Defects modelling of organic perovskite solar cells

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**Abstract**. In present paper, the theoretical study of lead-free structure having following composition: FTO/SnO2/MASnI3/CulnSe2/Au. is carried out Using SCAPS-1D software. Initially the optimization of absorber thickness was performed and after that effect of absorber defect density, and interface defect density are studied on optimised structure. The enhancement of all these factors results degrading in performance of device. Finally, the J-V and QE curve also provided. These outcomes of our simulations offer a method that is appropriate for lead free cell production.

 

 Figure1: Configuration of PSC with Figure 2:Energy band diagramof layers of ETL, perovskite and HTL solar cell

Keywords:SCAPS, perovskite, PCE, J-V, QE

**References:**

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