

# Design of Fiber Bragg Grating Tilt Sensor



## Overview

**Abstract:** In this paper, a high-sensitivity fiber Bragg grating (FBG) tilt sensor using a cantilever-based structure is introduced. Two FBGs are fixed on a specially designed elastomer. **INTRODUCTION** Optical fiber sensing technology has obtained lots of attention and achievements in the last decade of rapid development. One end of the elastomer is connected to the mass block, and the other end is connected to the shell.

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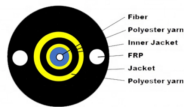
Abstract: In this paper, a high-sensitivity fiber Bragg grating (FBG) tilt sensor using a cantilever-based structure is introduced. Two FBGs are fixed on a specially designed elastomer. One end of the ...



Traditional FBG tilt sensors are easily affected by the external vibration, and to overcome such problem, this work proposes a novel FBG tilt sensor with a vibration damping feature.



By evaluating the advancements in sensor design, implementation methods, and packaging techniques, we will assess the effectiveness of FBG sensors in SHM, environmental sensing, biochemical ...



This paper reviews on several typical structures and application of Fiber Bragg Grating sensors for tilt measurement. It is expected to provide some useful hints for FBG based tilt sensors for wider ...



Addressing the issue of existing FBG tilt sensors that can only measure tilt angles in a single axial direction due to their pendulum structure in structural design, a dual-axis FBG tilt sensor ...



tilt sensor designs presented in the literature. Also, this buoyance-based FBG tilt sensor can be made in a ymmetrical shape to avoid the effect of rotation. The sensor resolution can be further increased by

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