Fiber Bragg Grating Thermometry in South Africa

The temperature dependence of the FBG resonance derives from changes in the refractive index (ne) due to the thermo-optic effect and to a lesser extent changes in grating period due to thermal ...

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, ...

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

What Are Fiber Bragg Gratings? Fiber Bragg gratings are periodic variations in the refractive index inscribed along the core of an optical fiber. These variations are created using a process involving ...

In recent years there has been considerable interest in developing photonic temperature sensors such as the Fiber Bragg gratings (FBG) as an alternative to resistance thermometry. In this study we ...

Various parameters affecting the propagation of light in optical fibres and consequently the FBG reflection profile was researched. The differen-tial equations describing FBG structures were solved ...

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 ...

A fiber Bragg grating (FBG) is a type of distributed Bragg reflector constructed in a short segment of optical fiber that reflects particular wavelengths of light and transmits all others.

In this paper, our objective is to review the various techniques to measure the temperature and strain using FBGs in different industrial sectors. An In-depth analysis of FBG is also incorporated ...

FBG temperature sensors are investigated for cryogenic, ambient, high-temperature and ultrahigh-temperature environments.

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