

The Wavefunction

Physics

What ψ is, and what its square means.

Reading a wavefunction.

The objects

$\psi(x, t)$ — complex, holds everything knowable

$|\psi|^2$ — probability per unit volume

Normalisation — total probability is exactly 1

Operators — extract observable quantities

Eigenstates — states with definite values

How it behaves

Schrödinger equation governs its evolution

That evolution is fully deterministic

Measurement yields one outcome only

Interpretations differ on what collapse is

Randomness enters only at measurement

The determinism sits in the evolution of ψ . The randomness enters only when a measurement is made.