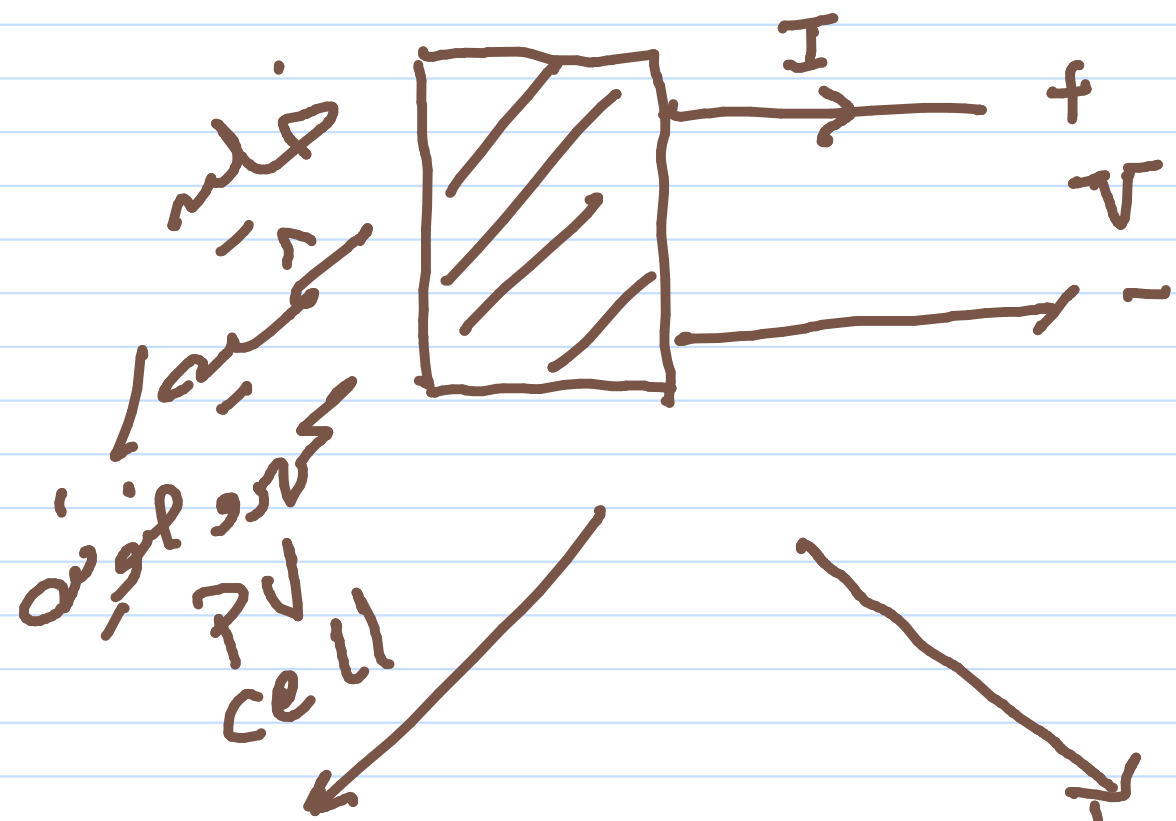


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