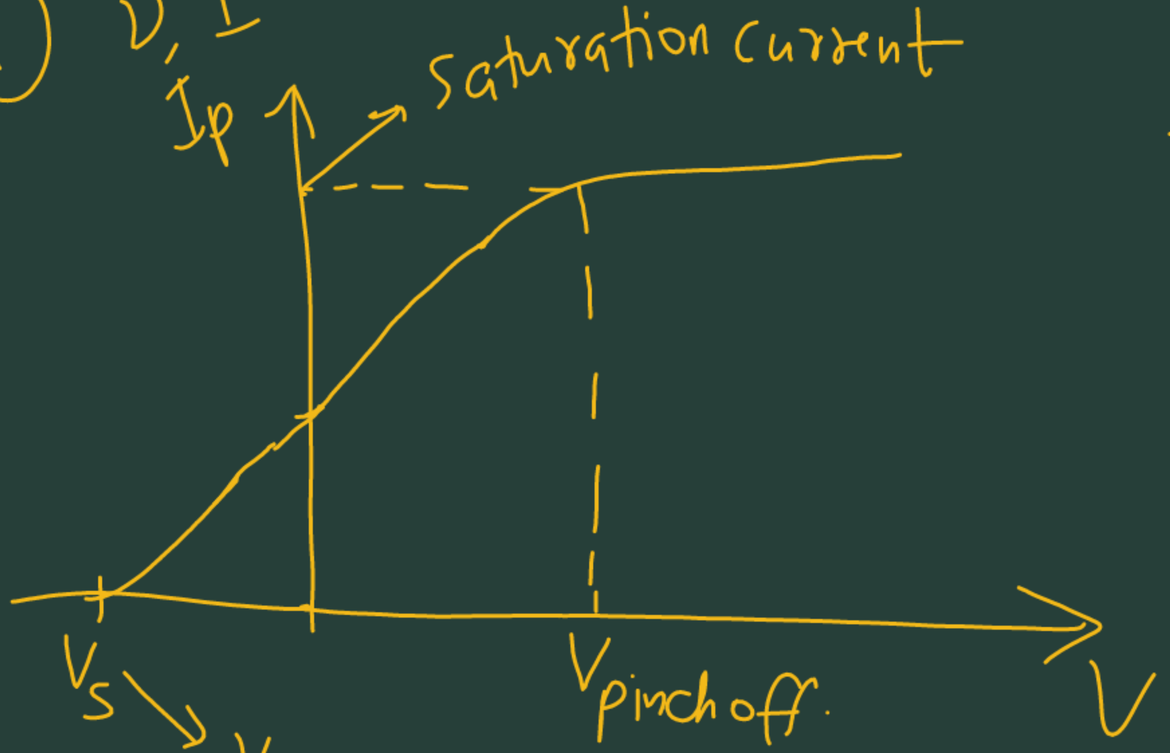
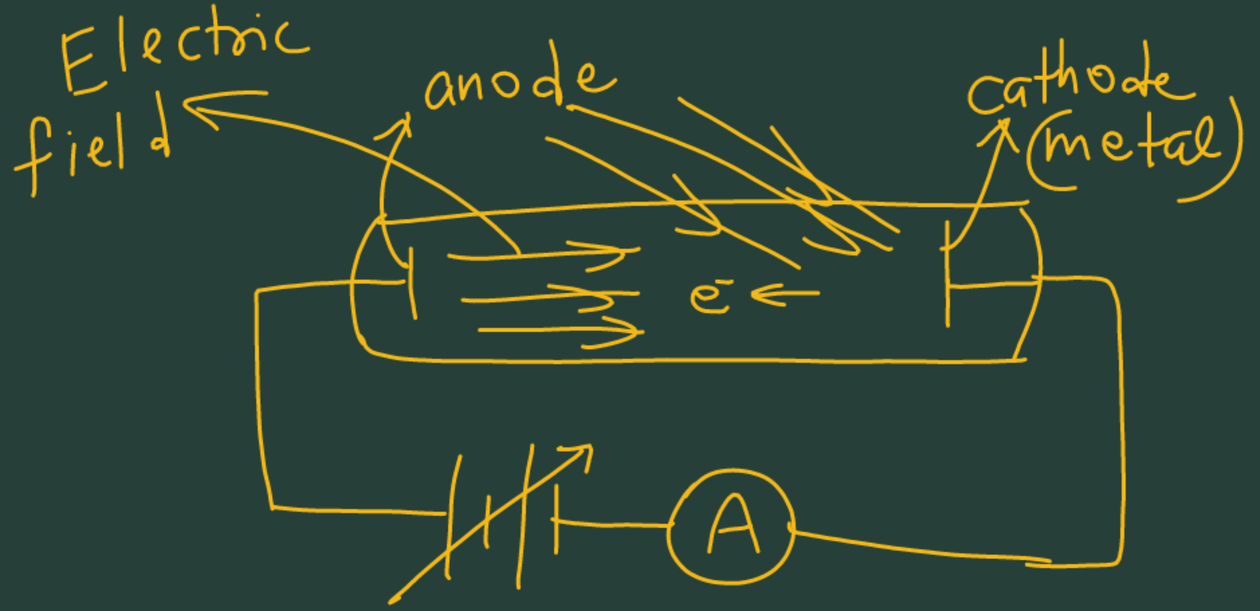
(1) V, I



