

Customization Process for Low-Loss Fiber Bragg Gratings for Wind Power Generation

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 ...

We demonstrate the fabrication of the fiber Bragg grating (FBG) in a self-developed Yb-doped seven-core fiber using two femtosecond laser direct writing methods: a grating array ...

At the same time, the efficiency of grating inscription was greatly improved by utilizing the spherical aberration, the self-focusing effect in ZBLAN fiber and the parallel inscription technique.

The gratings are type II gratings that withstand temperatures of up to 1,000°C and as the process is applied through the coating of the fiber, no stripping and recoating is required, resulting in superior ...

We demonstrate the fabrication of a high-quality fiber Bragg grating (FBG) in a large mode area passive double-clad fiber (DCF) using femtosecond laser multi-layer line-by-line inscription.

An experimental study was conducted on the inscription of fiber Bragg gratings (FBGs) using the point-by-point (PbP) technique with an Ultrafast Laser. A slit was used for beam-shaping, ...

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 ...

In order to solve the problem of high loss of fiber Bragg gratings (FBGs) fabricated by femtosecond laser point by point, experimental research on the fabrication of femtosecond fiber ...

This section details the process by which three specific fiber Bragg gratings (very important milestones for this effort) were fabricated and characterized. The process featured a back-and-forth relationship ...

In this review, we present the historical developments and recent advances in the fabrication technologies and sensing applications of femtosecond-laser-inscribed FBGs. Firstly, the mechanism ...

In this study, a low-loss femtosecond fiber grating fabrication technology based on small aperture shaping is proposed. The filamentous shaping effect of the small aperture on the grating fringe is ...



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