Three-layer structure of fiber optic SPR sensor

In our present work, the sensing characteristics of three- and four-layer metallic fiber-optic SPR sensors are analyzed based on their sensitivity, DA, and operating range.

The PCF sensor structure consists of three layers applied to its outer surface: TiO 2, ITO, and Au films, arranged from the outermost to the innermost layer. The design features eight air ...

In this review article, we present the principle of SPR technique for sensing and various designs of the fiber optic SPR probe reported for the enhancement of the sensitivity of the...

To fabricate an SPR-based fiber optic sensor, the silicon cladding from a small portion of the fiber, preferably from the middle, is removed and the ...

In this review article, we present the principle of SPR technique for sensing and various designs of the fiber optic SPR probe reported for the ...

The sensing principles of optical fiber-based SPR sensors are introduced, and different optical fiber-based SPR biosensors are described. Finally, the present challenges and prospects are discussed.

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

A surface plasmon resonance sensor composed of photonic crystal fibers (PCF-SPR) with an A u-T i O 2-A u triple layer is designed for refractive index (RI) sensing and analyzed theoretically ...

In this chapter, we look at how, over the past three decades, the surface plasmon resonance sensor has outperformed the more traditional interferometric method.

In recent years, various nanostructures have been proposed to design SPR biosensors. By constructing composite nanostructures, the detection sensitivity has been significantly enhanced,...

To fabricate an SPR-based fiber optic sensor, the silicon cladding from a small portion of the fiber, preferably from the middle, is removed and the unclad core is coated with a metal layer.

In this study, a three-strut wagon-wheel structure, coated with the gold layer of nano-sized thickness, has been proposed as the SPR sensor.

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