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ECONOMICAL GROWTH OF PHOTOVOLTAIC CELLS

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ABSTRACT

Photovoltaic cell (PVC) is a semiconductor device generally PN type semiconductor device. PVC plays a vital role in electricity generation. There are various classes of PVC mainly Organic, inorganic and hybrid. Mostly customers complain that their PVC is not producing electricity proficiently. Another problem which is associated with PVC is its less charging time or less visibility of the sun during day time. The aim of this study is to address the aforementioned problems associated with PVC. Our team proposes the main solutions in this regards one is use of Plano-convex lens over solar cell to get the strong beam provide that will enhance the photon rate of emission and second one is economical factors of PVC. In this research work we are applying the model of photovoltaic cell with the help of statistical model and interpolation method. In this model, we find the economical ratio and factors of PVC cell and conclude the moral benefit of PVC cell globally. Our study proves that proposed system is more efficient than the conventional PVC.

Key Words: Photovoltaic cell, Solar cell, Photon.

INSPEC Classification : A9555L, A9630, B5270

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1. INTRODUCTION

Some kind of solar cell, or maybe PV (Photovoltaic) cell, is an electrical device in which converts the vitality of light into electricity from the particular photovoltaic effect. It is just a sort of photoelectric cell phone, defined as being a device whose electrical characteristics, including present, voltage, or resistance, change when encountered with light. Solar cells are the inspiration of photovoltaic adventures, otherwise called solar power systems. Solar cells are termed being photovoltaic whether the source can be sunlight or possibly a great artificial light. They utilized as a new photo-detector (for situation infrared detectors), detecting light or even other electromagnetic radiation near the particular visible range, or maybe testing light power. The operation in the photovoltaic (PV) cell phone requires three fundamental attributes: The data compression of light, making either electron-hole pairs or exactions. The separating of charge companies of opposite varieties. The separate extraction of these carriers to a great exterior circuit On the other give, a solar energy collector supplies heat by absorbing sunlight, for the intent behind either direct warming or indirect power generation from heat. A "photo-electrolytic cell" (photo-electrochemical cell), then again, refers either to a selection of photovoltaic cell (like that come up with by Edmond Becquerel as well as modern dye-sensitized photo voltaic cells), or right into a device that splits water into hydrogen and oxygen only using solar illumination. Despite the fact that a massive measure of solar light energy is always hailing from the sun to the earth, all that solar light energy is spread out over an extremely huge area of the earth. This foam of energy is free and natural agreeable. New conceivable outcomes are opened up provided that we change over gather sun light energy into electrical signs. This is our region of research where huge zone daylight is centered into much smaller zone further this range will be utilized to produce power utilizing PVC Photovoltaic unit. The methodology of change of daylight into power through photovoltaic unit is reputed to be Photovoltaic impact or solar cell. Light is a type of energy and embodies photons and electromagnetic waves [2][3][4]. In the same way photovoltaic cell depend on upon recurrence of electromagnetic waves and photons. Photon is much the same as an energy bundle and depends on upon two major terms time and space. Photon is meant by ? (the Greek letter gamma), it is mass less, has no electric charge, and is stable [5]. Photons are generally symbolized by “h?”, though "h" is Planck's steady and the Greek letter “?’” (nu) is the photon's recurrence. There is an alternate relationship between Photon and recurrence which is symbolized by “hf” [6][7]. Twofold opening trial is the well-known case of photons; solar cell range controls diverse wavelengths of light which causes distinctive energy Level of photons. One of the noble technique is to generate more power from PVC is the use of focused daylight which helps PVC to assimilate more photons for every unit region. At the end of the day more power will be prepared from a much more diminutive sunlight based cell. The energy and force of a photon depend just on its frequency “?” or conversely corresponding to its wavelength “?” [8][9].so its exceptional to channel bigger electromagnetic waves to show signs of improvement quality comes about. Plano arched lens is an alternate strategy to process thought sun based light. Lens gathers the substantial range daylight, centered it straightforwardly towards photovoltaic cell on the little face of the piece, bringing about a focus impact and more photon emanation from a solitary PVC. Photon cloning is conceivable or one photon will be changed over into two Photons if episode photons assimilated in energized particle results opening and ground state iota with

two photons [10][11]. The PVC is a robust state semiconductor that handles immediate current or power. The point when occurrence photon is retained by the solar cell, it removes an electron from the molecule and abandons the gap. The gap is similar to a rise in the water and draws in other accessible free electrons. Regarding hardware free electrons will stream towards "P" side of a PN intersection. The after effect of PN intersection is the stream of free electrons or stream of power will happen. Gallium arsenide “GaAS” are utilized within PVC on a business scale, its ultra-high productivity is above 30% .Although both components Gallium arsenide are electrically unbiased, n-sort “As” has abundance electrons and p-sort “Ga” has overabundance gaps, by Sandwiching these components together makes a PN intersection at their interface, consequently making an electric field. There are two significant classes of Photovoltaic unit a. an Organic “OPV” b. Inorganic “IPV”. A natural sun based unit “OSC” or plastic solar cell is a kind of natural hardware which manages long chain polymer or conductive natural polymers .OSC is handled by exceptional procedure called atom designing it means making an advantageous ISO-polymer with proper energy hole, which upgrades the retention of photon in a natural particle of OSC. The principle detriment of OSC is low effectiveness and less sturdy as contrasted with inorganic photovoltaic cells. There are few different sorts of photovoltaic units that can change over infrared “IR” or ultraviolet “UV” radiation into power. When these polymers absorb a photon, an excited state is created where electron leaves its position, hole will be created which attract other free electrons. At the nuclear level power into the straight change of light is the Photovoltaic. Discharge electrons and photons of light that makes them retain the photoelectric impact reputed to be the property of show a few materials. The point when caught are the aforementioned free electrons, power that could be utilized as an electric current comes about. An electric field from uncommonly treated to a slim semiconductor wafer, one side on positive and the other on negative. The solar cell strikes the light energy, while, semiconductor material in the molecules from detached the electrons are thumped. In the event that the positive and negative sides are connected to the electrical channels, an electrical circuit shaping, power that is, an electric present in the manifestation of the electrons might be caught. The force a burden can then be utilized to this power, for example an instrument or a light. Electrically associated with one another various photovoltaic units and outline or structure back in a mounted regarded as photovoltaic module. At a certain voltage to supply power Modules are planned, for example 18 volt of normal framework. The module strikes light what amount of onward straightforwardly is transformed the present.

