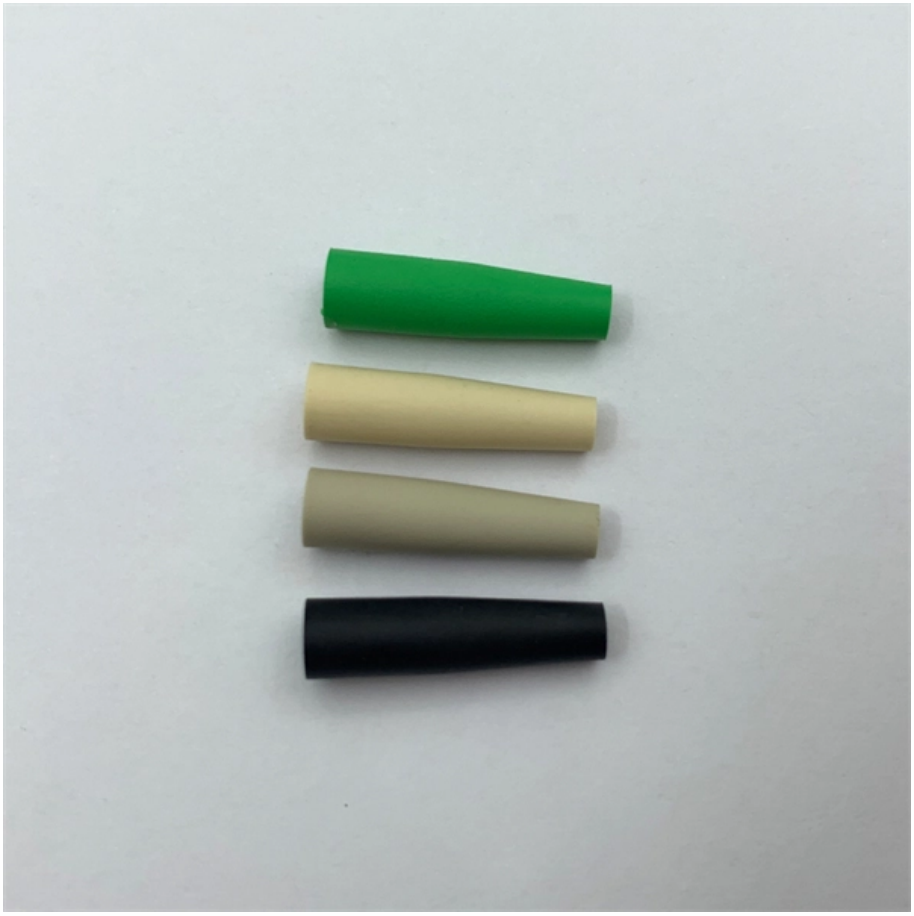
FRINDEL OPTICS

Why is PGC demodulation used in fiber optic sensing



Overview

The phase-generated-carrier (PGC) algorithm is the most widely used signal demodulation method for fiber-optic interferometer sensors (FOIS), due to its distinct advantages of high resolution, wide dynamic range, good linearity and multi-channels demodulation capability. Stimulated Brillouin scattering (SBS) suppression and phase demodulation are two fundamental issues in remote interferometric fiber sensing systems.

Why is PGC demodulation used in fiber optic sensing

Study of PGC Demodulation Scheme for Interferometric Fiber-Optic

PGC (phase generated carrier) demodulation scheme is used widely in fiber-optic sensors. In this paper, we analyzed what factors affect the demodulation effect of PGC scheme. We

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Study of AGC in Real-Time All-Digital Demodulation of Fiber Laser

However, when a phase noise stabilized laser is used, degradation in phase sensitivity of an interferometer can occur using PGC demodulation when compared with direct homodyne detection.

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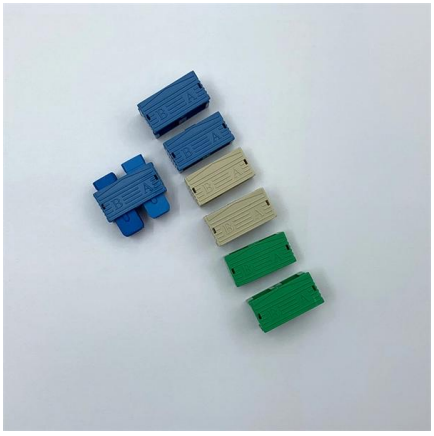

Nonlinear Optimization Method for PGC Demodulation of

Abstract. The fiber-optic hydrophone is an advanced detection method for mod-ern naval anti-submarine warfare and underwater weapon testing, mainly used to detect marine acoustic environments. The

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Research on the application of interferometric optical fiber sensors in

A novel ameliorated phase generated carrier (PGC) demodulation algorithm based on arctangent function and differential-self-multiplying (DSM) is proposed in this paper.