$V_{stopping\ potential}$ → The negative potential applied at the anode which will stop all the e^- from reaching anode.

$$eV_s = K_{max} = h\nu - \phi$$

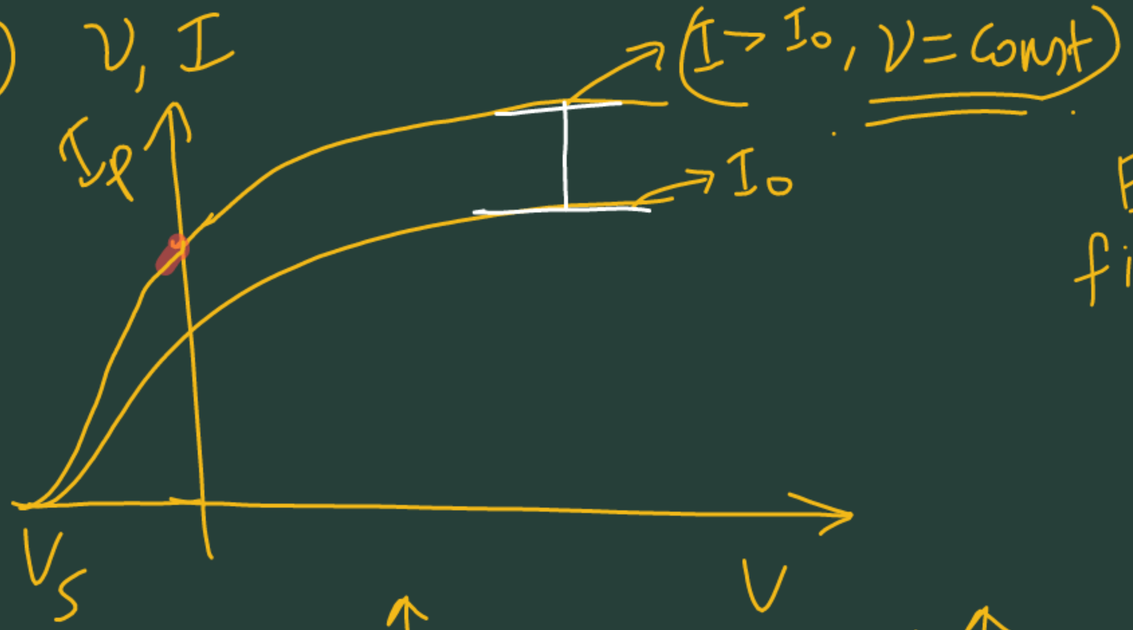


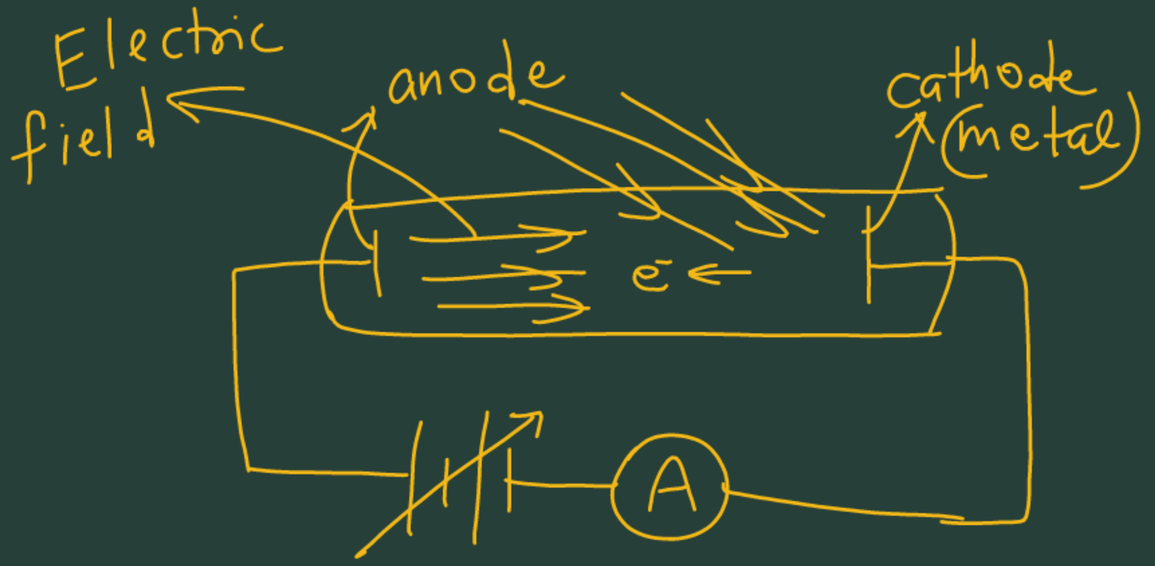
Photoelectric effect expt setup.

Dep. param → I_p, K.E., V_s

Indep. → V, I, ν, ϕ, λ_0, ν_0

① V, I





Photoelectric effect expt setup.