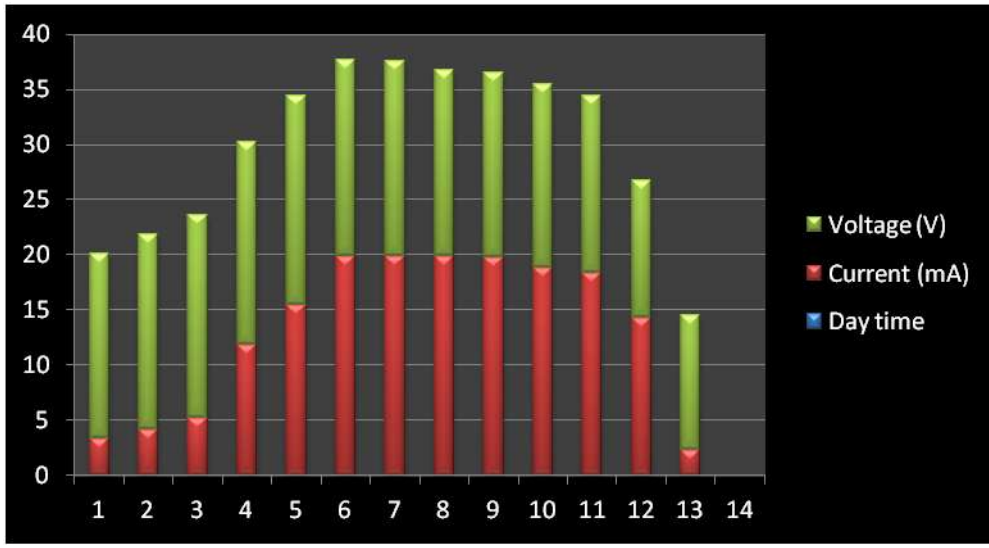
2. METHODOLOGY

The motivation behind this study is to put solar panels inorganic efficient use two different technologies is one solar spectrum in a dark room with the help of a yellow bulb and the other one is a Plano-convex lens. There are two layers over PVC one is solar spectrum and Plano-convex lens. Solar spectrum strengthens the light signal (and we are using five different ranges of solar spectrum and every band has a different wavelength and frequency) while gathering light from the lens coverage area.
As we know that photovoltaic cell is not working properly. Our research area covered the twelve hours take all reading by using three of all types of PVC.

2.1 For Mono-crystalline cell

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	3.34	16.77
2	8.00A.M	4.13	17.77
3	9.00A.M	5.23	18.31
4	10.00A.M	11.85	18.40
5	11.00A.M	15.50	18.94
6	12.00P.M	19.86	17.86
7	1.00P.M	19.88	17.65
8	2.00P.M	19.82	16.90
9	3.00P.M	19.80	16.71
10	4.00P.M	18.78	16.72
11	5.00P.M	18.34	16.14
12	6.00P.M	14.33	12.38
13	7.00A.M	2.33	12.22
14	8.00A.M	0	0

