



Results for CARBON COND... > Carbon conductive coated fiber Bragg grating sensor for voltage detection



Carbon conductive coated fiber Bragg grating sensor for voltage detection

By Zulkifli, MZ (Zulkifli, M. Z.) ; Yusof, MKM (Yusof, M. K. Mohd) ; Shahril, MR (Shahril, M. R.) ; Azahan, SNF (Azahan, S. N. F.) ; Lim, KS (Lim, K. S.) ; Ahmad, H (Ahmad, H.) ; Thambiratnam, K (Thambiratnam, K.)

[Are you this author?](#)

[View Web of Science ResearcherID and ORCID](#) (provided by Clarivate)

Source [JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS](#) ▾
Volume: 26 Issue: 5-6 Page: 206-212

Published MAY-JUN 2024

Indexed 2024-07-18

Document Type Article

Abstract A novel temperature stable fiber Bragg grating (FBG) electrical sensor is proposed and demonstrated. The FBG is coated with conductive carbon paint of approximately 3 mm in thickness, with electrode clips were attached approximately 8.0 mm apart within the conductive paint region. The sensor was exposed to increasing and decreasing voltages between 0 V and 4.0 V, and was determined to have sensitivity of 1.8196 nm/V for increasing voltages and a sensitivity of 1.8455 nm/V for decreasing voltages. The response time for increasing voltages is at an average of 150.9s while for decreasing voltages is at an average of 204.7s.

16



Keywords

Author Keywords: Fiber Bragg grating; Tuneable laser; Temperature control; Fiber optic sensor

Keywords Plus: TEMPERATURE

Addresses

¹ Int Islamic Univ Malaysia, IIUM Photon & Quantum Res Ctr iPQC, Dept Phys, Kulliyah Sci, Kuantan 25200, Pahang, Malaysia

² Univ Malaya, Photon Res Ctr, Kuala Lumpur 50603, Malaysia

Categories/

Research Areas: Materials Science; Optics; Physics

Classification

Citation 5, [5.38 Optical Electronics & Optics](#), [5.38.232 Fiber Optics](#)
Topics: [Physics](#), [Engineering](#), [Bragg Grating](#)

Web of Science Categories

[Materials Science, Multidisciplinary](#); [Optics](#); [Physics, Applied](#)

[+ See more data fields](#)

Citation Network

In Web of Science Core Collection

0 Citations

21

Cited References

How does this document's citation performance compare to peers?

[← Open comparison metrics panel](#)

New

Data is from InCites Benchmarking & Analytics

Use in Web of Science

0

Last 180 Days

0

Since 2013

This record is from:**Web of Science Core Collection**

- Science Citation Index Expanded (SCI-EXPANDED)

Suggest a correction

16

If you would like to improve the

quality of the data in this record,
please [Suggest a correction](#)



Accelerating innovation

© 2025 Clarivate Data Correction Copyright Notice [Manage cookie preferences](#) [Follow Us](#)

[Training Portal](#) [Privacy Statement](#) [Cookie Policy](#)



[Product Support](#) [Newsletter](#)

[Terms of Use](#)