



Drawbacks of classical free electron theory

- 1) It fails to explain the electric specific heat and the specific heat capacity of metals.
- 2) It fails to explain superconducting properties of metals.
- 3) It fails to explain new phenomena like photo-electric effect, Compton effect, Black body radiation

Advantages of classical free electron theory

1. It explains the electrical conductivity and thermal conductivity of metals.
- 2) It explains the Wiedemann - Franz law.
- 3) It verifies Ohm's law.
- 4) It is used to explain the optical properties of metals.