Table 1: Reading about mono-crystalline cell without Plano convex lens



Graph 1: Graph about mono-crystalline cell without Plano convex lens

2.1.1 Applying Interpolation Method for Current

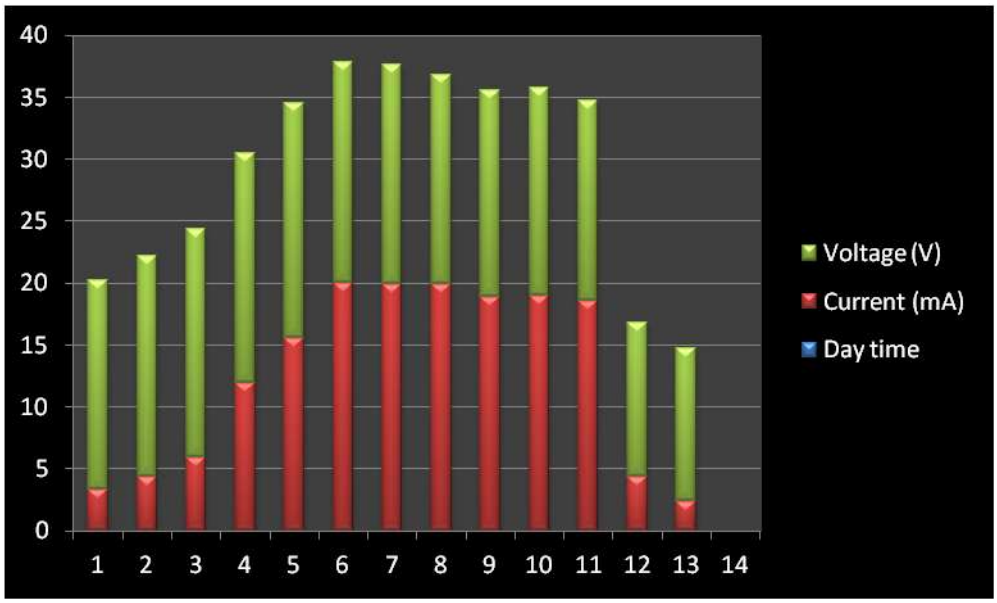
S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	3.34													
			0.79												
2.	8.00am	4.13		0.31											
			1.1		5.21										
3.	9.00am	5.23		5.52		-13.7									
			6.62		-8.49		25.87								
4.	10.00am	11.85		-2.97		12.17		-46.77							
			3.65		3.68		-2.09		-85.71						
5.	11.00am	15.50		0.71		-8.73		38.94		-156.14					
			4.36		-5.05		18.04		274.49		-70.43				
6.	12.00pm	19.86		-4.34		9.31		-31.49		118.35		-461.63			
			0.02		4.26		-13.45		47.92		-187.14		741.22		
7.	1.00pm	19.88		-0.08		-4.14		16.43		-68.79		-279.59		-1129.49	
			-0.06		0.12		2.98		-20.87		92.45		-388.27		**1322.31**
8.	2.00pm	19.82		0.04		-1.16		-4.44		23.66		- 108.68		192.82	
			-0.02		-1.04		-1.46		2.79		-16.23		84.14		
9.	3.00pm	19.80		-1		-2.62		-1.65		7.43		-24.54			
			-1.02		1.58		-3.11		10.22		-40.77				
10.	4.00pm	19.78		0.58		-5.73		8.57		-33.34					
			-0.44		-4.15		5.46		-23.12						
11.	5.00pm	18.34		-3.57		-4.15		- 14.55							
			-4.01		-4.42		-9.09								
12.	6.00pm	14.33		-7.99		-13.24									
			-12		17.66										
13.	7.00pm	2.33		9.67											
			- 2.33												
14.	8.00pm	0													

2.1.2 Applying Interpolation Method for Voltage

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	16.77													
			1												
2.	8.00am	17.77		-0.46											
			0.54		0.01										
3.	9.00am	18.31		-0.45		-0.11									
			0.09		-0.1		1.14								
4.	10.00am	18.40		-0.55		1.03		0.3							
			-0.046		0.93		1.44		4.86						
5.	11.00am	17.94		0.38		-2.47		5.16		-25.25					
			-0.08		-1.54		6.6		-20.39		45.65				
6.	12.00pm	17.86		-1.13		4.13		-15.23		20.4		-65.84			
			-1.21		2.59		-8.62		0.01		-20.19		741.22		
7.	1.00pm	16.65		-1.46		-4.49		15.22		0.21		623.6		-265.67	
			0.25		-1.9		7.03		0.22		42.17		-388.27		**1304.59**
8.	2.00pm	16.90		-0.44		2.54		-15		23.66		-203.31		645.05	
			-0.19		-0.64		-7.97		42.6		-161.14		84.14		
9.	3.00pm	16.71		0.2		-5.43		2.76		7.43		441.74			
			0.01		-4.79				-76.16		-280.6				
10.	4.00pm	16.72		-4.59		14.2	- 28.93	-48.56		85.68					
			-4.58		9.41				85.68						
11.	5.00pm	12.14		4.82		- 14.63	8.19	37.12							
			0.024		-5.22										
12.	6.00pm	-0.16		-0.4		-6.44									
			-12		- 11.66										
13.	7.00pm	-12.22		- 12.06											
			- 12.22												
14.	8.00pm	0													

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	3.38	16.88
2	8.00A.M	4.33	17.85
3	9.00A.M	5.97	18.35
4	10.00A.M	11.93	18.53
5	11.00A.M	15.52	19.02
6	12.00P.M	19.97	17.91
7	1.00P.M	19.90	17.76
8	2.00P.M	19.86	16.97
9	3.00P.M	18.84	16.76
10	4.00P.M	18.99	16.78
11	5.00P.M	18.55	16.20
12	6.00P.M	4.36	12.40
13	7.00A.M	2.35	12.35
14	8.00A.M	0	0

Table 2: Reading about mono-crystalline cell with Plano convex lens



Graph 2: Graph about mono-crystalline cell with Plano convex lens

2.1.3 Applying Interpolation Method for Current:

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	3.38													
			0.95												
2.	8.00am	4.33		0.69											
			1.64		3.63										
3.	9.00am	5.97		4.32		-10.32									
			5.96		6.69		20.24								
4.	10.00am	11.93		-2.37		9.92		-38.77							
			3.59		3.23		-18.53		-85.71						
5.	11.00am	15.52		0.86		-8.61		41.59		-75.93		-62.22			
			4.45		-5.38		23.06		274.49		65.7				
6.	12.00pm	19.97		-4.52		14.45		-46.02		-10.23		125.05			
			-0.07		4.55		-22.96		47.92		3.48		187.27		
7.	1.00pm	19.90		0.03		-3.51		40.22		-67.5		128.53		-568.111	
			-0.04		-1.01		17.26		-20.87		128.53		-380.84		**11050.02**
8.	2.00pm	19.86		0.98		8.75		-33.08		121.78		- 255.79		481.9	
			-1.02		2.15		-15.82		2.79		-127.26		101.07		
9.	3.00pm	18.84		1.17		-7.07		15.4		-5.48		-154.72			
			0.15		-1.76				10.22		-281.98				
10.	4.00pm	18.99		-0.51		-7.49	-0.42	58.4		-287.46					
			-0.44		-15				-23.12						
11.	5.00pm	18.55		-13.75		50.49	57.98	-186.06							
			-14.19		-25.93										
12.	6.00pm	4.36		12.18		-77.54	-128.08								
			-2.01		-12.52										
13.	7.00pm	2.35		-0.34											
			-2.35												
14.	8.00pm	0													

