

Preview

This work presents the design, calibration and detailed performance characterization of a triaxial accelerometer based on fiber Bragg gratings (FBG), intended for space navigation applications. The results show the following: (i) improvements in the orthogonality of the sensor axes, which impact their cross-axis sensitivity; (ii) reductions in the electronic noise. Firstly, a single-axis FBG accelerometer with intensity modulation-direct detection interrogation system was put forward and designed in the paper. Experiments with different excitation frequencies were implemented, which demonstrate its good mechanical structure and fabrication technology.

Fiber Bragg grating (FBG) sensors have emerged as efficient sensing devices in various fields due to their unique

In recent years, geophones made of optical fiber as a sensing element have been widely used, and compared with the

This study presents a miniature triaxial fiber Bragg grating (FBG) vibration sensor incorporating a novel elliptical guide-angle hybrid

A three-axis fiber Bragg grating accelerometer, which has uniform sensitivities to three axes, has been developed for

Fiber Bragg grating (FBG) is a kind of optical sensing element, its merits of small size, low optical fiber transmission

A fiber Bragg grating sensing based triaxial vibration sensor has been presented in this paper. The optical fiber is directly employed

To overcome these challenges, extensive research has been directed toward developing FBG-based sensors

The purpose of this study is to present the state of the art for fiber Bragg grating (FBG) acceleration sensing

In this paper, we focus on the application of FBG based accelerometer in shockwave monitoring and the detection of the

This article proposes a miniature triaxial force-temperature sensor based on fiber Bragg grating (FBG) for catheter ablation. The

A flexible-hinge-type combined tri-dimensional fiber Bragg grating (FBG) accelerometer has been designed by

Abstract Read online This work presents the design, calibration and detailed performance characterization of a triaxial accelerometer

Multi-dimensional acceleration sensors are used in important applications in the aerospace, weapon equipment, and

Fiber Bragg Gratings or FBGs have achieved significant attention towards sensing and communication applications

This research presents a novel grating fiber-based accelerometer coupled with a newly designed 3D-printed structure

Structural health monitoring (SHM) is essential for ensuring the safety and longevity of civil engineering structures,

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