

Magnetostrictive materials provide robustness but exhibit limited linearity. Future research should focus on addressing these challenges to enhance the reliability of FBGs for ...

A novel fiber-optic magnetic field sensor with high interrogation speed and resolution by using an etched fiber Bragg grating (FBG) in conjunction with a dual-loop optoelectronic oscillator (OEO) is proposed ...

Fiber Bragg grating sensors offer several significant advantages over conventional electrical sensors, such as immunity to electromagnetic noise and radio frequency interference, easy multiplexibility, ...

In this study, fiber Bragg grating (FBG) magnetic field sensors with an improved sensitivity were achieved through magnetic field biasing and pre-stress regulation. Firstly, a multi-physics ...

In this work, we review single mode SiO₂ fiber Bragg grating techniques for dilatometry studies of small single-crystalline samples in the extreme environments of very high, continuous, and pulsed ...

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

Magnetostrictive strain sensors with high spin-orbit coupling have been integrated with Fiber-Bragg-Grating sensors wherein the gap within the gratings varies with

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 ...

This paper presents a light and compact optical fiber Bragg Grating sensor for DC and AC magnetic field measurements. The fiber is coated by a thick layer of a magnetostrictive composite consisting of ...

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