

In this paper, an alternative approach is presented to address the FBG fabrication without stripping polymer jacket of the fiber for distributed fiber sensing applications.

To reduce the signal crosstalk, we design two novel types of 10-kilometer-long FBG arrays with 10 000 equally spaced gratings, written on-line using a customized grating inscription system, which is ...

Femtosecond Laser Direct Writing (FLDW) has emerged as a prospective approach for FBG fabrication due to its nonlinear absorption ...

Subwavelength slanted gratings are crucial components in devices such as augmented reality systems and optoelectronic sensors due to their high diffraction efficiency and compact ...

Here, we present a comprehensive overview of the historic developments and recent advances in fs laser direct writing of FBGs. The grating formation mechanisms, including the index ...

In our experiment, in order to fabricate corrugated long-period fiber gratings, a new fabrication method with lithography and etching processes were used to form the grating pattern...

We proposed a compact self-injection locked fiber laser, employing a weak fiber Bragg grating (wFBG) to achieve external feedback linewidth compression. The simulated results indicated that the output ...

The mechanical strength of weak reflectors in the form of point defects or weak fiber Bragg gratings inscribed by point-by-point method using femtosecond radiation was systematically ...

Femtosecond Laser Direct Writing (FLDW) has emerged as a prospective approach for FBG fabrication due to its nonlinear absorption mechanism, low thermal damage, three-dimensional ...

Here, we report for the first time, to the best of our knowledge, a new method for fabricating high-temperature-resistant UWFBG arrays by using a femtosecond laser point-by-point (PbP) technology.

In this study, we present an AI- powered FLI system that enables automated, stable, and efficient FBG fabrication. By integrating a Multi-Layer Perceptron (MLP) model for real-time fabrication position ...

The phase change law of optical pulse transmission in a fiber affected by sound pressure is studied, which provides the theoretical support required for the preparation of a WFBG hydrophone with ...

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