

Difficulty of Assembling a Fiber Bragg Grating Demodulator

A demodulation system built upon the F-P filter has a relatively slow demodulation frequency, leading to demodulation errors when measuring high-frequency changing physical ...

The low-frequency vibration signal with high signal-to-noise ratio (SNR) is difficult to be obtained in the conventional methods owing to the influence of temperature and background noise in ...

A demodulation algorithm is vital for a fiber Bragg grating (FBG) sensing system. In this paper, a novel demodulation algorithm based on the variable-step-size method and cross-correlation algorithm is ...

A FBG sensing signal demodulation system based on virtual instrument driven by Lab VIEW programming and optical fiber unbalanced M-Z interferometer is designed.

A novel approach to fibre Bragg grating spectra processing is proposed. The method is based on the use of nonlinear filtration and raising the spectrum value to the second power.

Abstract: We propose and experimentally demonstrate a simple, passive, and self-referencing wavelength shift detection scheme for use in fiber Bragg grating sensing systems. The demodulation ...

Fiber Bragg Grating (FBG) Demodulator: Select an FBG demodulator with appropriate channel counts (e.g., 4, 8, 16 channels) and sampling frequencies (e.g., 10Hz, 50Hz, 100Hz) to ...

This paper describes a new method that we have developed to generate Bragg grating filters in germania-doped communication fibers and ...

In this paper, ultra-weak fiber Bragg grating (UWFBG) array has been proposed to generate strong and controllable reflections while providing acceptable insertion loss.

Abstract: A high-performance, low-cost demodulation system is essential for fiber-optic sensor-based measurement applications. This paper presents a demodulation system for FBG sensors based on a ...

Based on the influence of hysteresis and creep of piezoelectric ceramics, a tunable F-P filter is calibrated with a standard to locate the central wavelength reflected by fiber Bragg grating. In ...

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