

Schrödinger's Cat:

How seriously do we take superpositions?

- We now know that we can put a quantum object into a superposition of states.
- But if quantum mechanics is completely correct, shouldn't macroscopic objects end up in a superposition state too?
- This puzzle is best exemplified by the famous "Schrödinger's cat" paradox:
 - A radioactive nucleus can decay, emitting an alpha particle. This is a quantum mechanical process.
 - The alpha particle is detected with a Geiger counter, which releases a hammer, which breaks a bottle, which releases cyanide, which kills a cat.
 - Suppose we wait until there is a 50:50 chance that the nucleus has decayed.

Is the cat alive or dead?

