

THEORY

1. The first part of the theory discusses the basic principles of quantum mechanics, including the wave-particle duality and the uncertainty principle. It also covers the Schrödinger equation and its applications to various systems.

2. The second part of the theory focuses on the concept of entanglement and its implications for quantum information theory. It discusses how entangled states can be used for secure communication and quantum computing.

3. The third part of the theory explores the foundations of quantum field theory, including the quantization of fields and the role of gauge symmetries. It also touches upon the renormalization process and the Standard Model of particle physics.

Topic	Sub-topics
Quantum Mechanics	Schrodinger equation, wave functions, uncertainty principle
Quantum Entanglement	Bell's theorem, EPR paradox, quantum teleportation
Quantum Field Theory	Quantization of fields, gauge theories, renormalization

EXPERIMENT

