

PARADOXES OF QUANTUM MECHANICS

By J. VON NEUMANN

Princeton University Press, Princeton, New Jersey, 1955

The paradoxes of quantum mechanics are those phenomena which cannot be explained by the classical theory of physics. They are the phenomena which are described by the quantum theory of physics. The most famous of these paradoxes are the EPR paradox, the Schrödinger cat paradox, and the double-slit experiment.

The EPR paradox is a thought experiment which shows that quantum mechanics is incomplete. It is based on the assumption that there are hidden variables which determine the results of measurements. The Schrödinger cat paradox is a thought experiment which shows that a system can be in a superposition of states. The double-slit experiment is a thought experiment which shows that particles can behave like waves.