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Research of AGC technology in a digital optical fiber sensing system

In order to solve the problem of optic intensity fluctuating in the optical fiber sensing system with PGC modulation and demodulation, in this paper, firstly, it is analyzed that the impact of

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An Improved PGC Demodulation Algorithm for Fiber Optic

PGC demodulation schemes are widely used in fiber-optic interferometric sensors. All known PGC schemes use carrier signals to obtain in-phase and quadrature components from the

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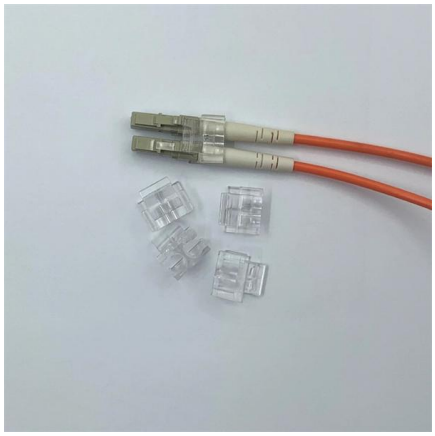

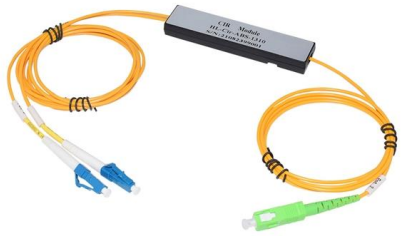

An improved PGC demodulation algorithm based on a reference

Fiber-optic interferometric sensors (FOISs) have been widely used in pipeline leakage monitoring, earthquake monitoring, building structure safety monitoring, and so on, because of their

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An ameliorated phase-generated-carrier demodulation algorithm for

The phase-generated-carrier (PGC) algorithm is the most widely used signal demodulation method for fiber-optic interferometer sensors (FOIS), due to its distinct advantages of high resolution, wide

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An improved high stability and low distortion phase generated carrier

The phase generated carrier (PGC) demodulation technique for phase-sensitive optical time-domain reflectometry (Đ¤-OTDR) has significant potential in applications involving distributed

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An improved PGC demodulation algorithm for optical fiber

Phase generated carrier (PGC) demodulation is widely used in optical fiber interferometers due to its high sensitivity, large dynamic range and high signal fidelity.

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Distributed optical fiber vibration sensing using phase-generated

Abstract novel optical fiber-distributed vibration-sensing system is proposed, which is based on self-interference of Rayleigh back-scattering with phase-generated carrier (PGC) demodulation algorithm.

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Optimized Phase-Generated Carrier Demodulation

Abstract Demodulation of fiber optic Fabry-Pérot (F-P) acoustic sensors with high sensitivity and a large dynamic range continues to pose significant challenges. In

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Recent Progress in Distributed Fiber Acoustic Sensing

Abstract and Figures Distributed fiber acoustic sensing (DAS) technology can continuously spatially detect disturbances along the sensing fiber

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(PDF) Improved PGC demodulation algorithm for fiber

Phase generated carrier (PGC) demodulation is widely used in optical fiber interferometers due to its high sensitivity, large dynamic range and high

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Simultaneously Achieving SBS Suppression and PGC Demodulation

In summary, we propose a method for simultaneously achieving effective SBS suppression and high-performance PGC demodulation using only an electro-optic phase modulator

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High Stability Fiber-Optics Sensors With an Improved PGC

In this paper, an optical fiber interferometric sensor with improved phase generated carrier (PGC) demodulation algorithm is proposed to eliminate the influence of light intensity

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All-digital demodulation system of interferometric fiber optic sensors

These improved algorithms are implemented at the cost of losing some performance of the systems. In this paper, we propose an all-digital demodulation system of interferometric fiber optic sensor with a

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(PDF) Multi-point vibration positioning method for long

This type of deep integration allows distributed sensing to utilize the optical fiber communication cable, wavelength channel, optical signal and

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Optimized Phase-Generated Carrier Demodulation

Since the performance of fiber optic acoustic sensors is directly influenced by demodulation methods, it is essential to develop a demodulation method that not

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PGC demodulation technique with nonlinear fitting algorithm to

1. Introduction Fiber optic interference sensors (FOIS) are characterized by high sensitivity, immunity to electromagnetic interference, and large dynamic range, and are widely used

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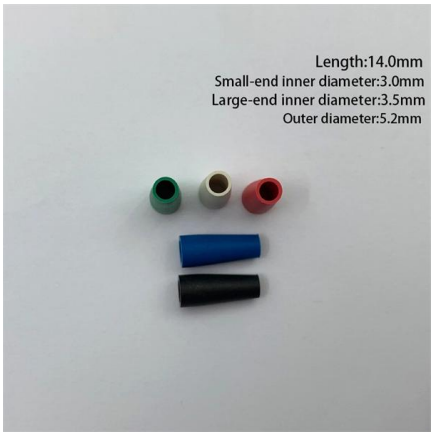

An improved PGC demodulation algorithm for optical fiber

Phase generated carrier (PGC) demodulation is widely used in optical fiber interferometers due to its high sensitivity, large dynamic range and high signal fidelity. Based on the traditional PGC

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High Precision and Stabilization PGC Demodulation Scheme for Fiber

Phase generated carrier (PGC) demodulation technology has been widely used in fiber-optic interferometric sensors while nonlinearity is always accompanying with the scheme.

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Simultaneously Achieving SBS Suppression and PGC

Stimulated Brillouin scattering (SBS) suppression and phase demodulation are two fundamental issues in remote interferometric fiber sensing

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Large Dynamic Range and High Sensitivity PGC Demodulation Technique for

Three-component fiber optic seismometers are widely used in the detection of seismic signals. The arctangent approach of phase-generated carrier (PGC-Arctan) demodulation algorithm is one of the

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High stability and low harmonic distortion PGC demodulation technique

Abstract Phase generation carrier (PGC) demodulation technique is widely adopted in the field of interferometric optical fiber sensors, for its high sensitivity, good linearity and large dynamic

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