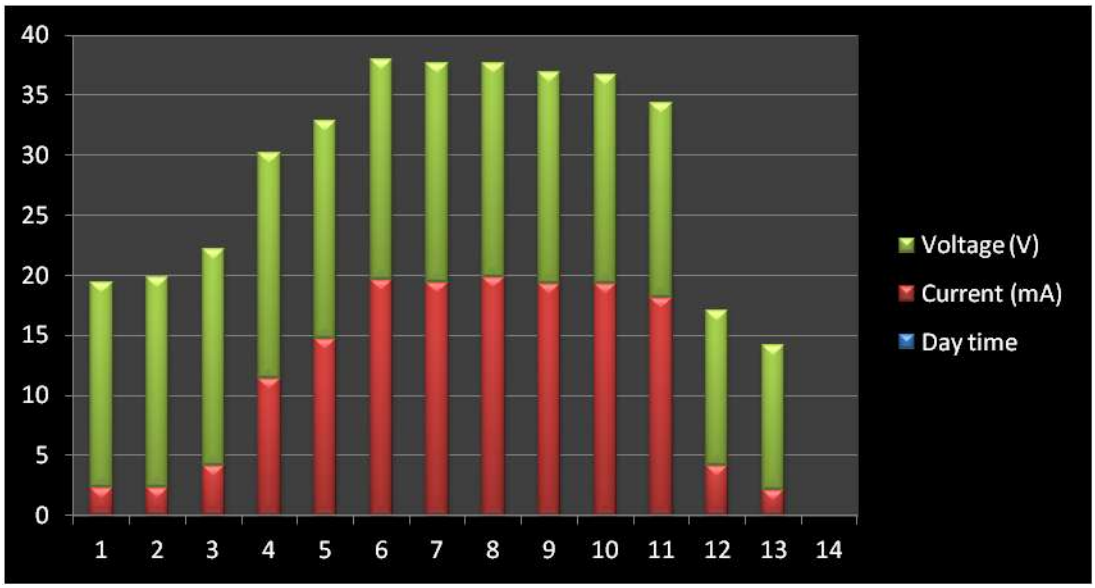
2.1.4 Applying Interpolation Methodfr Voltage:

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	16.88													
			0.97												
2.	8.00am	17.85		-0.47											
			0.5		0.15										
3.	9.00am	18.35		-0.32		0.48									
			0.18		0.63		-3.02								
4.	10.00am	18.53		0.31		-2.54		10.03							
			0.49		-1.91		7.01		-25.67						
5.	11.00am	19.02		-1.6		4.47		-15.64		56.92					
			-1.11		2.56		-8.63		31.25		-115.15				
6.	12.00pm	17.91		0.96		-4.16		15.61		-58.23		217.21			
			-0.15		-1.6		6.98		-26.98		102.06		-387.88		
7.	1.00pm	17.76		-0.64		2.82		-11.37		43.83		-170.62		674.76	
			-0.79		-1.22		-4.39		16.85		-68.56		286.88		**-1220.34**
8.	2.00pm	16.97		0.58		-1.57		5.48		-24.73		116.26		-545.58	
			-0.21		-0.35		1.09		-7.88		47.7		-258.7		
9.	3.00pm	16.76		0.23		-0.48		-2.4		22.97		-142.44			
			0.02		-0.83				15.09		-94.74				
10.	4.00pm	16.78		-0.6		-1.79	-1.31	12.69		-71.77					
			-0.58		-2.62				-56.68						
11.	5.00pm	16.20		-3.22		9.59	11.38	-43.99							
			-3.8		0.97										
12.	6.00pm	12.40		3.75		-23.02	-32.61								
			-0.05		-16.05										
13.	7.00pm	12.35		-12.3											
			- 12.35												
14.	8.00pm	0													

2.2 For Poly Crystalline Cell

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	2.33	17.03
2	8.00A.M	2.33	17.50
3	9.00A.M	4.16	17.99
4	10.00A.M	11.44	18.80
5	11.00A.M	14.76	18.08
6	12.00P.M	19.59	18.42
7	1.00P.M	19.36	18.31
8	2.00P.M	19.81	17.87
9	3.00P.M	19.34	17.56
10	4.00P.M	19.32	17.42
11	5.00P.M	18.12	16.23
12	6.00P.M	4.13	12.95
13	7.00A.M	2.16	11.98
14	8.00A.M	0	0

