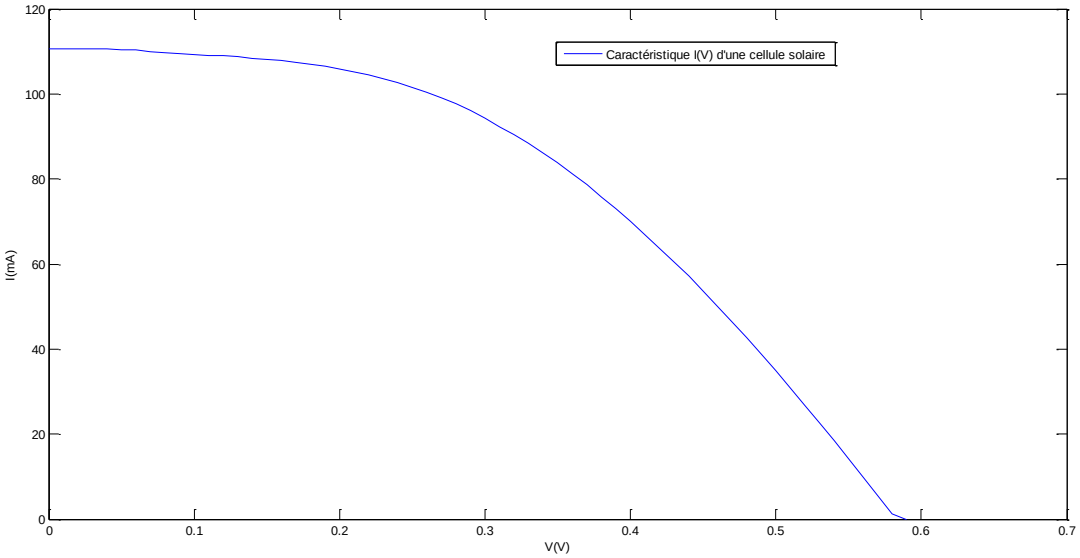
Correction TD4

1.1. La caractéristique I(V)



1.2. Le courant de court-circuit et la tension du circuit ouvert

Isc=110.63 mA Vco=0.59 V

I(mA)	110.63	110.57	110.57	110.57	110.57	110.44	110.44	110.00	109.59
V(V)	0.0000	0.0100	0.0200	0.0300	0.0400	0.0500	0.060	0.0700	0.0800
P(mW)	0.0	1.1057	2.2114	3.3171	4.4228	5.522	6.6264	7.7	8.7672

I(mA)	109.39	109.20	109.07	109.00	108.81	108.41	108.08	107.83	107.44
V(V)	0.0900	0.1000	0.1100	0.1200	0.1300	0.1400	0.1500	0.1600	0.1700
P(mW)	9.8451	10.92	11.998	13.08	14.145	15.177	16.212	17.253	18.265

I(mA)	106.46	105.94	105.22	104.50	103.65	102.67	101.63	100.33	98.96
V(V)	0.1900	0.2000	0.2100	0.2200	0.2300	0.2400	0.2500	0.2600	0.2700
P(mW)	20.227	21.188	22.096	22.99	23.840	24.640	25.408	26.086	26.719
I(mA)	97.59	96.02	94.26	92.37	90.35	88.475	86.194	83.81	
V(V)	0.2800	0.2900	0.3000	0.3100	0.3200	0.3300	0.3400	0.3500	
P(mW)	27.325	27.846	28.278	28.635	28.912	29.197	29.307	29.334	

I(mA)	81.278	78.61	75.846	72.992	70.047	66.961	63.771	60.453	57.057
V(V)	0.3600	0.3700	0.3800	0.3900	0.4000	0.4100	0.4200	0.4300	0.4400
P(mW)	29.26	29.086	28.822	28.467	28.019	27.454	26.784	25.995	25.105

I(mA)	53.565	49.97	46.329	42.592	38.752	34.879	30.846	26.761	22.586
V(V)	0.4500	0.4600	0.4700	0.4800	0.4900	0.5000	0.5100	0.5200	0.5300
P(mW)	24.104	22.986	21.775	20.414	18.989	17.440	15.732	13.916	11.970

I(mA)	18.397	14.138	9.834	5.57	1.18	0.00			
V(V)	0.5400	0.5500	0.5600	0.5700	0.5800	0.5900			
P(mW)	9.934	7.776	5.507	3.175	0.684	0.0			

1.3 les coordonnées du point de puissance maximum P_m.

Pmax= 29.334 mW $\Rightarrow$ Im=83.81 mA, Vm=0.35 V

1.4. Calculer le facteur de forme FF

FF=(Im.Vm)/(Isc.Vco)= (83.81 10^{-3}x0.35)/(110.63 10^{-3}x0.59)=0.45=45%

1.5. La résistance Série et la résistance parallèle

Rs=ΔV/ΔI au voisinage de Vco $\Rightarrow$ Rs=0.01/1.18 10^{-3}=10/1.18=8.47 Ω

Rp=ΔV/ΔI au voisinage de Isc $\Rightarrow$ Rp=0.01/0.06 10^{-3}=1000/6=166.7 Ω

1.6. La puissance incidente

η=Pmax/Pi $\Rightarrow$Pi=Pmax/η=29.334 10^{-3}/0.0833$\approx$352 mW