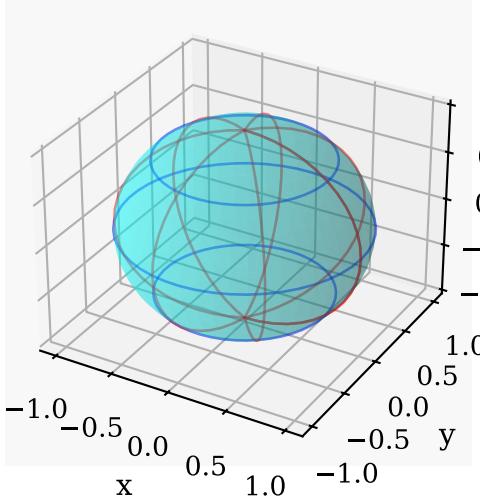
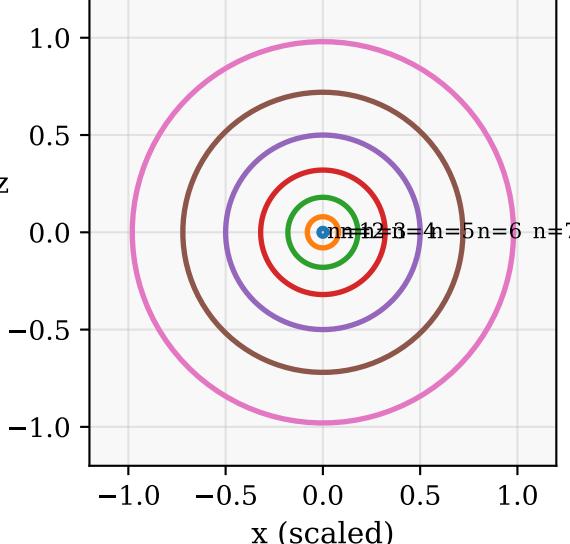


Spatial Structure, Matter, and Energy

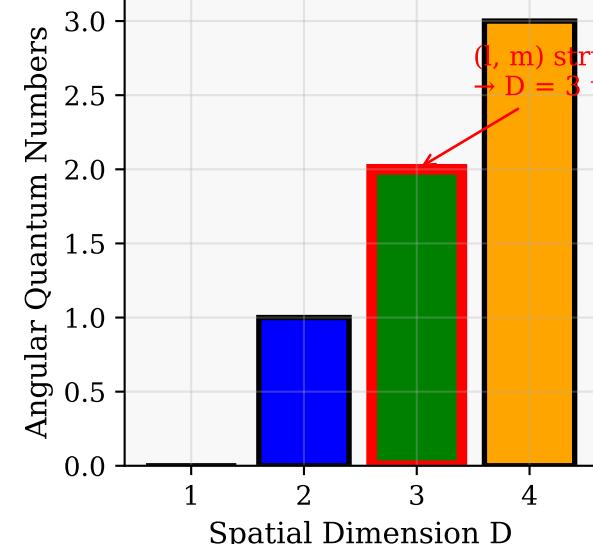
3D from Angular (l, m) Spherical Coordinates



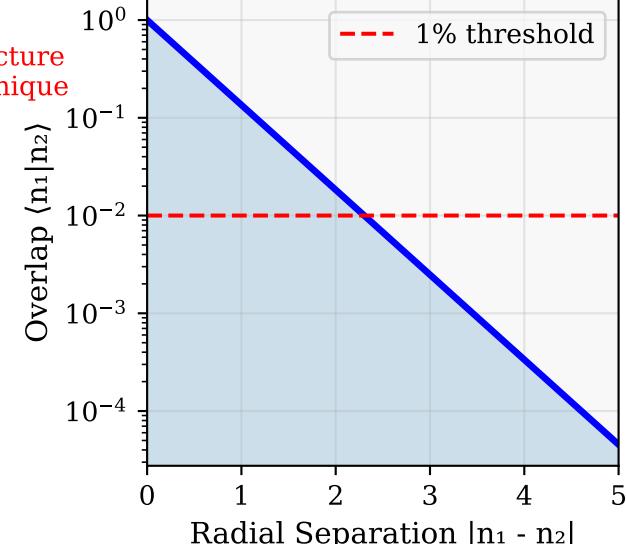
Radial Extension $r \propto n^2$ (Bohr scaling)



