

Fiber Optic Suppressed Total Internal Reflection Sensor



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This paper presents a method for detecting subsurface defects of optical components based on spectral confocal and total internal reflection technology. This method can realize high ...



In the present work, we apply this model to the total internal reflection of light and evanescent waves. We also deduce a one-to-one correspondence between the transmission coefficient in wave ...



A fiber optic transducer utilizes a single optical fiber having one end surface, disposed adjacent a sensor element, cut at an angle to result in frustrated total internal reflection....



A modified weak measurement scheme, rotatory biased weak measurement, is proposed to significantly improve the sensitivity and resolution of the total internal reflection sensor.



Abstract This review focuses on silica-based optical fibers, guiding light through the total internal reflection mechanism, that are currently used in telecommunications and sensor networks.



In an FTIR touch sensor, a light source, usually infrared (IR), is injected into the edge of an acrylic panel. The light undergoes TIR within the panel and remains trapped until an object such ...



The objective of this paper is to present a detailed investigation of the frustrated-total-internal-reflection (FTIR) phenomenon in silica-glass-based optical fibers and its application to simple intensity ...



The angle of total internal reflection defines the "numerical aperture" (NA) of the fiber, a standard fiber specification. You can demonstrate this principle with a large plastic rod (~25mm/i" diameter) and a ...



In this work the design and construction of a simple fiber-optic pressure sensor based on the principle of frustrated-total-internal-reflection in a fiber cut beyond the critical angle are described.

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