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Surface modification and detection schemes are emphasized for their potential for label-free and real-time biosensing. The challenges and prospects of FOLSPR sensors are addressed, ...

The selection of the right fiber optic sensor and the suitable fiber optics are crucial for reliable object detection even under demanding environmental conditions.

Different SPR optical fiber biosensors, including traditional optical fiber SPR biosensors, microstructured optical fiber (MOF) biosensors, grating-assisted plasmon fiber SPR biosensors, and others, are ...

This article outlines methods to improve the performance of optical fiber SPR sensing, such as sensitivity, detection limit, detection range, and specific selectivity.

Abstract Fiber-optic sensing (FOS) technology has emerged as a cutting-edge research focus in the sensor field due to its miniaturized structure, high sensitivity, and remarkable electromagnetic ...

Brief theory of sensing principle, fabrication method, applications, advantages and disadvantages of the different fiber-optic sensors, are addressed. Recent progress in numerous ...

Simply put, a fiber-optic sensor, a core component of an optical detection system, transmits and detects signals via optical fibers. Unlike traditional electrical sensors (e.g., proximity ...

Our proposed sensor shows high sensitivity and simultaneously simple design with high performance.

Imagine a world where the Internet doesn't just connect but senses--detecting earthquakes, monitoring battery health, or safeguarding critical infrastructure. This is the power of ...

This study reports the development of a fiber-optic localized surface plasmon resonance (FO-LSPR) sensor incorporating a three-dimensional micropillar array functionalized with gold ...

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