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Tipo Comunicación para congreso

Fonte  [12th Spanish Conference on Electron Devices](#), Salamanca (España), pp. 3 , 2019.

ISBN 978-1-5386-5779-9

ISSN 2163-4971

DOI [10.1109/CDE.2018.8597046](https://doi.org/10.1109/CDE.2018.8597046)

Abstract In this present work we have studied vertical gallium arsenide (GaAs) solar cells using the Silvaco semiconductor device simulator. We have studied the main figures of merit (current, power and efficiency) that characterize the behavior of the solar cell. Moreover, the influence of sun concentration was analyzed. The results show a linear increase of the open circuit voltage with the logarithmic increases of sun concentration. Also, the efficiency reaches a maximum value of 23.25% for a concentration ratio of 10,000 suns.

Palabras clave GaAs, solar cell, Vertical Multijunction (VMJ), concentration ratio (Cratio)

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