Table 3: Reading about polycrystalline cell without Plano convex lens



Graph 3: Graph about polycrystalline cell without Plano convex lens

2.2.1 Applying Interpolation Method for Current

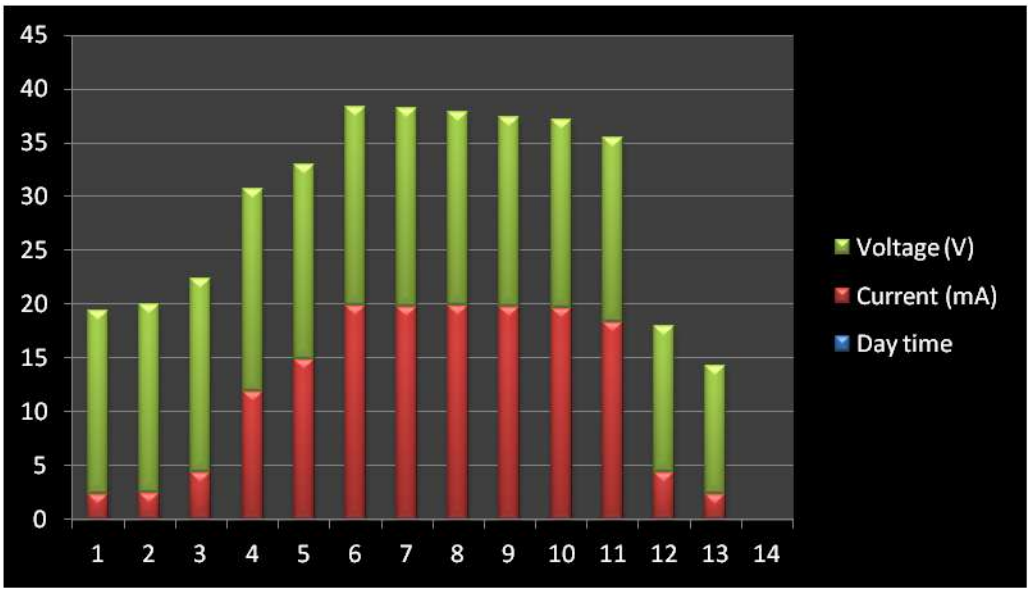
S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	2.33													
			0												
2.	8.00am	2.33		4.95											
			4.95		-13.87										
3.	9.00am	4.16		-8.92		28.26									
			-3.96		14.39		-54.69								
4.	10.00am	11.44		5.47		-26.43		105.47							
			2.51		-12.04		50.78		-200.25						
5.	11.00am	14.76		-6.57		24.35		-94.78		368.99					
			-5.06		12.31		-44		168.74		-664.91				
6.	12.00pm	19.59		5.74		-19.65		73.96		-295.92		1211.249			
			0.68		-7.34		29.96		-127.18		546.339		2317.551		
7.	1.00pm	19.36		-1.6		10.31		-53.22		250.419		-1106.302		**286.389**	
			-0.92		2.97		-23.26		123.239		-559.963		-546.339		
8.	2.00pm	19.81		1.37		-12.95		70.019		123.239		-559.963			
			0.45		-3		46.759		-186.254		-309.544				
9.	3.00pm	19.34		-1.63		33.809		-116.23		-186.254					
			-1.18		-9.98				-116.235						
10.	4.00pm	19.32		-11.61		-35.667	33.809								
			-12.79		23.829			-69.476							
11.	5.00pm	18.12		12.219		35.667	-33.667								
			-0.571		-11.838										
12.	6.00pm	4.13		0.381											
			- 0.19												
13.	7.00pm	2.16													
			-2.16												
14.	8.00pm	0													

2.2.2 Applying Interpolation Method for Voltage

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	17-03													
			0.47												
2.	8.00am	17.50		0.02											
			0.49		0.3										
3.	9.00am	17.99		0.32		-2.15									
			0.81		-1.85		4.47								
4.	10.00am	18.80		-1.53		2.32		-6.65							
			-0.72		0.47		-2.18		9.18						
5.	11.00am	18.08		-1.06		0.14		2.53		-7.75					
			-0.34		0.61		0.35		-1.43		4.01				
6.	12.00pm	18.42		-0.45		-0.49		1.1		-3.74		14.99			
			-0.11		0.12		1.45		-5.17		19		-75.08		
7.	1.00pm	18.31		-0.33		0.96		-4.07		15.26		-60.09		246.27	
			-0.44		-1.08		-2.62		10.09		-41.09		171.19		**-329.27**
8.	2.00pm	17.87		0.75		-1.66		6.02		-25.83		111.1		-83	
			-0.31		-0.58		3.4		-15.74		70.01		88.19		
9.	3.00pm	17.56		0.17		1.74		-9.72		44.18		-199.29			
			-0.14		-1.16				28.44		-129.28				
10.	4.00pm	17.42		1.33		-4.58	-6.32	-18.72		-85.1					
			-1.19		-3.42				-56.66						
11.	5.00pm	16.23		-2.09		7.82	12.4	37.94							
			-3.28		4.4										
12.	6.00pm	12.95		2.31		-17.72	-25.54								
			-0.97		-13.32										
13.	7.00pm	11.98		-11.01											
			- 11.98												
14.	8.00pm	0													

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	2.33	17.05
2	8.00A.M	2.48	17.54
3	9.00A.M	4.33	18.03
4	10.00A.M	11.85	18.87
5	11.00A.M	14.91	18.12
6	12.00P.M	19.85	18.50
7	1.00P.M	19.73	18.44
8	2.00P.M	19.88	18.00
9	3.00P.M	19.79	17.54
10	4.00P.M	19.66	17.50
11	5.00P.M	18.36	17.15
12	6.00P.M	4.35	13.57
13	7.00A.M	2.30	12.02
14	8.00A.M	0	0

