Optics & Photonics

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Applications of Fiber Bragg Grating Demodulation Systems





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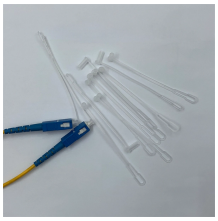
A three-points tracking-based high-speed fiber Bragg grating (FBG) demodulation method based on wavelength-tunable laser is proposed. The wavelength-tunable laser scans just three ...



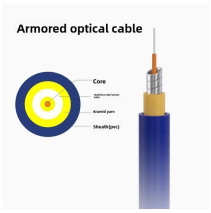
Abstract: A high-performance, low-cost demodulation system is essential for fiber-optic sensor-based measurement applications. This paper presents a demodulation system for FBG sensors based on a ...



Fiber Bragg gratings (FBGs) have evolved from passive sensing elements into actively programmable photonic components, enabling dynamic wavelength control across diverse applications. This review ...



In this Letter, we propose a high speed quasi-distributed demodulation method based on the microwave photonics and the chromatic dispersion effect. The scheme uses broadband light source and ...



In this paper, a photoelectric conditioning circuit for fiber Bragg grating demodulation is designed. The experimental results show that this method can accurately demodulate fiber Bragg ...

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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 ...



Fiber Bragg grating (FBG) sensors have emerged as advanced tools for monitoring a wide range of physical parameters in various fields, including structural health, aerospace, biochemical, ...



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 ...



In this article, a tracking-based high-speed demodulation method for FBG sensing system based on wavelength-tunable laser is proposed. The wavelength-tunable laser only scans ...

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