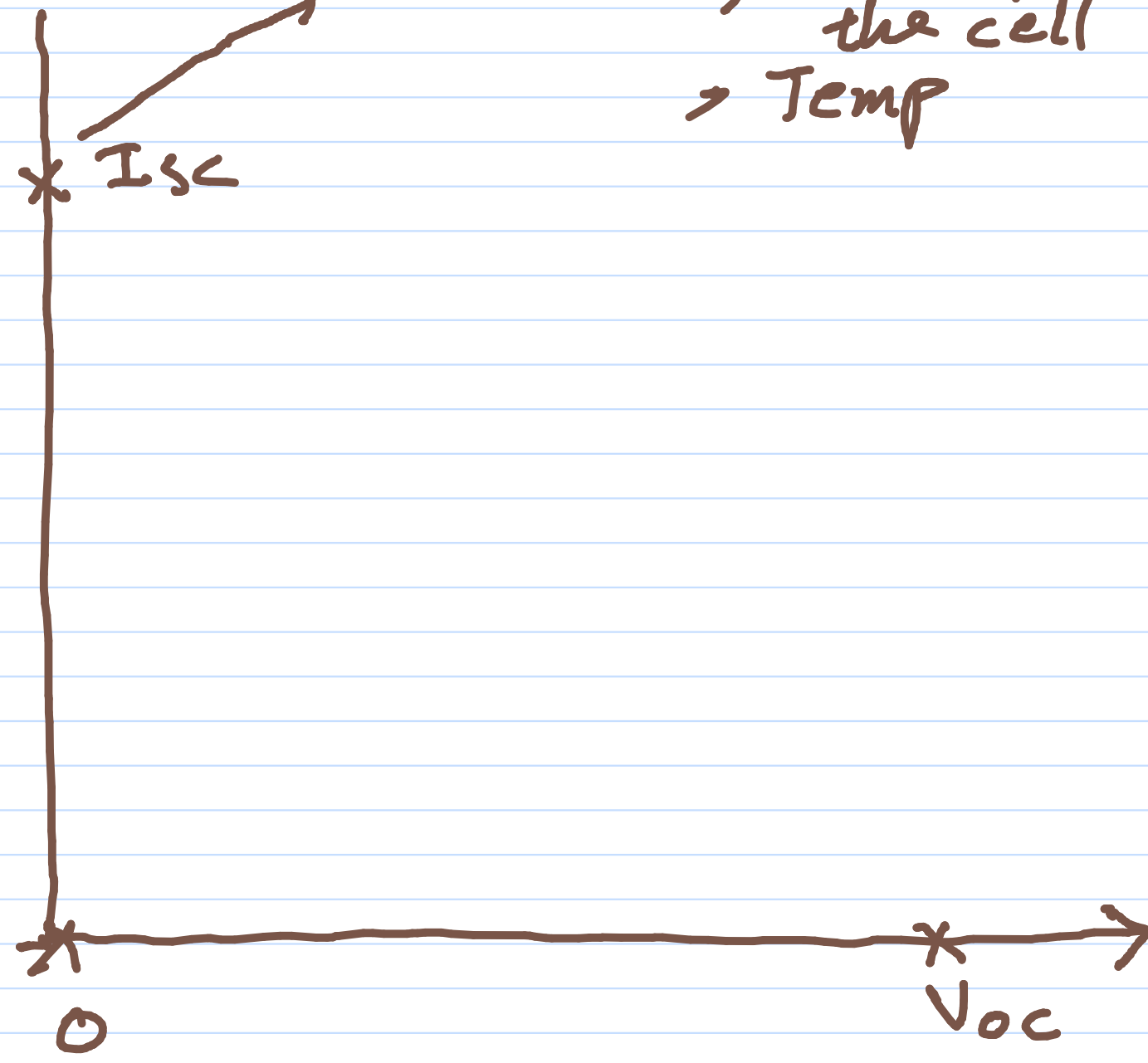


