

Optical fiber is comprised of a central core with a high refractive index surrounded by cladding with a low refractive index. When light enters the core, repetitive total internal reflection at the boundary of the ...

When the incident light hits the core-clad interface at angles larger than its critical angle, the light is completely reflected and guided in the fiber. In contrast, the incident light which meets the ...

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The optimization of machine learning (ML) approaches for multimode interference (MMI) fiber sensors plays a critical role in enhancing wide-range refractive index (RI) detection for...

The effect of variation in the different geometrical and fabrication parameters of fiber optic displacement sensor on the performance of the sensor are discussed and analyzed here.

Radiation absorption creates electronic excited states that are trapped by localized defects for extended periods of time. Heating the material enables the trapped states to interact with phonons and decay ...

The REAST sensor allows for measurement of real-time surface erosion rates at a discrete surface location. The sensor is optical, using two different, co-located fiber-optics to perform the regression ...

A novel functionalized long period fiber grating (LPFG) sensor based on graphene oxide (GO)/cellulose acetate (CA) composites was developed for ammonia sensing.

In this work we show the performance of these techniques on the measured responses of three optical fiber sensors that are based on a Mach-Zehnder interferometer in reflection mode.

The OTDR can measure the amount of light that's returned from both backscatter of the fiber and reflected from a connector or splice, leading to two independent tests, reflectance and optical return ...

In this study, we proposed non-contact detection of formaldehyde solution based on a fiber bundle sensor. Displacement tuning and reflection methods were used to collect the intensity and ...

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