



ISSN NO. 2320-5407

ISSN(O): 2320-5407 | ISSN(P): 3107-4928

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: IJAR- 57624

Title: Study of the Influence of Optimal Base Thickness on the I-V Characteristics of a Bifacial Silicon Solar Cell under Monochromatic Rear-Side Illumination in Steady-State Conditions for Short Wavelengths.

Recommendation:

Accept as it is

Accept after minor revision...

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality	Excellent			
Clarity	Excellent			
Significance	Excellent			

Reviewer's ID: Dr. Sumathi

Detailed Reviewer's Report

- 1. Bifacial solar cells are photovoltaic cells that generate electricity from both their front and rear sides, producing 5%–30% more energy than traditional monofacial panels by capturing reflected sunlight (albedo). They are ideal for ground-mounted, utility-scale, or carport installations, particularly on reflective surfaces like snow or white membranes.**
- 2. Bifacial solar panels are dual-sided photovoltaic modules designed to generate electricity from both their front and back surfaces. Unlike traditional monofacial panels that only capture direct sunlight, bifacial panels utilize transparent backing or a glass-on-glass structure to absorb reflected light (albedo) from the ground, potentially increasing energy generation by 10% to 30%.**
- 3. Silicon (Si, atomic number 14) is the second most abundant element in the Earth's crust (after oxygen). It is a hard, brittle metalloid that forms the backbone of modern electronics and countless industrial materials.**
- 4. Silicon is the second most abundant element in the Earth's crust (after oxygen) and the foundational material of modern technology. As a naturally occurring metalloid, it acts as a semiconductor,**

REVIEWER'S REPORT

meaning it can both conduct and block electricity, making it essential for powering microchips, computers, and solar cells.

5. The optimum thickness is the depth of a material that provides the best balance between performance, cost, and safety. Because the term usually applies to thermal insulation, it is typically determined using a lifecycle cost analysis that balances energy savings against the cost of materials and installation.
6. Optimum thickness refers to the most effective and cost-efficient depth of a material for a specific application—most commonly referring to building insulation. It balances the upfront cost of purchasing and installing the material with the long-term savings in energy, maintenance, or structural integrity.
7. Photovoltage is the electric potential difference (voltage) generated between two electrodes when light strikes a photosensitive material, such as a semiconductor's p-n junction. It is the fundamental principle behind solar cells, converting radiant energy into electrical potential.
8. Photocurrent is the electric current generated within a photosensitive device—such as a photodiode, solar cell, or metal surface—when it is exposed to light or electromagnetic radiation. It results from the photoemission of electrons or the photovoltaic effect, where incident photons provide enough energy to release charge carriers.
9. Genetic recombination is the process by which pieces of DNA are broken and combined to produce new combinations of alleles. It is the primary biological mechanism that drives genetic diversity in sexually reproducing organisms, ensuring that offspring have a unique patchwork of genetic material from both parents.
10. Key words are given excellent.
11. Pictures, tables and significant points are awesome.
12. Summary points can be included.
13. References are sufficient but should be arranged in alphabetical order.
14. After a small changes to good to publish in your journal.