Intensity ↑ ⇒ No of photons/s ↑ (provided V = const)

E ⇒ V ↑ (provided no of ph/s = const)

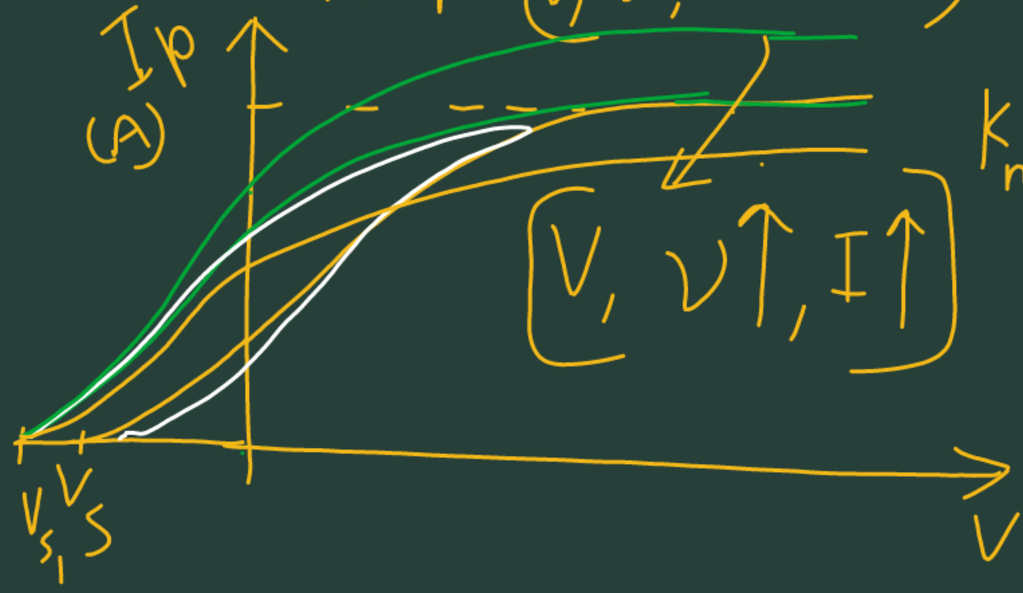
total energy (Normal area)(sec) ⇒ V ↑ no of photons/s ↑

Dep. param → I_p, k.E, V_s

Indep. → V, I, V (ϕ / d_0, ν_0)

② I_p V/s Voltage (freq. variation)

indep → (V, ν, I = const)



$[V, \nu\uparrow, I\uparrow]$

$K_{max} = h\nu - \phi$

$eV_s = K_{max}$

Photoelectric effect expt setup.

