High-efficiency Crystalline Silicon-based Solar Cells Using Textured TiO_2 Layer and Plasmonic Nanoparticles

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We would like to express my sincere gratitude to the anonymous reviewer for his time and valuable comments. We have revised the proposal by seriously considering the comments provided by the reviewer. The second and final format proposal is uploaded. Our point-to-point response is given below, and the modifications are mentioned in the manuscript.

Response to the Reviewer Comments

1. The manuscript is not technically sound. The author should provide more interpretation of their results. It will be important to understand the root causes of the performances and failures of each parameter. Authors should shed light on that.

Clear statements are added in lines: 225-228, 265-267, 284-288, 359-361, 369-374 and 430-434.

Thank you for your comment.

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2. In my impression authors performed optimization of parameters in a sequential approach and obtained a set of localized parameters. Is it possible to obtain global parameters for each of the components by simultaneously optimizing for the parameters of all the components in their proposed structure?

The effect of grating width, height and period are studied together and illustrated in Table 3 and Figure 3 a and b.

Thank you for your comment.

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3. The simulations conducted in this work are too ideal. The effects of local electric fields and defects at the interfaces on the interfacial recombination were completely ignored.

Yes professor, in this work we use a simulation method of ideal structure, then and based on this work, we will perform the experimental work in KAUST labs (cooperation) and compare the simulation results to the experimental results and discuss the effect of all local electric fields and defects at the interfaces on the interfacial recombination.

A clear sentence has been added in lines 206-209.

Thank you for your comment.