FRINDEL OPTICS

Error Analysis of Fiber Optic Pressure Sensor

Error Analysis of Fiber Optic Pressure Sensor

Fiber optic pressure sensor based on a single-mode fiber F-P cavity

In this paper, we propose and experimentally demonstrate a pressure sensor based on birefringent single-mode fiber F-P cavity using optical heterodyne. The proof of concept device

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Fiber-Optic Pressure Sensors: Recent Advances in

This paper conducts a systematic analysis of the sensing mechanisms in fiber-optic pressure sensors, with a particular focus on the performance

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A new type of structure of optical fiber pressure sensor based on

Optical fiber pressure sensor shows great performance with low cost. In this study, a new type of structure of optical fiber pressure sensor (OFPS) based on polarization modulation is

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Low-pressure fiber-optic sensor by polyester Fabry-Perot cavity and its

This manuscript presents the development of a low-pressure extrinsic Fabry-Perot fiber optic sensor based on a thin polyester film, using a phase signal analysis. The proposed

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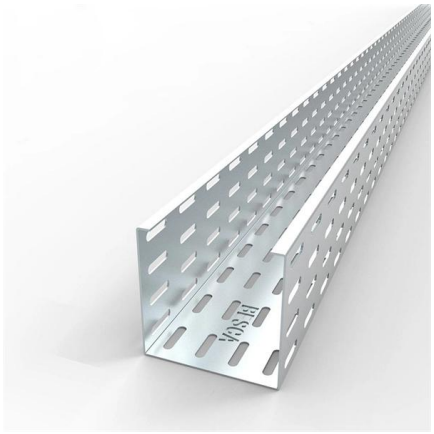

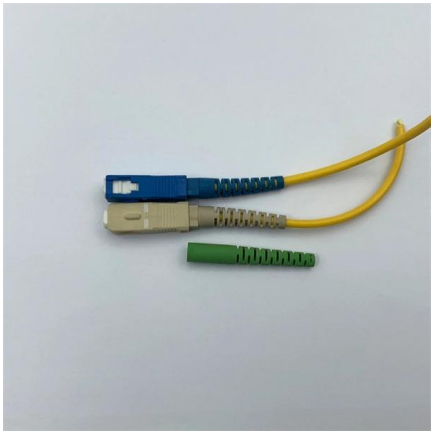

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High-sensitivity optical fiber seawater temperature and

OMCM is combined with a mechanically enhanced sensitivity fiber Bragg grating (FBG) to form a temperature-pressure sensor.

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Fiber fusion splicing error analysis of all-fiber optic current sensor

Measurement accuracy is essential for the all-fiber optic current sensor. Angle errors of axis alignment in the fusion processing affect the measurement accuracy with different modulation and

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High-Speed and Error-Suppressed Fiber-

Optic F-P System for

Abstract: Spectral interrogation has been an effective method for fiber-optic Fabry-Perot (F-P) sensors, but it still suffers from low sampling rate, poor dynamic response, and potential jump errors. In this

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The Experimental Validation of Designed Fiber Optic Pressure Sensors

This paper focused on the experimental validation of diaphragm-based Fabry-Perot fiber optic pressure sensors (D-FP-FOPS) with ethylene propylene diene terpolymers (EPDM) diaphragm as designed

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Ways to Reduce the Errors of a Fiber-Optic Low-Pressure Sensor

The problem of improving the metrological characteristics of an attenuator-reflective low-pressure fiber-optic sensor located in narrow cavities with uneven surfaces, in particular, in life

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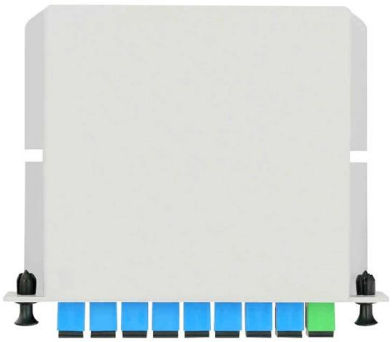

Investigation of the errors of attenuator-type fiber-optic pressure sensors

The errors of attenuator-type fiber-optic pressure sensors are investigated. The sources of errors of these sensors are analyzed and methods of reducing them by construction-technological

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Fiber-Optic Pressure Sensors: Recent Advances in

