Analysis of Fiber Optic Displacement Sensors

Overview

Fiber Optic Displacement Sensors and Their Applications S. Ahmad1 1Photonic Research Center, University of Malaya, Kuala Lumpur 2Department of Electrical Engineering, Faculty of Engineering, University of Malaya, Kuala Lumpurdisplacement, pressure, temperature and electric field. Recently, high precision fiber displacement sensors have received significant attention for applications ranging from industrial to medical fields that include reverse engineering and micro-assembly (Laurence et al. These features make OFDSs ideal for use in confined spaces, such as turbines, where direct laser access is. lowing URL on the OSA website: 8 nm) and OPT 101 (Burr Brown) detector is used to detect the change in power-output due to object displacement. The correlation function.

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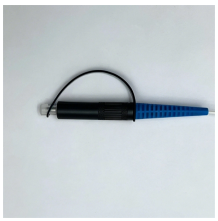
This article reviews specifically the advanced fiber optic displacement sensing techniques that have been developed in the past two decades.

A critical aspect of OFDS performance is the geometry of the fiber bundle, which influences key parameters such as sensitivity, range, and dead zones. In this work, we present a ...

fiber based sensors are also presented in this chapter. The application of the FODSs in liquid refractive index measu ement is investigated theoretically and experimentally. In the last part of this chapter, a ...

Intensity modulation-based displacement sensors represent the initial generation of optical fiber displacement sensors (OFDS) and have continuously evolved over the past decades [16 ...

In this chapter, fiber-optic displacement sensors (FODS) are demonstrated using an intensity modulation technique.

	Here, we present a comprehensive analytical model for multi-axis tilt sensing based on intensity-modulated optical fiber sensors (OFDSs).
	This paper studies the displacement sensor using multimode fiber coupler based on intensity modulation. Fiber coupler used is handmade from plastic optical fiber 1 mm diameter; it has coupling ...
	In this work, an algorithm for the optimization of the design of an optical fiber bundle displacement sensor for Tip Clearance and Tip Timing measurements is presented.
	B. R. Tittmann, “High sensitivity fiber optic angular displacement sensor and its application for detection of ultrasound”, Appl. Opt., v. 51, n. 20, p. 4841–4851 (2012).
	In this paper three different types of Intensity Fiber Optic Displacement Sensors (I-FODS) are presented. Three configurations of I-FODS were realized in two varieties.

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