

Abstract:

The ambient temperature and the defects density in the Hetero-junction with Intrinsic Thin layers solar cells (HIT) strongly influence their performances. In first part, we presented the bands diagram on the front/back simulated solar cell based on a-Si: H / c-Si (p)/a-Si:h. In another part, we modeled the following layers structure: ZnO/a-Si:H(n)/a-Si:H(i)/c-Si(p)/a-Si:H(p)/Ag where we studied the effect of the ambient temperature and the defects density in the gap of the crystalline silicon layer on the performance of the heterojunction solar cell with intrinsic layer (HIT)