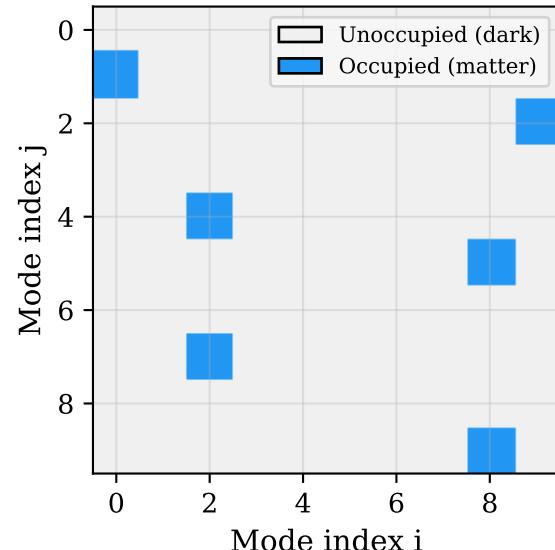
Dimensionality from Partition Constraints



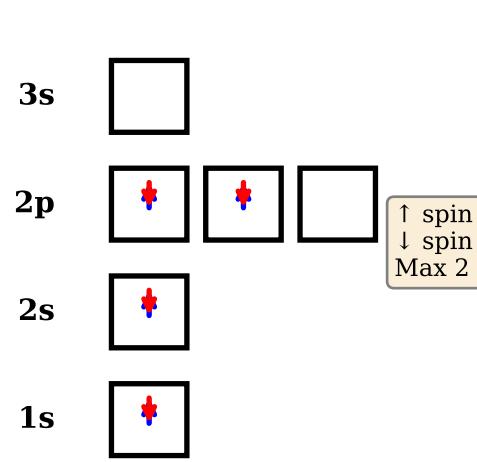
Locality Principle (Exponential decay)



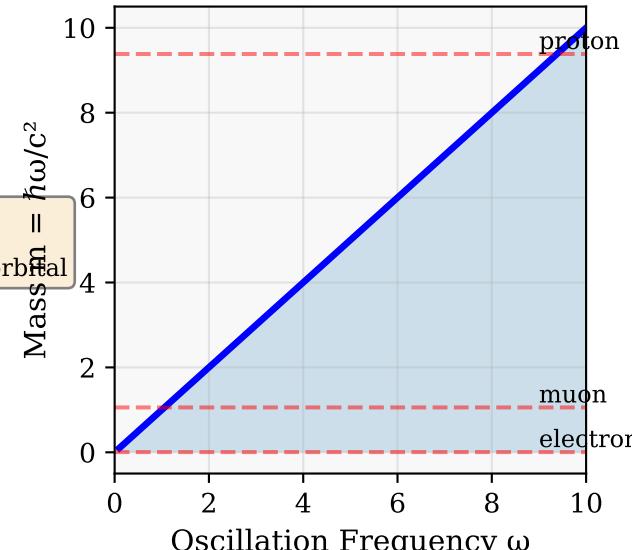
Mode Occupation 6/100 occupied (5%)



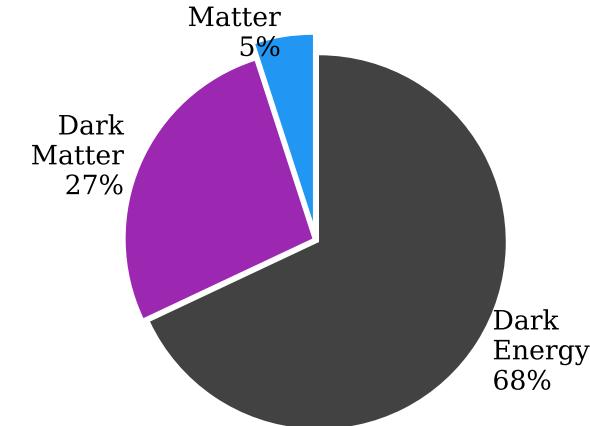
Exclusion Principle (Coordinate Uniqueness)