Dep. param → I_p, K.E., V_s

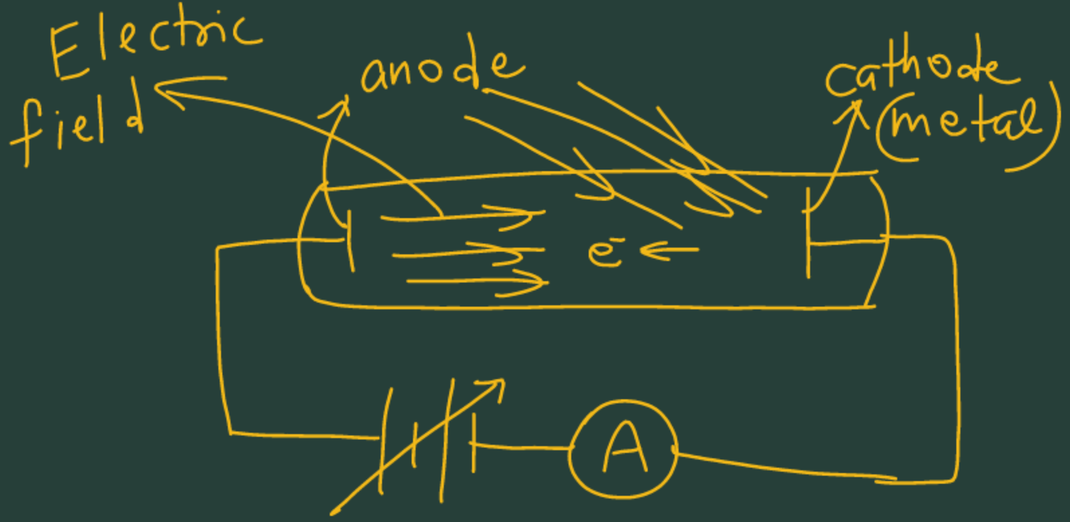
Indep. → ν → V, I, V, ϕ, λ_0, ν_0

(3) I_p v/s Intensity (V const)

(Volt. const)

Intensity:

(ν = const
no. of photons/s ↑)

