

Accurate demodulation is essential for a deeper understanding of the physical processes in fiber optic sensing systems, enhancing measurement accuracy, and optimizing system ...

In recent years, sensing and demodulation technologies based on microwave photonics have attracted widespread attention. Optical fiber sensing combined with microwave photonics has ...

In this paper, we propose and experimentally demonstrate a high-resolution sensing demodulation technique using optical vector analysis based on microwave photonics (MWP).

Abstract: In this article, we proposed an approach of strain demodulation using a fiber-optic Fabry-Perot (FP) sensor based on Gramian angle field (GAF) algorithm and deep learning with sparse sampling ...

We propose a phase demodulation algorithm in interferometric fiber-optic sensing systems based on 3 &#215; 3 coupler demodulation with high robustness and strong disturbance resistance, which...

This paper presents a fiber-optic sensor with intensity demodulation for simultaneous measurement of dynamic transverse force and axial strain. The sensor uses a Sagnac loop filter with a polarization ...

In this paper, we propose an advanced phase-generated carrier (PGC) demodulation algorithm, applied innovatively to membrane-free F-P acoustic sensors operating under high sound ...

We have designed and implemented a novel all-fiber optical demodulator for low-coherence Fabry-Perot-based fiber-optic sensors. The demodulator consists of a Michelson interferometer formed by a ...

This paper presents a method that integrates neural networks with arrayed waveguide gratings (AWGs) for the demodulation of fiber-optic sensors based on the Vernier effect and a novel, to our ...

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The demodulation methods available for fiber optic sensors are relatively numerous and varied, such as intensity demodulation, spectrum demodulation, low-coherence interference ...

# Fiber Optic Sensing Modulation and Demodulation

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