

## ANALYTIC EVALUATION OF FILL FACTOR FOR ITO/INP SOLAR CELL

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### ABSTRACT

In this paper, the fill factor, for ITO/InP solar cell is calculated analytically using the one diode model to represent the I-V characteristics of the cell. It is found that the specific fill factor losses resulting from the shunt resistance and series resistance considerably affect the fill factor value.

### INTRODUCTION

The one diode model has been used by many authors to represent the current-voltage, I-V, characteristics of a solar cell [1,2]. This involves the solution of a transcendental equation which can not be solved exactly. Therefore, either computer iterative schemes [3] are used to find the I-V characteristics of the cell or the transcendental equation is written as an infinite series expansion of certain parameters, and the series is truncated after desired accuracy [4]