

Documents

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Carbon conductive coated fiber Bragg grating sensor for voltage detection
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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. © 2024 National Institute of Optoelectronics. All rights reserved.

Author Keywords

Fiber Bragg grating; Fiber optic sensor; Temperature control; Tuneable laser

Index Keywords

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