Fiber Optic Grating Impact Positioning

Fiber Bragg gratings are reflective structures in the core of an optical fiber with a periodic or aperiodic perturbation of the effective refractive index.

The dynamic strain signal that is caused by low velocity impact is obtained by the fiber Bragg grating (FBG) sensor. The amplitude of the first K order natural frequency is extracted by Fast ...

To triangulate the position of the impact and its energy, it is necessary to fully recognize the exact moment when the primary wave generated by the impact reaches each Bragg grating and, ...

A method to optimize the arrangement of an fiber Bragg grating (FBG) array is described to address the need to improve the accuracy of impact localization for aerospace vehicles.

This work presents the design and verification of an optical fiber Bragg grating (FBG)-based acoustic emission (AE) sensing system for damage detection and localization in aviation ...

In this paper, an impact localization system for CFRP structures was developed by using fiber Bragg grating (FBG) sensors, and impact signals detected by FBG sensors are demodulated by ...

Design a grating coupler connecting a single-mode fiber on the surface of a photonic chip to an integrated waveguide. The built-in particle swarm optimization tool is used to maximize the coupling ...

In this paper, an improved triangulation impact location method based on fiber Bragg grating (FBG) network is proposed. Based on the maximum slope method to determine the arrival time of impact ...

In this paper, we demonstrate the feasibility to perform impact identification in smart composite structures with embedded fiber optic sensors. For our analyses, we manufactured a carbon...

The invention provides a plate structure impact load positioning method based on a distributed fiber bragg grating sensing network, and belongs to the field of impact monitoring of...

Fiber Optic Grating Impact Positioning

Web: https://www.tlaletsoglobal.co.za