خلاصه  
 PV cell

The main characteristic

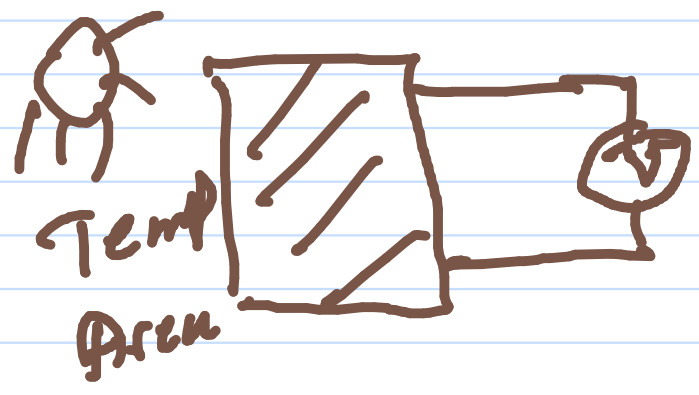
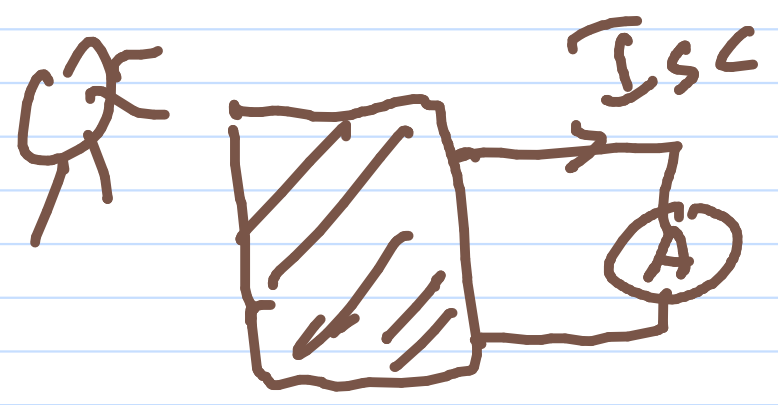
is I-V curve

