

**THE ANALYSIS OF DOUBLE LAYER ANTI-
REFLECTION COATING AND DOPING IMPACT ON
THE PERFORMANCE OF SILICON SOLAR CELLS
USING PC1D**

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ABSTRACT

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In the world silicon solar cells, there are many software options used by researchers to study photovoltaic cells. In this study, simulation of monocrystalline silicon solar cell was done using PC1D software. The goal of this study is to enhance their performance through two strategies. By enhancing the doping procedure and using double-layer anti-reflection coatings (DLARC). Additionally, by lowering the amount of sunlight that bounces off the surface, DLARC increases the amount of light that can be absorbed. Better doping, on the other hand, facilitates the flow of charges within the solar cell, which in turn facilitates the generation of electricity. This study demonstrates how these two approaches can be combined to increase the efficiency and affordability of solar cells using a simulation program called PC1D. The results may contribute to increasing the viability and accessibility of solar energy for daily use.

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