Table 4: Reading about polycrystalline cell with Plano convex lens



Graph 4: Graph about polycrystalline cell with Plano convex lens

2.2.3 Applying Interpolation Method for Current

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	2.33													
			0.15												
2.	8.00am	2.48		1.7											
			1.85		3.97										
3.	9.00am	4.33		5.67		-14.1									
			7.52		-10.13		30.57								
4.	10.00am	11.85		-4.46		16.47		-60.32							
			3.06		6.34		-29.75		115.62						
5.	11.00am	14.91		1.88		-13.28		55.3		175.94					
			4.94		-6.94		25.55		-98.96		-3905.2				
6.	12.00pm	19.85		-5.06		12.27		-43.66		-214.58		4501.64			
			-0.12		5.33		-18.11		68.32		596.44		-4911.09		
7.	1.00pm	19.73		0.27		-5.84		24.66		167.28		-421.24		91596.36	
			0.15		-0.51		6.55		-33.25		186.99		761.09		**-608.15**
8.	2.00pm	19.88		-0.24		0.71		-8.59		-101.57		-559.963		152.94	
			-0.09		0.2		-2.04		1.55		373.9		152.94		
9.	3.00pm	19.79		-0.04		-1.33		-7.04		3.48		-268.3			
			-0.13		-1.13				-62.74		-47.34				
10.	4.00pm	19.66		-1.17		-10.41	-9.08			61.19					
			-1.3		-11.54			55.7	-175.41						
11.	5.00pm	18.36		-12.71		36.21	46.62	-119.71							
			-14.01		24.67										
12.	6.00pm	4.35		11.96			-73.09								
			-2.05		-12.4	-36.88									
13.	7.00pm	2.30		-0.25											
			-2.30												
14.	8.00pm	0													

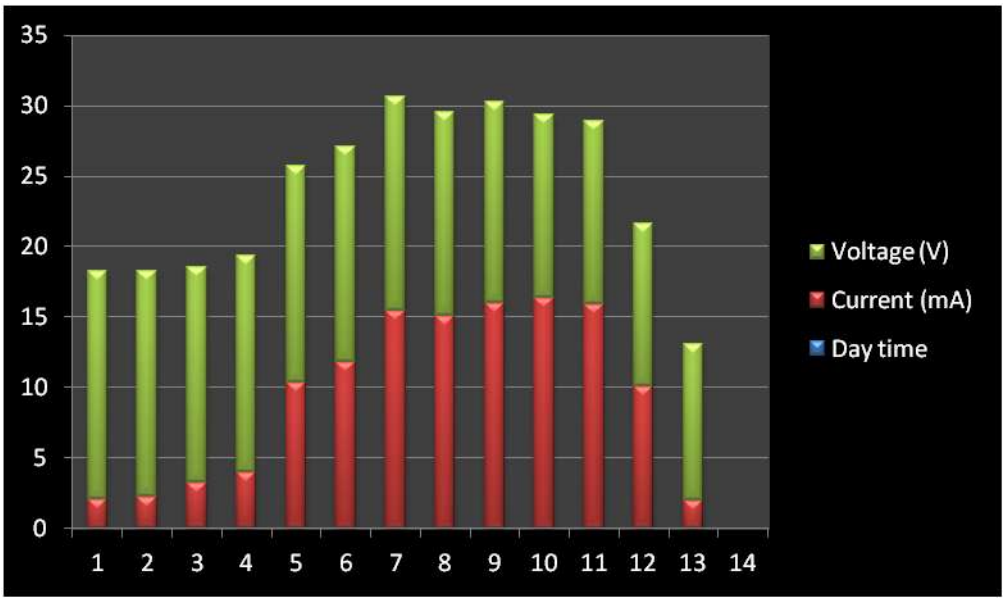
2.2.4 Applying Interpolation Method for Voltage

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	17.05													
			0.49												
2.	8.00am	17.54		0											
			0.49		0.89										
3.	9.00am	18.03		0.35		-0.17									
			0.84		0.72		-2.14								
4.	10.00am	18.87		-1.59		-2.31		5.99							
			-0.75		-1.59		-5.4		-11.39						
5.	11.00am	18.12		0.37		1.54		7.76		19.15					
			-0.38		-0.05		2.36		-12.39		-31.54				
6.	12.00pm	18.50		-0.32		-0.01		-4.63		20.16		51.7			
			-0.06		-0.06		2.27		7.77		51.7		-128.14		
7.	1.00pm	18.44		-0.38		0.8		-3.14		-4.58		-76.44		247.48	
			-0.44		0.74		0.87		-3.19		-24.74		119.34		**-273.57**
8.	2.00pm	18.00		0.36		-0.66		-0.05		13.58		42.9		-154.23	
			-0.46		0.08		0.82		10.39		18.16		88.19		
9.	3.00pm	17.54		-0.02		-1.25		10.34		-79.59		- 111.33			
			-0.04		-1.17				-69.2		-93.17				
10.	4.00pm	17.50		0.42		-1.02	11.16	-58.86		86.18					
			-0.35		-2.19				27.32						
11.	5.00pm	17.15		-0.31		10.37	-47.7	-31.54							
			-3.58		8.18										
12.	6.00pm	13.57		-3.23		-25.94	-36.31								
			-1.55		-17.76										
13.	7.00pm	12.02		2.03											
			- 10.47												
14.	8.00pm	0													

2.3 For Amorphous Crystalline Cell

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	2.06	16.24
2	8.00A.M	2.21	16.10
3	9.00A.M	3.23	15.32
4	10.00A.M	4.02	15.31
5	11.00A.M	10.36	15.38
6	12.00P.M	11.78	15.34
7	1.00P.M	15.45	15.23
8	2.00P.M	15.06	14.47
9	3.00P.M	16.00	14.30
10	4.00P.M	16.36	13.02
11	5.00P.M	15.92	12.98
12	6.00P.M	10.12	11.52
13	7.00A.M	2.02	11.02
14	8.00A.M	0	0

