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THE INFLUENCE OF SHEET RESISTANCE AND TEXTURED SURFACE ON THE CHARACTERISTICS OF SILICONSOLAR CELLS USING PC1D SIMULATION PROGRAM

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ABSTRACT

In this work we studied the effect of a laterally varying emitter sheet resistance on solar cells characteristics such as,(I-V)parameter and Internal quantum efficiency (IQE). Then they were analyzed by simulation program (PC1D). The best efficiency we reached during this study is (21.2%) under (AM1.5G) illumination with high sheet resistance (100Ω/sq) and textured surface. It was shown that the texturing have important effect for light management for the best efficiency value. The results obtained in this study were in a good agreement with the experimental studies done by other researchers.

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