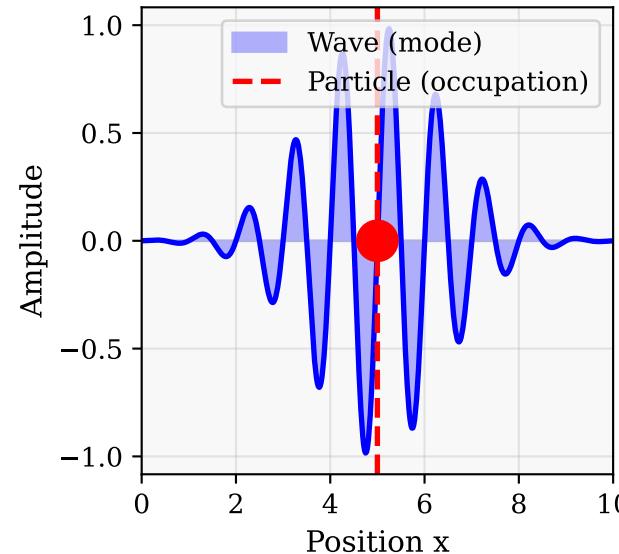
Mass-Frequency Identity $m = \hbar\omega/c^2$



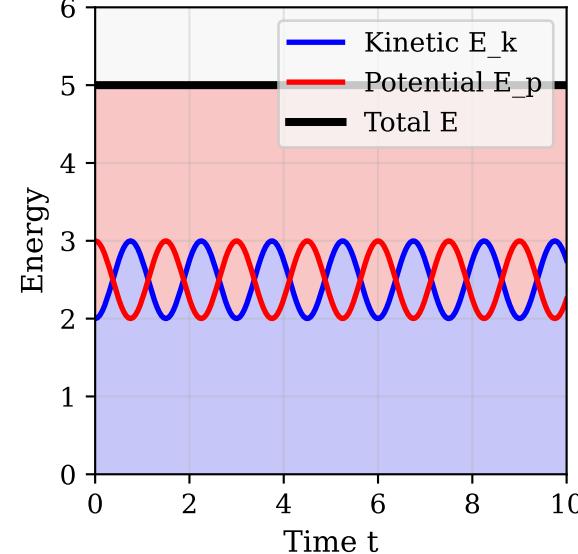
Cosmic Mode Occupation (Occupied vs Unoccupied Matter)



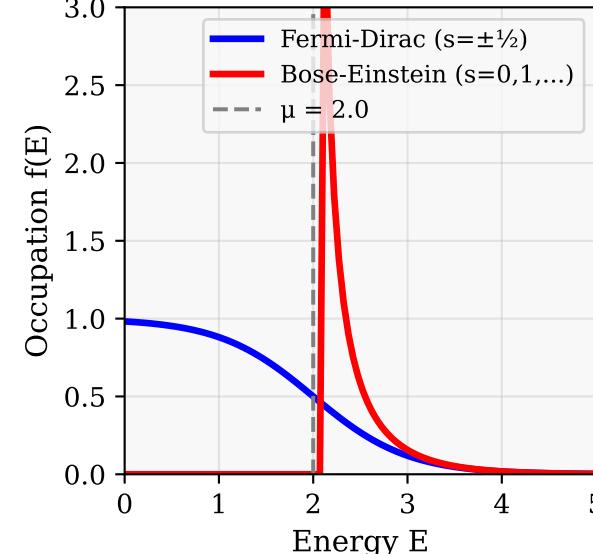
Wave-Particle Duality (Mode vs Occupation)



Energy Conservation $dE/dt = 0$



Mode Occupation Statistics (Fermions vs Bosons)



Vacuum Energy (Unoccupied Mode Contribution)