I  
 irradiance, Area of the cell  
 Temp



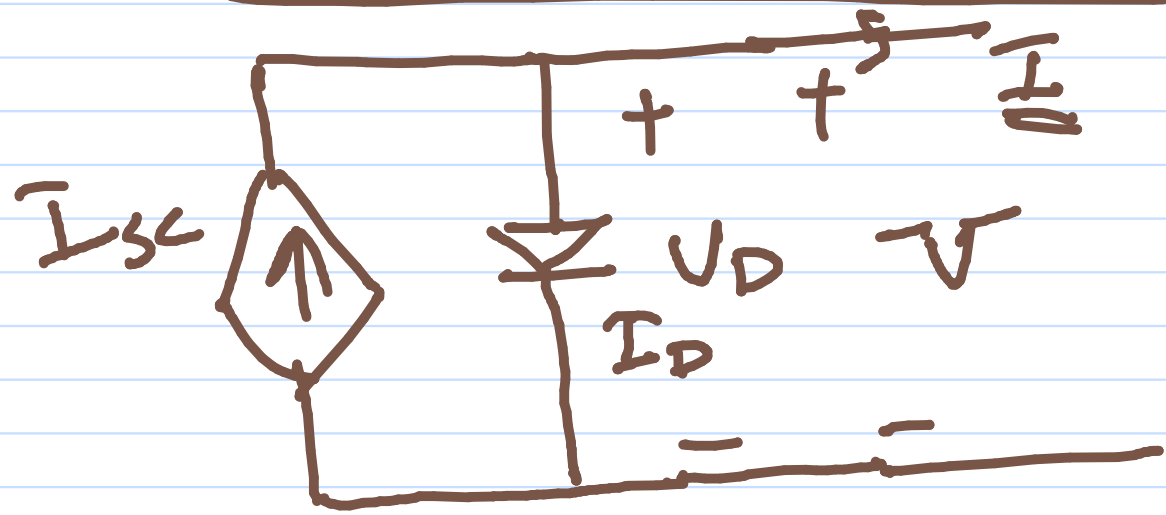
if  $V=0$   
 $I=I_{sc}$

if  $I=0$   
 $V=V_{oc}$



Temp  
 Area

# 1) Simple Equivalent circuit



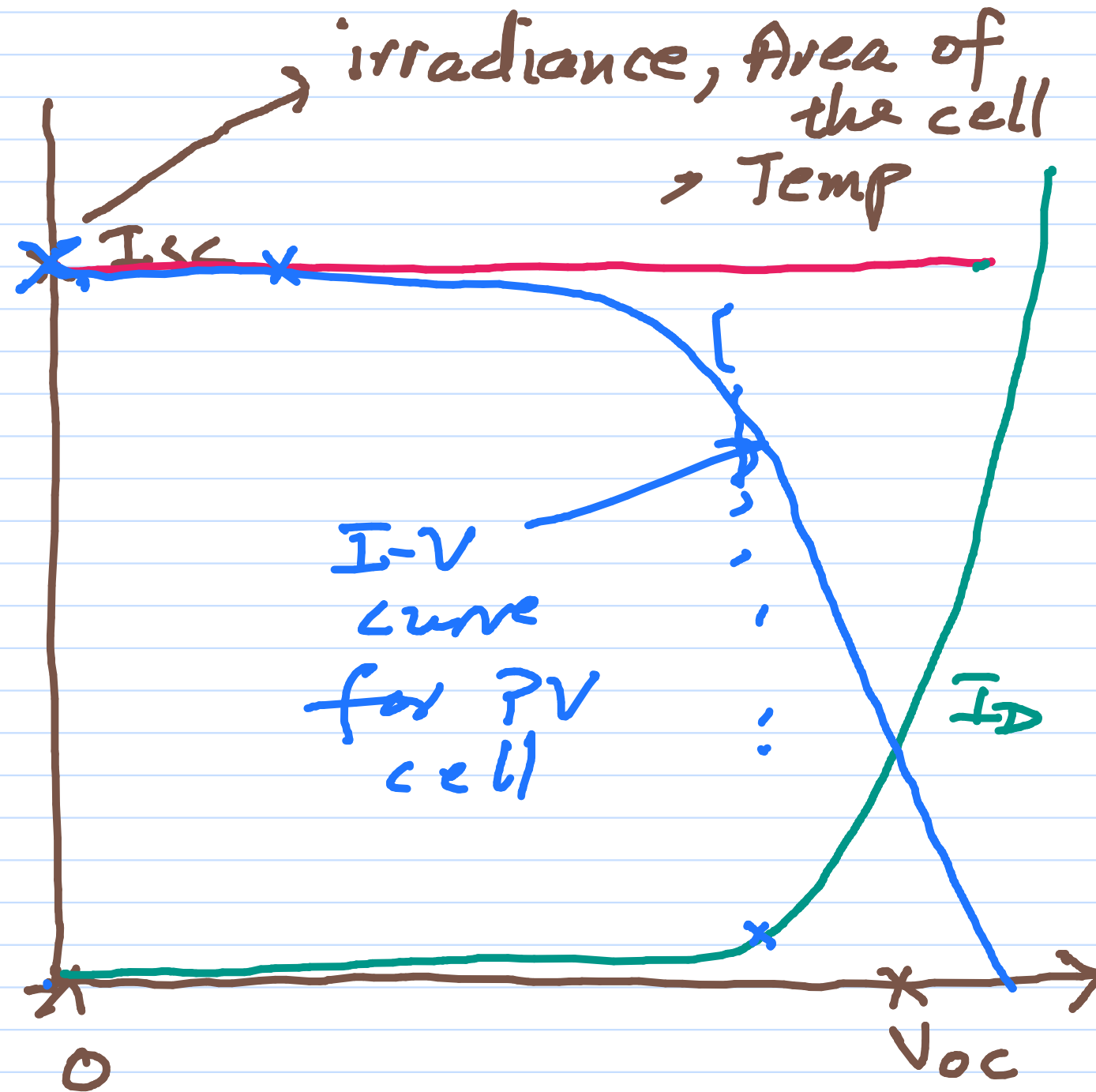
$I_D = f(V_D) \rightarrow$  exponential



$$I = I_{sc} - I_D$$

$$= \text{const} - I_D$$

The main characteristic is I-V curve



# Project

for each  $n$ ,  $z = \text{Latitude}$ ,  $\phi_c = 0$   
 $n=1$   $= 32^\circ$

↓ Clear Sky Irradiance

