World Academy of Science, Engineering and Technology
International Journal of Energy and Environmental Engineering
Vol:8, No:05, 2014

Comparison Between the Radiation Resistance of n/p and p/n InP Solar Cell

Authors : Mazouz Halima, Belghachi Abdrahmane

Abstract : Effects of electron irradiation-induced deep level defects have been studied on both n/p and p/n indium phosphide solar cells with very thin emitters. The simulation results show that n/p structure offers a somewhat better short circuit current but the p/n structure offers improved circuit voltage, not only before electron irradiation, but also after 1MeV electron irradiation with 5.1015 fluence. The simulation also shows that n/p solar cell structure is more resistant than that of p/n structure.

Keywords : InP solar cell, p/n and n/p structure, electron irradiation, output parameters
Conference Title : ICSREE 2014 : International Conference on Sustainable and Renewable Energy Engineering
Conference Location : Montreal, Canada
Conference Dates : May 12-13, 2014