

EE / CprE / SE 491 - sddec24-21

CdSe Solar Cell

Week 10 Report

4/9/24 - 4/16-24

Client: Vikram Dalal

Faculty Advisor: Vikram Dalal

Team Members:

Payton Bills – Team Lead | Client Interaction

Anders Peterson – Client Interaction | Component design

Michael Thomas – Individual Component Design | Testing

Drew Jensen – Individual Component Design | Testing

Jacob Steffens – Simulation research | Research aid discovery and distribution

Jonathan Timm – Simulation research | Simulation testing

Past Week Accomplishments

- Revised many of our previous design documents to better reflect the standard of documentation we need for this project.
- Learned more about the current manufacturing process via thermal evaporation.
- Continued making progress on simulation data for band diagrams.
- Completed V1 of the Website and Final design document.
- Presentation covering the overview and ethical considerations of our project.

Pending Issues

- The final design document needs to be fleshed out and more figures to help illustrate our points.
 - The first final presentation draft needs to be completed in the next week to give ourselves time to make an adequate and in-depth summary of the project.
 - We need to write a report detailing the current fabrication and test processes. Both of these are likely to change throughout the iterative process, so these documents are meant to be initial starting points for our first cell fabrication.
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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Payton Bills	Researched and wrote about testing methods.	4	46
Anders Peterson	Went to meetings and did a lot of report writing.	6	53
Michael Thomas	Attended meetings, completed the website V1 with current documentation, and worked on the BandEng simulations.	5	54
Drew Jensen	Worked on a report about Thermal Evaporation, hopeful to expand it to more CdSe fabrication techniques like CSVT as well as our specific process. Worked on reworking design doc and other documentation.	6	42
Jacob Steffens	Developed a methodology for easily analyzing and quantizing solar farm performance, Hopefully this will help us with the economic analysis in the future.	12	44
Jonathan Timm	Met with Jake and we figured out a way to characterize a given solar farm's energy output based on maps and electricity data. Also helped out with design docs and met with the team quite often this week.	10	46

Plans for Coming Week

- We will be increasing our meeting times once more to ensure we finish an adequate and coherent design doc, and final presentation.
 - Continue writing the fabrication and test processes.
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