

Scopus

Document details

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)[Full Text](#) [View at Publisher](#)

Procedia Computer Science

Volume 42, Issue C, 2014, Pages 122-129

International Symposium on Medical and Rehabilitation Robotics and Instrumentation, MRR1 2013; Shah Alam; Malaysia; 2 December 2013 through 4 December 2013

Small band-gap-based CNT for modeling of nano sensor (Conference Paper)

Farhana, S. [✉](#), Zahirul Alam, A.H.M., Khan, S.

Department of Electrical and Computer Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

[View references \(17\)](#)

Modeling phenomena of small band-gap Carbon Nanotube (CNT) is analyzed in this paper. Device physics of CNT is studied and do the calculation of sub-band for zigzag CNT to model small band-gap tubes. Each carbon nanotube is illustrated as a single graphite sheet turned round into a cylindrical shape so that the arrangement is one dimensional with axial proportion. A comparison is made with the current literature to show that the proposed chirality CNT with small band-gap which performs the modeling of nano sensor. Furthermore, a sensing device is modeled and discussed in this paper. This carbon nanotube based sensing device makes it possible produce huge amount of nano chips as a disposable cartridge for diagnostic purposes. The optimum CNT is proposed in this paper to model a nano-electrode device. This research outcome shows that the importance of identification with verified uniqueness of high reliability and economical micro-fabrication for cost effectiveness. © 2014 The Authors.

Author keywords

Bandgap Graphene Nano sensor Nanotube

ISSN: 18770509

Source Type: Conference Proceeding

Original language: English

DOI: 10.1016/j.procs.2014.11.042

Document Type: Conference Paper

Volume Editors: Yussof H.

Sponsors:

Publisher: Elsevier

References (17)

[View in search results format >](#) All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 Iijima, S.
Helical microtubules of graphitic carbon
(1991) *Nature*, 354 (6348), pp. 56-58. Cited 30345 times.

[View at Publisher](#)Metrics [View all metrics >](#)2 Citations in Scopus
60th Percentile1.01 Field-Weighted
Citation ImpactPlumX Metrics [v](#)Usage, Captures, Mentions,
Social Media and Citations
beyond Scopus.

Cited by 2 documents

Phenolic sensor development based on chromium oxide-decorated carbon nanotubes for environmental safety

Rahman, M.M. , Balkhoyor, H.B. , Asiri, A.M.
(2017) *Journal of Environmental Management*

Development of selective chloroform sensor with transition metal oxide nanoparticle/multi-walled carbon nanotube nanocomposites by modified glassy carbon electrode

Rahman, M.M. , Balkhoyor, H.B. , Asiri, A.M.
(2016) *Journal of the Taiwan Institute of Chemical Engineers*[View all 2 citing documents](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)

Related documents

Optimum performance of carbon nanotube field effect transistor

Farhana, S. , Alam, A.H.M.Z. , Khan, S.