

PHOTO ELECTRIC EFFECT.

- when light of certain minimum frequency is incident on metal surface electrons are ejected from metal this effect is called photoelectric effect. electrons which are ejected are called photoelectrons.

Observation

- ① The minimum frequency of incident light (which shows photoelectric effect) at which electrons are ejected from metal surface is called threshold frequency ν_0 .
- ② at frequency ($\nu < \nu_0$) even at high intensity electrons are not ejected from metal surface.
- ③ at frequency ($\nu \geq \nu_0$) with increase in intensity no. of electrons ejected increases but kinetic energy of electrons remain constant.
- ④ with increase in frequency ($\nu > \nu_0$) kinetic energy of electron tend to increase.

→ electromagnetic wave theory could not explain the following point -

- ① why there is a need of certain minimum frequency for photoelectric effect
- ② why increasing the intensity does not cause