Table 5: Reading about Amorphous crystalline cell without Plano convex lens



Graph 5: Graph about Amorphous crystalline cell without Plano convex lens

2.3.1 Applying Interpolation Method for Current

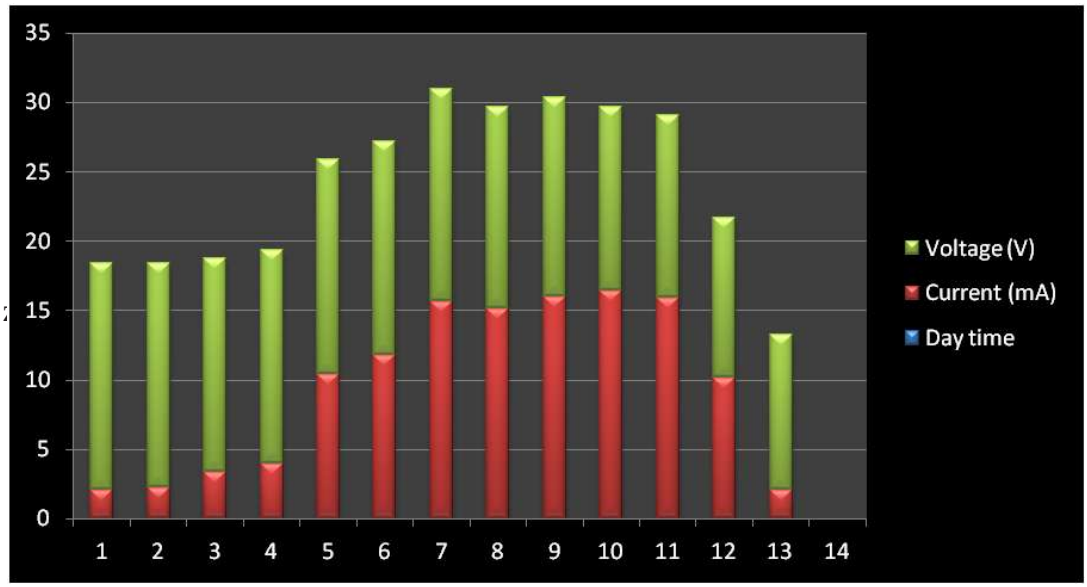
S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	2.06													
			0.15												
2.	8.00am	2.21		0.87											
			1.02		-1.1										
3.	9.00am	3.23		-0.23		6.88									
			0.79		5.78		-23.13								
4.	10.00am	4.02		-5.55		-16.25		57.02							
			6.34		-10.47		33.89		-122.03						
5.	11.00am	10.36		-4.92		17.64		-65.01		243.34					
			1.42		7.17		-31.12		121.31		-465.13				
6.	12.00pm	11.78		-2.25		-13.48		56.3		-221.79		859.57			
			3.67		-6.31		25.18		-100.48		394.44		-47.98		
7.	1.00pm	15.45		-4.06		11.7		-44.18		172.65		-47.98		-284.58	
			-0.39		5.39		-19		72.17		-287.83		-332.56		**-194.37**
8.	2.00pm	15.06		1.33		-7.3		27.99		-115.18				-478.95	
			-0.44		-1.91		8.99		-43.01		479.03		-31.12		
9.	3.00pm	16.00		-0.58		1.69		-15.02		76.02		-811.51			
			-5.8		-0.22				33.01		-332.48				
10.	4.00pm	16.36		-0.8		-4.34	-6.03			-65.26					
			-8.1		-4.56			17.99	-32.25						
11.	5.00pm	15.92		-5.36		7.62	11.96	-14.26							
			-2.02		3.06										
12.	6.00pm	10.12		-2.3			-2.3								
			-2.05		8.38	5.32									
13.	7.00pm	2.02		-6.08											
			-2.30												
14.	8.00pm	0													

2.3.2 Applying Interpolation Method for Voltage

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	16.24													
			-0.14												
2.	8.00am	16.10		-0.64											
			-0.78		1.41										
3.	9.00am	15.32		0.77		-2.1									
			-0.01		-0.69		2.6								
4.	10.00am	15.31		0.08		0.5		-2.87							
			0.07		-0.19		0.27		2.29						
5.	11.00am	15.38		-0.11		0.23		-0.58		1.58					
			-0.04		0.04		-0.85		3.87		-58.82				
6.	12.00pm	15.34		-0.07		-0.62		3.29		-57.24		274.14			
			-0.11		-0.58		2.44		-53.37		215.32		-822.9		
7.	1.00pm	15.23		-0.65		1.82		-50.08		158.08		-548.76		1986.3	
			-0.76		1.24		-47.64		104.71		-333.44		1163.4		**-4062.15**
8.	2.00pm	14.47		0.59		-2.94		54.63		-175.36		614.64		-2.75.81	
			-0.17		-1.7		6.99		-70.68		281.2		-912.45		
9.	3.00pm	14.30		-1.11		4.05		-16.05		105.84		-297.81			
			-1.28		2.35				35.16		-16.61				
10.	4.00pm	13.02		1.24		-5.01	-9.06	19.11		-60.26					
			-0.04		-2.66				-25.1						
11.	5.00pm	12.98		-1.42		5.04	10.05	-5.99							
			-1.46		2.38										
12.	6.00pm	11.52		0.96		9.1	4.06								
			-0.5		-11.48										
13.	7.00pm	11.02		-10.52											
			- 11.02												
14.	8.00pm	0													

