3D Fiber Bragg Grating Stress Sensor

The fabrication of optical components on the top of optical fiber facets using two-photon 3-D printing has opened a new path for the development of next-generation optical fiber sensors. However, printing ...

res 30 overcoring stress relieving method is an in-situ stress measurement method based on borehole, which inverses the in-situ stress field by detecting the strain and deformation in the process of ...

The performance for FBG strain sensors embedded in different 3D printed materials are compared.

A new and easy-to-fabricate strain sensor has been developed, based on fiber Bragg grating (FBG) technology embedded into a thermoplastic polyurethane filament using a 3 ...

We aimed to combine three-dimensional (3D) braiding processing with the optical Bragg grating sensor"s accurate metrology. Outside the limits of the sensor"s epoxy attachment methods, ...

This article introduces a novel Fiber Bragg Grating (FBG) 3-D force sensor designed for the end-effectors of medical robots.

This study presents an automated paradigm for assembling high-density fiber Bragg sensor arrays on complex surfaces. The framework ensures signal fidelity and structural integrity, enabling ...

In this paper, a strain-sensing array based on fiber Bragg grating (FBG) is designed by using the main structure of the classical hollow inclusion cell, and its layout scheme on the hollow ...

Our objective was to construct textile braiding manufacturing methods to facilitate high precision and accurate measurements using optical fiber Bragg grating sensors for various structures. We aimed to ...

In order to achieve the same origin three-dimensional (3D) strain measurement, one three-dimensional (3D) fiber Bragg grating (FBG) strain sensor is proposed in this paper. The metal structure of this ...

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