

Main Functions of Fiber Bragg Grating Demodulator

The aim of this article is to introduce an innovative algorithm for the calculation of the shift of the maximum reflectivity wavelength of a Fiber Bragg ...

Research on demodulation algorithms can be divided into three main parts. The first group is searching for better methods of spectrum denoising. The second group is identifying the ...

The fiber Bragg grating static demodulator is produced based on the working principle of the fiber Bragg grating demodulator. The grating demodulator has high accuracy, accurate calibration and ...

A fiber Bragg grating (FBG) is a type of distributed Bragg reflector constructed in a short segment of optical fiber that reflects particular wavelengths of light and transmits all others.

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 ...

This paper presents a new method of demodulating the spectrum of fiber Bragg grating (FBG) based sensors by employing deep convolutional neural networks (DCNN).

The proposed method offers the potential to enhance the capacity of FBG sensors within a network, paving the way for notable advancements in signal demodulation within intricate sensor ...

It can directly connect to various Fiber Bragg Grating sensors, forming a small FBG sensing system for individual or mixed measurements of physical quantities such as temperature, strain, stress, ...

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 ...

A super high-speed fiber grating demodulator capable of simultaneously demodulating four grating channels is designed. The demodulator uses Fourier domain mode.

Simulation and experimental findings demonstrate that FMD can effectively eliminate the information of environmental noise and temperature, and greatly retain vibration information. In the ...

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 ...

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