

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 solutions for various potential wells.

2. The second part of the theory focuses on the application of quantum mechanics to solid-state physics, particularly in the context of semiconductors. It discusses the band structure of materials and the behavior of charge carriers in different regimes.

3. The third part of the theory deals with the quantum theory of light, including the photoelectric effect and the Compton effect. It also introduces the concept of photons and their interaction with matter.

Parameter	Value
Energy	10 eV
Wavelength	124 nm
Frequency	9.75 x 10 ¹⁴ Hz
Wave number	8.0 x 10 ⁶ m ⁻¹
Speed	3.0 x 10 ⁸ m/s
Mass	9.1 x 10 ⁻³¹ kg
Charge	1.6 x 10 ⁻¹⁹ C
Spin	1/2
Statistics	Fermi-Dirac

EXPERIMENT

