



ENERGY BAND GAP

Energy Band Gap Experiment

Explanation:

The Energy Band Gap experiment determines the band gap of a semiconductor material by analyzing its electrical conductivity at different temperatures. The energy band gap is the minimum energy required to move an electron from the valence band to the conduction band. This property is crucial in understanding the behavior of semiconductors used in electronic devices.

Application:

- Helps in identifying suitable semiconductor materials for electronic applications.
- Used in designing solar cells, LEDs, and transistors.
- Determines the efficiency of semiconductor-based sensors and optoelectronic devices.

Measurement Table:

Parameter	Value/Unit
Temperature (T)	Kelvin (K)
Conductivity (σ)	S/m
Voltage (V)	Volts (V)
Current (I)	Amperes (A)
Energy Band Gap (E_g)	eV (electron volts)