

Stress in Long-Period Fiber Bragg Gratings

In the last 15 years, alternative writing methods of long-period fibre gratings have been proven after the demonstration of UV radiation method. Some of the most used methods include; the heating, the ...

In this paper, we controlled the furnace to sustain a defined temperature and applied increasing stress steps to the sample. In this way, we can differentiate between the changes caused ...

This paper presents a review of the evolution of LPFGs, with a specific focus on the progression and current trends of mechanically induced long-period fiber gratings.

Eccentric fiber Bragg grating (EFBG) is inscribed in standard communication single-mode fiber using femtosecond laser pulses, and the temperature and strain sensing characteristics are ...

In this study, we experimentally demonstrated that a high-sensitivity fiber sensor can be used for the remote sensing of temperature and stress simultaneously. The proposed sensor includes several ...

Abstract: We study the feasibility of employing fiber Bragg gratings (FBG) for measuring thermodynamics parameters of super conducting coils. The distributions of mechanical stress and ...

This work proposes an effective high-temperature and stress-strain sensing technology, which is expected to be used for structural health monitoring in high-temperature environment.

al stress through use of an annealing treatment at high temperature are presented. Such gratings exhibit excellent thermal stability at temperatures up to 1200 °C, showing a grating...

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 ...

In this report, modeling and experimental results are presented for three fiber Bragg gratings that were fabricated in Newport F-SMF-28 fiber with the direct-write method. The model is based on coupled ...

In this study long-period-fibre gratings (LPFGs) were prepared experimentally using a carbon dioxide (CO₂) laser pulse and SMF. The point by point (pbp) technique was used with ...

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