S.NO	Day time	Current (mA)	Voltage (V)
1	7.00A.M	2.09	16.30
2	8.00A.M	2.24	16.15
3	9.00A.M	3.34	15.42
4	10.00A.M	3.98	15.40
5	11.00A.M	10.42	15.47
6	12.00P.M	11.80	15.42
7	1.00P.M	15.68	15.29
8	2.00P.M	15.12	14.56
9	3.00P.M	16.05	14.32
10	4.00P.M	16.42	13.26
11	5.00P.M	15.96	13.10
12	6.00P.M	10.15	11.56
13	7.00A.M	2.06	11.19
14	8.00A.M	0	0

Table 6: Reading about Amorphous crystalline cell with Plano convex lens



Graph 6: Graph about Amorphous crystalline cell with Plano convex lens

2.3.3 Applying Interpolation Method for Current

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	2.09													
			0.15												
2.	8.00am	2.24		0.96											
			1.1		-1.42										
3.	9.00am	3.34		-0.46		7.68									
			0.64		0.26		-24.8								
4.	10.00am	3.98		5.8		-17.12		-60.32							
			6.44		-10.86		35.54		-127.68						
5.	11.00am	10.42		-5.06		18.42		55.3		250.83					
			1.38		7.56		-31.8		123.15		-471.23				
6.	12.00pm	11.80		2.5		-13.38		-43.66		-220.46		856.63			
			3.88		-5.82		24.01		-973.31		385.4		-744.09		
7.	1.00pm	15.68		-3.32		10.63		24.66		164.94		-112.54		1311.26	
			-0.56		4.81		-17.49		67.63		-272.86		567.17		**-266.78**
8.	2.00pm	15.12		1.49		-6.86		-8.59		-108.43		454.63		-1044.48	
			0.93		-2.05		8.64		-40.8		181.77		-477.31		
9.	3.00pm	16.05		-0.56		1.78		-7.04		73.34		-22.68			
			0.37		-0.27				32.54		-159.09				
10.	4.00pm	16.42		-0.83		-4.25	-6.03			-85.75					
			-0.46		4.52			55.7	-53.21						
11.	5.00pm	15.96		-5.35		7.59	11.84	-119.71							
			-5.81		3.07										
12.	6.00pm	10.15		-2.28			-2.34								
			-8.09		8.31	5.24									
13.	7.00pm	2.06		6.03											
			-2.06												
14.	8.00pm	0													

2.3.4 Applying Interpolation Method for Voltage

S.NO	Time	Mille Amp	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
1.	7.00am	16.30													
			-0.15												
2.	8.00am	16.15		-0.58											
			-0.73		1.29										
3.	9.00am	15.42		0.71		-1.91									
			-0.02		-0.62		2.74								
4.	10.00am	15.40		0.09		0.83		-3.34							
			0.07		-0.21		-0.58		3.09						
5.	11.00am	15.47		-0.12		0.25		-0.23		0.12					
			-0.05		0.04		-0.81		3.21		-12.49				
6.	12.00pm	15.42		-0.08		-0.56		2.98		-12.37		49.64			
			-0.13		-0.52		2.17		-19.16		37.15		-115.0		
7.	1.00pm	15.29		-0.6		1.61		-6.18		24.78		-65.45		330.58	
			-0.73		1.09		-4.01		15.62		-62.3		215.49		**-906.45**
8.	2.00pm	14.56		0.49		-0.66		9.44		-37.52		150.04		-575.87	
			-0.24		-1.31		5.43		-21.9		87.74		-360.38		
9.	3.00pm	14.32		-0.82		-2.4		-12.46		50.22		- 210.34			
			-1.06		1.72				28.32		-210.34				
10.	4.00pm	13.26		0.9		3.03	-7.03	15.86		-72.38					
			-0.16		-2.28				-44.06						
11.	5.00pm	13.10		-1.38		-4	8.83	-28.2							
			-1.54		2.55										
12.	6.00pm	11.56		-1.17		4.83	-19.37								
			-0.37		-11.99										
13.	7.00pm	11.19		-10.82		-14.54									
			-11.19												
14.	8.00pm	0													

3. RESULT AND DISCUSSION

As we know that our research area focuses the Enhancement of photon rate of emission in photovoltaic cell. We are working In-Organic PV cell in many different techniques of solar spectrum as you can see that our proposed method is cheap and easily install to any other PVC and this is one of the key point of our success. As we know that mono-crystalline are a slice from single crystal cell and one unit of mono-crystalline consume huge energy as compared to other Photovoltaic cell. After this research work we get to know that solar cell is more efficient and create more free electrons or electricity as compared to other techniques and enhance more photon rate of emission due to the process of photon cloning. So our proposed method is more efficient as compared to regular method. The logic at the back of this experiment is the focus of sunlight of more photon absorption through solar spectrum result more photon enhanced due to photon cloning process and creates electricity.

CONCLUSION

This study investigates the significance of concentrated day over Photovoltaic cell PVC due to the season. It helps PVC to retain more photons in unit time and process more electric current. Our proposed framework is modest and simple to introduce on any possible sun powered unit, it will be one of the triumph component of our exploration. We are now using statistical tool and function of PVC. By contrasting the effects of normal PVC and proposed PVC we have found that the photon emanation degree for polycrystalline cell: [current: 32.85 and voltage: 250.43] and mono crystalline cell: [current: 1529.49 and voltage: -1315.60].The rationale behind this execution is concentrated daylight; in fact more photon assimilation through fake assets come about additional liberates electrons or power. This study investigates the Economical Growth of Photovoltaic cell PVC. It will be one of the victory components of our examination. More examinations are underway soon our group will create productive inorganic photovoltaic cell, it come about will be superior to our proposed PVC.

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