

On-site calibration of fiber optic grating temperature measurement

In this study, we propose an enhanced calibration technique for fiber Bragg grating (FBG) strain/temperature sensitivity, covering a low-temperature range of 77-296 K. Employing a custom ...

This article completes the precise calibration of strain and temperature under high temperature conditions through the construction of a sensitivity calibration

Discover systematic methodologies for optimal FBG sensor placement to maximize temperature measurement precision and efficiency.

A calibration method is presented for temperature measurements using fiber Bragg grating transducers written with the point-by-point technique and femtosecond laser impulsions in silica ...

Abstract This paper presents a field guide to nonlinear calibration of Fiber Bragg Gratings (FBG_{1,2}) for temperature sensors with a wide temperature range.

In this paper, we present a dynamic calibration method for FBG sensor temperature measurement, utilizing the online sequential extreme learning machine (OS-ELM).

With Fiber Bragg Grating based temperature sensors it is now possible to measure and monitor temperature accurately with calibrated sensors over a wide temperature range and many sensors ...

In this work, we report several improvements in the operation and calibration of this sensor. First, to obtain a more accurate and reproducible temperature reading, the contact between the two fibers is ...

These studies demonstrated the ability of FBG sensors to accurately measure strain, displacement, and temperature changes in real time, which are critical for assessing the integrity of ...

The key element in the calibration method is to obtain the unique correspondence between the measured temperature and the FBG reflected wavelength at each operating point. In this work, two ...



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