teleportation



Quantum Encryption



Quantum Computing

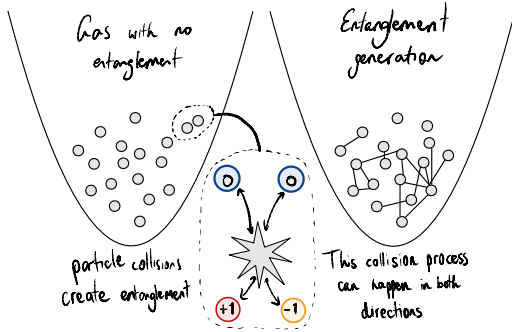


Quantum Metrology

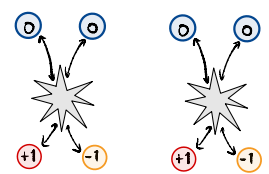
Our Research with Ultracold Quantum Gases

"Ultracold" here means 0.00000001K ($\sim -273.15^\circ\text{C}$)!

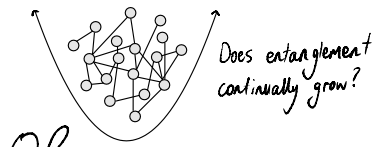
Ultracold quantum gases are ideal systems to study complex quantum phenomena



Propagate system and ask HOW DOES ENTANGLEMENT EVOLVE?

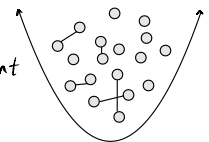


many particle collisions



OR

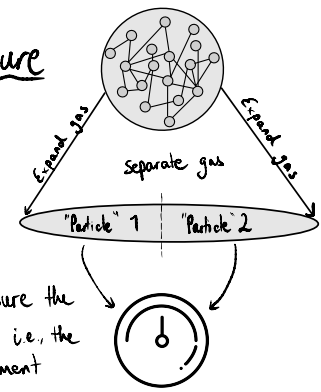
Does entanglement disappear?



OR

something else?

How to measure entanglement



The measurement itself is incredibly hard! The central goal of this project is to improve upon current techniques.

time