

Document details

< Back to results | 1 of 2 Next >

Export Download Print E-mail Save to PDF Add to List More... >

[Full Text](#) View at Publisher


AIP Conference Proceedings

Volume 2083, 21 March 2019, Article number 020005

2019 7th International Conference on Nano and Materials Science, ICNMS 2019; San Francisco;

United States; 4 January 2019 through 7 January 2019; Code 146162

Fabrication and characterization of CNT / ZnO thin film junction for photovoltaic application (Conference Paper) [\(Open Access\)](#)

Albat'Hi, S.A.M.  Ahmed, N.

International Islamic University Malaysia (IIUM), Malaysia


Abstract

[View references \(8\)](#)

Concern about energy supply and climate change has been brought into the essential discussion. There is a clear need to make energy cheap, readily accessible and green. The Photovoltaic cell (PV) is the energy source in the development of solar cell technology that can deliver low cost electricity generation. Therefore, this research work is conducted on the fabrication and characterization of CNT / ZnO thin films junction for photovoltaic application. The preparation procedure includes two parts: deposition of ZnO by the electrodeposition technique and coating of CNTs by the doctor-blade technique. Effect of different deposition temperatures at 60°C, 75°C and 90°C on the structural and morphological ZnO films was studied and the optimum deposition conditions have been outlined. XRD shows that the product presents a good crystallinity. The characterization of structural and morphological of CNT films were studied by using XRD and FESEM. The XRD results showed the crystalline size of CNTs in nano size. CNTs have been used as the component devices to help the charge conduction, improve electrode flexibility and in some cases as active light absorbing materials. The ultimate goal is to gain deeper understanding of the cathodic processes involved and to facilitate the optimization of operating conditions. © 2019 Author(s).

SciVal Topic Prominence

Topic: Electrodeposition | Zinc oxide | zinc nitrate

Prominence percentile: 88.023 

ISSN: 0094243X

ISBN: 978-073541813-4

Source Type: Conference Proceeding

Original language: English

DOI: 10.1063/1.5094308




Document Type: Conference Paper

Volume Editors: Agarwal R.K.

Publisher: American Institute of Physics Inc.

References (8)

[View in search results format >](#)

All | Export  Print  E-mail  Save to PDF Create bibliography

Metrics [View all metrics >](#)

1 Citation in Scopus
128.46 Field-Weighted Citation Impact



PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 1 document

Role of TCO films in improving the efficiency of CdS/MoS₂ heterojunction solar cells

Zaidi, B. , Ullah, M.S. , Hadjoudja, B. (2019) *Journal of Nano- and Electronic Physics*

[View details of this citation](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

[Set citation feed >](#)

Related documents

Electrodeposition of ZnO layers for photovoltaic applications: Controlling film thickness and orientation

Illy, B.N. , Cruickshank, A.C. , Schumann, S. (2011) *Journal of Materials Chemistry*

Nucleation in thin film processing

Hijikata, K. , Miyazaki, K. , Inoue, T. (1996) *American Society of Mechanical Engineers, Fluids Engineering Division (Publication) FED*

Delineation of defects reducing Schottky barrier heights on 4H-