



EXPERIMENTAL AND THEORETICAL DESIGN FOR A NEW ARRAY MICRO-LENSES SILICON SOLAR CELL CONCENTRATOR

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ABSTRACT

In this paper, a new model for array of micro-lenses concentrator was designed. This concentrator consists of array of micro-lenses (MLA) to focus solar light on four rectangular slaps of photovoltaic Si solar cell. The design aim to reduce the cost of the concentrators by reduces the effective area of the high cost silicon material area and simplified the structure of the system. The solar cell with the MLA- concentrator adds energy conversion efficiency (11.98%) and reducing the total cost.