

This review highlights significant advancements in Fiber Bragg Grating (FBG) sensors, detailing their operational principles, recent technological developments, and diverse applications in SHM, thereby ...

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, and ...

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Sensing technology plays an important role in enabling innovation and efficiency in diverse industries, particularly in harsh and emerging environments where co

Apart from the sensing applications, new variants of FBG like secondary gratings and Random Optical Grating by Ultraviolet or ultrafast laser Exposure (ROGUE) gratings are also ...

This study presents an automated paradigm for assembling high-density fiber Bragg sensor arrays on complex surfaces. The framework ensures signal fidelity and structural integrity, enabling ...

Hence a fiber Bragg grating can be used as an inline optical filter to block certain wavelengths, can be used for sensing applications, or it can be used as wavelength-specific reflector. Figure 1: A Fiber ...

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

The development of optical fibers has revolutionized not only telecommunications but also the way monitoring and sensing is conducted, particularly in remote or harsh environments. In ...

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 ...

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