Experimental Results of Fiber Optic Displacement Sensor

Here, we present a comprehensive analytical model for multi-axis tilt sensing based on intensity-modulated optical fiber sensors (OFDSs).

We propose a novel non-contact optical fiber displacement sensor. It uses a radio frequency (RF) interrogation technique which is based on bidirectional modulation of a Mach-Zehnder electro-optical ...

The mechanism of displacement sensing of sensor is investigated by mathematical analysis and tests. A novel and simple fiber-optic sensor for measuring a large displacement range in ...

Our paper begins by describing the mathematical model that underlies advanced sensor configurations. We then explain our method for designing the fiber bundles and critically analyze the ...

A system composed of two type fiber-optic displacement sensors is established to improve linearity in this paper by computation being made between a random type and a semicircle type reflective fiber ...

The optimal geometric parameters of the sensor structure were obtained based on the simulation results and the response of the sensor to different angular displacement was investigated.

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 ...

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 optic displacement sensor using multimode fiber coupler based on intensity modulation has been demonstrated. In general, both theoretical and experimental results agree each other.

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

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