

Spectrometer Measurement of Fiber Bragg Grating Spectra

In this paper, we describe the spectral characteristics that can be achieved in fiber reflection (Bragg) and transmission gratings. Both principles for understanding and tools for designing fiber gratings are ...

Our device is, to the best of our knowledge, the first spectrometer to use a CFBG in conjunction with fast single-photon-level detection and coincidence measurement to achieve spectrally-resolved single ...

Typically, the reflection spectra of a type I grating is equal to $1-T$ where T is the transmission spectra. This means that the reflection and transmission spectra are complementary and there is negligible ...

The measurement system is based on a FBG sensor and a grating spectrometer to measure the optical spectrum. When a fiber experiences stress, the characteristics of the reflected optical spectrum ...

In this paper we show that spectra can be acquired for each pixel in a confocal spatial scan by using a fast spectrometer based on an array of strong, broadband visible fiber Bragg gratings.

Abstract--An ultra-short fiber Bragg grating with a grating length of 0.2 mm and constant grating period (uniform FBG) is proposed as an integrated dispersive element for spectral analysis in a single-mode ...

To verify the performance of the proposed fiber spectrometer, we measure the transmission spectra of an excessively tilted fiber grating, which has a pair of orthogonal polarization...

We demonstrate the possibility of measuring reflection spectra of fiber Bragg gratings by tuning the wavelength of an off-the-shelf laser diode. Two methods of tuning are studied: temperature ...

Optical fiber sensors, including Bragg gratings, can be used to determine the refractive index value. The basic advantage of fiber optics is their small size and low invasiveness.

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