عنوان مقاله:
CFD Simulation of transparent conductive films with high conductivity for use in photovoltaic cells

محل انتشار:
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خلاصه مقاله:
The potential drop due to sheet resistance of transparent conductive Films (TCFs) in photoelectrods is one of the major problems in construction of a larger photoelectrods. The potential drop across the photoanode (even on a small area) is found to be sufficient to drop the potential of a large part of the photoanode below the minimum potential required for photoelectrochemical oxygen evolution. This problem causes a significant decrease in the photocells efficiency. In this paper, the use of thin golden grids on the TCFs is proposed to address this problem. COMSOL Multiphysics (1.4b) software is used to simulate the potential and current profiles. The simulation results show that the potential drop will decrease significantly by applying the golden grids on the F-TO and I-TO, TCFs.

کلمات کلیدی:
CFD Simulation, Photovoltaic cells, Transparent Conductive Films

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