The Role of Grating Etching in Optical Fibers

Abstract--Polymer Optical Fiber Bragg Gratings (POFBGs) can be solvent etched to achieve higher sensitivity sensors.

Based on fiber Bragg grating (FBG), an online monitoring system for the etching process of optical fiber in a hydrofluoric (HF) acid solution has been designed.

Both of these processes are used here at BYU, the first for making surface relief fiber Bragg gratings and the second for core replacement technologies. The goal is to perform these processes on a ...

We report a simple and compact optical fiber sensor based on surface relief gratings in conventional graded-index multimode optical fiber (GIMMF) for refractive index sensing.

This work presents an experimental investigation of the effect of chemical etching on the refractive index (RI) sensitivity of tilted fiber Bragg gratings (TFBGs). Hydrofluoric acid (HF) was used stepwise in ...

A method for producing uniformly thinned (etched) optical fibers is described, which can also be employed to etch optical fibers containing a Bragg grating (FBG) uniformly for evanescent-field ...

Blazed profile gratings are used in analyzers and optical systems where the signal-to-noise ratio is a leading factor. Achieving high signals while reducing the impact of the diffuse ...

An optical fiber grating is a small segment within an optical fiber altered to act as a selective filter for light. This treated area functions like a specialized mirror, reflecting a specific ...

Optical fiber grating technology plays a pivotal role in enhancing communication systems and sensing applications. This technology"s ability to reflect and transmit light efficiently allows for signal ...

Chemically wet Etched Fiber Bragg Grating (EFBG) finds wide application in chemical and biochemical sensing domain. This paper demonstrate for the first time use of low cost high plastic ...

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