

[Review Form 2](#)

Book Name:	<a href="#">Engineering Research: Perspectives on Recent Advances</a>
Manuscript Number:	Ms_BPR_3818
Title of the Manuscript:	Characterization and Modeling of ZnO/CdS/CdTe Heterojunction Thin Film Solar Cells
Type of the Article	Book chapter

**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This study can provide insight into how to optimize the back-contact design and electron reflector layers for efficiency in solar energy and, thus, cost and scalability. The study will contribute toward developing sustainable energy technologies. The language of the manuscript should be improved, and some efficiency challenges have been attempted using simulations, while more detailed discussion on practical implications was needed.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title of the manuscript is appropriate since it describes the main research areas, which are characterization and modeling of CdTe/CdS thin-film solar cells. However, it may be further improved by the inclusion of optimization strategies and the electron reflector layer to make it more specific and interesting for a wide audience concerned with the development of solar technologies.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is more informative but not very clear at certain places and lacks essential information that would make it helpful for the reader. This abstract mentions the optimization process with respect to efficiency, and the key technical parameters include barrier height, doping density, and thickness. However, the text does not provide any context regarding the importance of the study for thin-film solar cells. Terms such as "extended CdTe electron reflector layer" are used without explanation. The abstract does not give wider implications or possible applications that the findings may have. There are also sentences that have to be less technical and shortened. Among the suggestions, one can mention a short statement on the importance of CdTe/CdS solar cells in renewable energies, robustness of the simulation tool AFORS-HET, and broader implications, like scalability or industrial adoption.	
Are subsections and structure of the manuscript appropriate?	The structure of the manuscript is logical, presenting most of the needed aspects that relate to the study. Nevertheless, a better and more cohesive flow, friendly to the reader, might still be required. This present structure covers an abstract, an introduction, device design and analysis, experimental data, and conclusions. Some strengths: logical development of arguments from the statement of problems to proposed solutions, in-depth technical description, appropriate places of figures and tables. These are weaknesses in title labels that are not concise, subsections for the results and discussion, and there is no discussion section outright. It is recommended to restructure, with subsections such as device modeling, details of simulation, results and discussion, and practical implications.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript is scientifically robust and technically sound because it utilizes a validated simulation tool, AFORS-HET, for modeling and optimization of CdTe/CdS thin-film solar cells, thus giving more credence to the results. The study is based on firm principles of semiconductor physics, establishing a clear relationship between device design parameters like doping density and Schottky barrier height with their influence on the performance of solar cells. These results are supported by experimental benchmarks to prove consistency and reliability in the outputs for simulations. Furthermore, comprehensive material parameters, comparative tables of data, and deep analysis constitute the technical rigor for such an excellent contribution to the development of photovoltaic technology.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	The manuscript does give detailed references, both at the foundations and recent works of CdTe/CdS solar cells. The works relating to the thin-film technology of solar cells, the back-contact optimization, and the electron reflector layer are representative. However, there is room for weaknesses such as: summary references, gaps in recent trends, or lack of reference to the nearest competing technologies. Some older references are found that could easily have more recent alternatives to describe and take	

[Review Form 2](#)

	<p>into account the evolution. Recent reviews or meta-analyses within the last five years on either CdTe/CdS solar cell efficiency or large-scale production strategies are lacking. Similarly, references to other competing thin-film technologies, such as perovskite or CuInGaSe<sub>2</sub> solar cells, are few. Additional references that could be referred to are recent works on efficiency advances of CdTe, comparisons with emerging technology, and recent reviews in thin-film solar cells. It is recommended to go through the recent related references to any aspect of this manuscript by the author.</p>	
<p><u>Minor</u> REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Generally, the paper is adequate for an academic audience, but it still needs some essential improvement to stand at the level of a top-quality scientific paper. While the experts in the subject will be able to understand the technical details, the way information is presented could be made easier to read and understand. This can be achieved by improving grammar, organizing sentences better, and making the overall message clearer. It's a good piece of content, but it really needs more detailed writing to convey the ideas properly.</p>	
<p><u>Optional/General</u> comments</p>	<p>The scientific figures in the manuscript are not of good quality and need to be improved. Clear and well-designed figures are an important way to effectively communicate complex data and concepts to the reader.</p>	

**PART 2:**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

**Reviewer Details:**

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