This paper conducts a systematic analysis of the sensing mechanisms in fiber-optic pressure sensors, with a particular focus on the performance optimization effects

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Distributed optical fiber pressure sensors

The measurement of pressure by using distributed optical fiber sensors has represented a challenge for many years. While single-point optical fiber pressure sensors have reached a solid

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Investigation of the errors of attenuator-type fiber-optic pressure sensors

The errors of attenuator-type fiber-optic pressure sensors are investigated. The sources of errors of these sensors are analyzed and methods of reducing them by

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Optical fiber pressure sensor using extrinsic Fabry-Perot

This paper discuss the theoretical analysis and experimental results of pressure measurement using optical fiber sensor with cladding modification and

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Review of high sensitivity fibre-optic pressure sensors for low

Abstract Fibre Bragg grating (FBG) pressure sensors show a great potential in replacing conventional electrical pressure sensors due to their numerous advantages. However, increasing

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Assessment of Fiber Optic Pressure Sensors

This report presents the results of a six-month Phase I study to establish the state-of-the-art in fiber optic pressure sensing and describes the design and principle of operation of various fiber optic pressure

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Well-scale demonstration of distributed pressure sensing using fiber

In this study, we used data from optical fiber-based Distributed Acoustic Sensor (DAS) and Distributed Temperature Sensor (DTS) to estimate pressure along the fiber.

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Analysis and elimination of bias error in a fiber-optic current sensor

Citations (13) References (11) Abstract Bias error, along with scale factor, is a key factor that affects the measurement accuracy of the fiber-optic current sensor.

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(PDF) Review of fiber-optic pressure sensors for

Companies commercializing fiber-optic sensors (FOS) for biomechanical and biomedical applications. Schematic drawing of two OFs in

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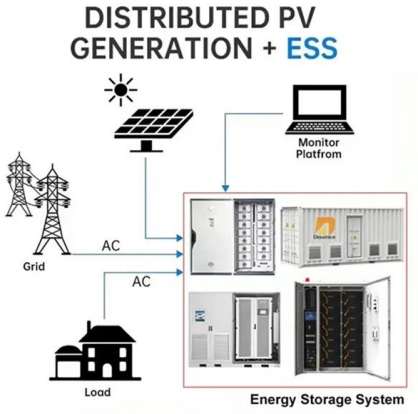

Review of fiber-optic pressure sensors for biomedical and biomechanical

Fiber-optic sensing technology is about forty years old and presents substantial advantages compared to conventional elec- tric sensing systems. Conventional sensors applied in

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Accurate measurement for high-pressure based on fiber optic Fabry

A technique for high-accuracy pressure measurement in the range of 11-109 MPa is demonstrated. It involves an encapsulated Fabry-Perot sensor and a spectral interrogation system. The full-scale

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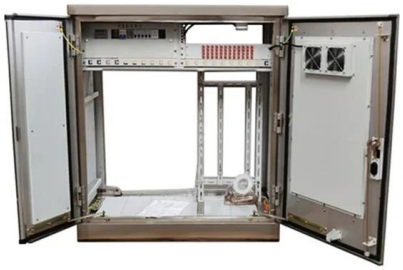

Research on the Fabrication and Parameters of a

In recent years, flexible pressure sensors have garnered significant attention. However, the development of large-area, low-cost, and easily

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Pressure Sensor Based on the Fiber-Optic Extrinsic Fabry-Perot

Abstract: Pressure sensors based on fiber-optic extrinsic Fabry-Perot interferometer (EFPI) have been extensively applied in various industrial and biomedical fields. In this paper, some key improvements

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High-Speed and Error-Suppressed Fiber-Optic F-P System for

In this article, we present a novel spectral interrogation system for the F-P sensor, with the advantages of error suppression and high speed.

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Review of fiber-optic pressure sensors for biomedical

As optical fibers revolutionize the way data is carried in telecommunications, the same is happening in the world of sensing. Fiber-optic sensors (FOS) rely on the

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Fiber Optic Pressure Sensor

In this paper, we demonstrated how much the optical power on the optical fiber is affected when applying a pressure on its core but also, we demonstrated the high sensitivity of the fiber optic based

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Review of high sensitivity fibre-optic pressure sensors for low

This paper aims to explore the recent progress of fibre optic pressure sensing technologies that are suitable for low hydrostatic pressure detection. It will first outline the history of FBG and bare

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