Wireless Detection Methods for Fiber Bragg Gratings

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

Abstract: A small-size, high-precision fiber Bragg grating interrogator was developed for continuous plethysmograph monitoring. The interrogator employs optical edge filters, which were integrated with ...

Herein, a novel fiber-optic wireless sensor network using the ultra-weak fiber Bragg gratings technique was proposed. It allows real-time remote capture of subsurface deformation along ...

In this work, we propose and demonstrate a microwave photonics enabled approach for the interrogation of cascaded FBGs to achieve spatially distributed sensing.

We propose a wireless evaluation scheme for fiber Bragg gratings where the sensor signal is transmitted directly without any processing in a simplified sensor node.

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In this work, we have demonstrated a novel approach for enhancing the sensitivity of Fiber Bragg Grating (FBG) sen-sors by leveraging the unique properties of exceptional points (EPs) in non ...

Here, we demonstrate a kilometer-scale optomechanical sensor network, integrating multiple fiber-optic optomechanical sensors into a standard single-mode fiber.

The solution utilizes Ultra-Weak Fiber Bragg Grating (UWFBG) sensor arrays for signal transmission. It employs Continuous Wavelet Transform (CWT) and Convolutional Neural Network ...

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