Performance Comparison of Upgraded Fiber Bragg Grating and Copper Cable

The research studies the performance achieved by the combinations of different chirp functions to effectively tackle the impacts of chromatic dispersion in long-haul optical fiber ...

In this paper, we present a design framework for micro-engineering the temperature coefficients of FBGs over specified temperature ranges, while maintaining low loss and good spectral ...

The self-developed copper-coated FBG demonstrated high viability, repeatability, and stability across a wide temperature range from cryogenic (4.2 K) to elevated levels.

This study builds up the next level of understanding on Fiber Bragg Gratings which could be applied in various applications.

A fiber Bragg grating is a structure within the core of an optical fiber with a periodic variation of the refractive index. It acts as a wavelength-selective mirror, reflecting light in a narrow range of ...

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

To indicate the strain differences between the FBG sensor and a creep medium, three epoxy resin cylinders and three concrete cylinders were tested under long-term constant loads.

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

Optical communication has emerged as one of the most significant way of communication in the recent years due to its wide available bandwidth, faster data rate and cost effectiveness. But factors like ...

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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