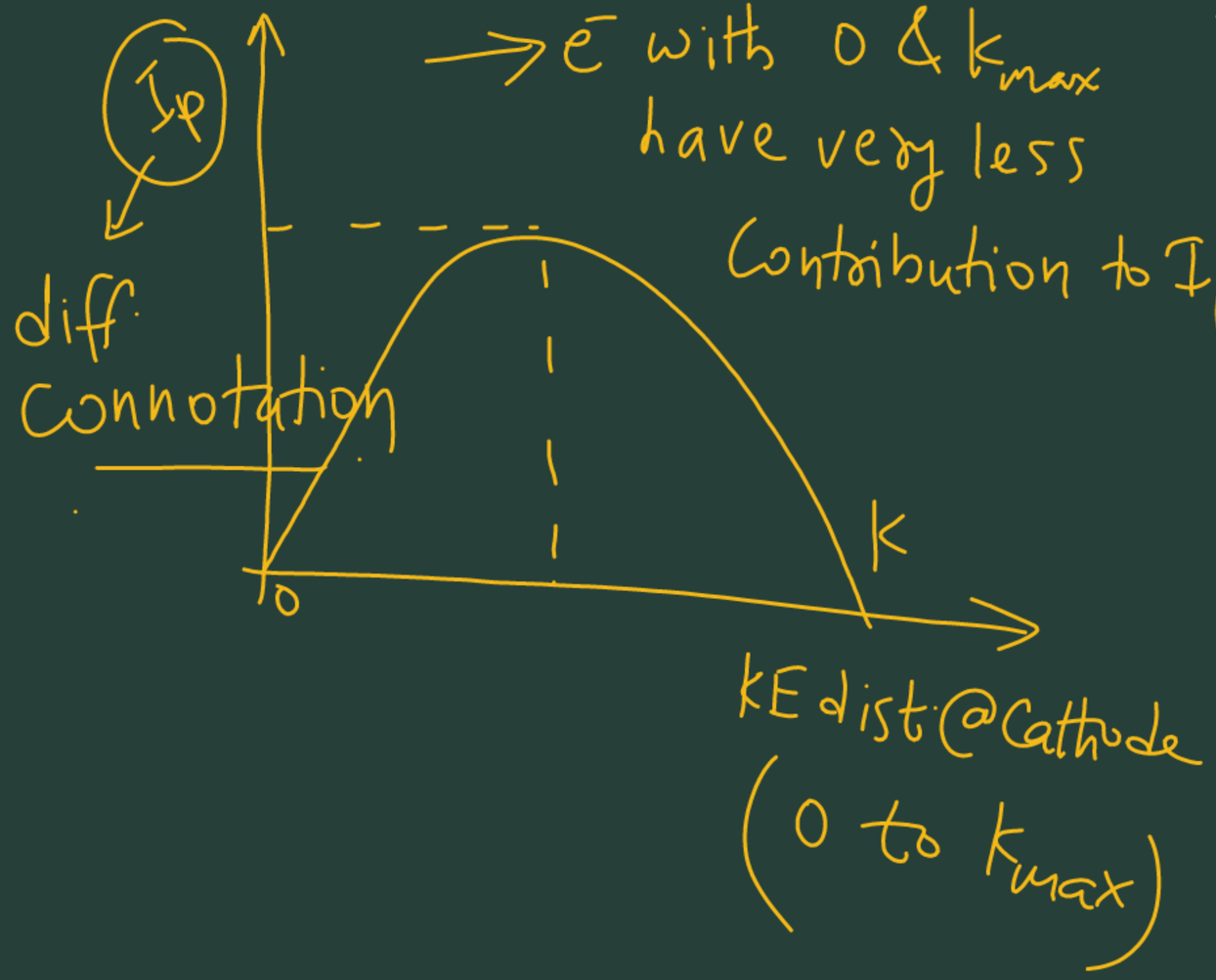


Photoelectric effect expt setup.

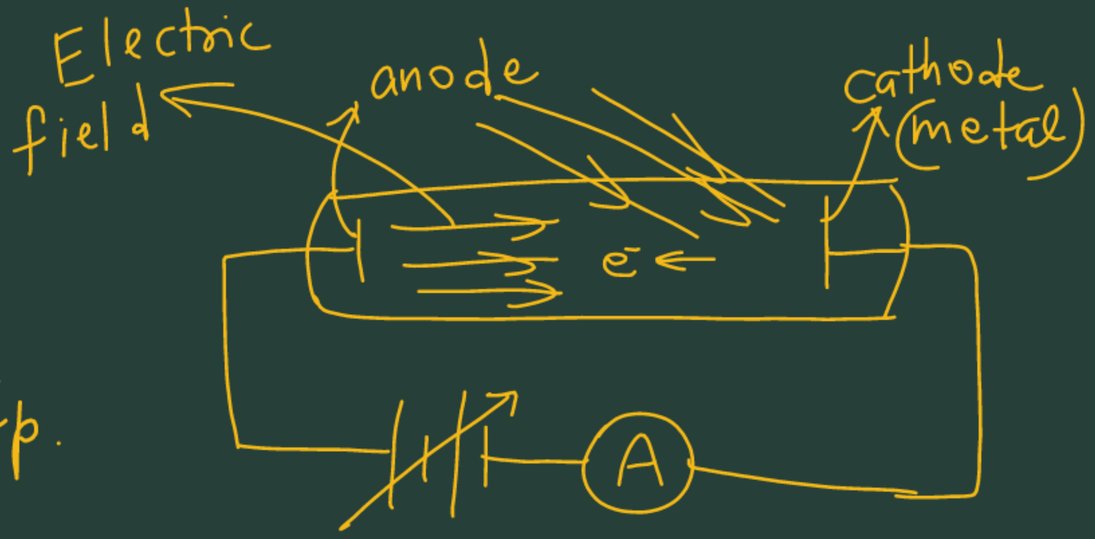
Dep. param → I_p, K.E, V_s

Indep. → ν, I, V, ϕ, λ_0, ν_0

④ I_p v/s KE distribution @ cathode.



→ e^- with 0 & K_{max} have very less Contribution to I_p.



Photoelectric effect expt setup.

Dep. param → I_p, K.E., V_s

Indep. → ν, I, V, ϕ, d_0, ν_0