

Fiber Bragg Grating Sensor Solution Design

To address these limitations, this study presents a flexible fiber Bragg grating (FBG) sensor array with adjustable sensitivity and configurable measurement positions, specifically ...

To address the issue of extra-large structural deformation or strain in infrastructures such as bridges, buildings, railroads, and pipelines during catastrophic events, this study proposes a wide-range fiber ...

The use of fibre optic sensors for structural health monitoring (SHM) has been persuaded by the aircraft industry and research organizations for over three decades. The Fibre Bragg Grating ...

In this work, we investigate the sensing performance of Fiber Bragg Gratings (FBGs) engineered to operate near EPs through precise structural tuning. By aligning the reflection spectrum edges with ...

Abstract: Fiber Bragg grating (FBG) sensors have emerged as advanced tools for monitoring a wide range of physical parameters in various fields, including structural health, aerospace, biochemical, ...

Fiber Bragg grating (FBG) sensors are widely used in aerospace monitoring and intelligent manufacturing due to their high sensitivity, yet their deployment relies on manual ...

By evaluating the advancements in sensor design, implementation methods, and packaging techniques, we will assess the effectiveness of FBG sensors in SHM, environmental ...

In this paper, the types and principles of operation of fiber sensors based on fiber Bragg gratings (FBGs) are investigated. The influence of strain and temperature on the characteristics...

This paper presents the design & simulation of an Optical Fiber Bragg Grating (OFBG) sensor for stress, strain measurement and also demonstrates the methodology to arrive at the optimal grating pitch ...

This research is based on designing the optimal grating structure of FBG sensors and estimating their optimal apodization parameters necessary for sensor networks and long-distance monitoring solutions.

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