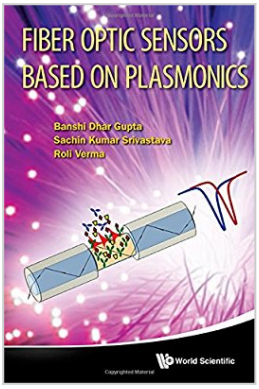

Fiber Optic Sensors Based on Plasmonics

By Banshi Dhar Gupta, Sachin Kumar Srivastava, Roli Verma

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The book provides an introduction of surface plasmons and presents its applications in the sensing of various chemical and biological analyses using optical fiber technology. The field is developed by introducing the surface plasmons for semi-infinite metal–dielectric interface with discussion of their propagation length and penetration depth. Practical issues with the excitation of surface plasmons in different configurations and in various geometries including various means of their excitation have also been included. The book discusses the essential components of fiber optic sensors, their functions and the performance parameters along with the theoretical description of fiber optic Surface Plasmon Resonance (SPR) sensors with respect to various light launching conditions. The fabrication methods and protocols used for the fabrication of the fiber optic SPR chemical and biosensors have been described. Some fiber optic sensing applications based on SPR phenomena and various issues, such as sensitivity enhancement, influence of external stimuli etc, have been an important part of the book.

The book will help beginners as well as established researchers in understanding the fundamentals and advancements of optical fiber plasmonic sensor technology. The book contains both the rigorous theory and the experimental techniques of SPR and related variety of sensors.

Readership: Beginners as well as established researchers who are interested in the fundamentals and advancements of optical fiber plasmonic sensor technology.

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- Sales Rank: #229213 in Books
- Published on: 2015-07-27
- Original language: English
- Number of items: 1
- Dimensions: 9.30" h x 1.00" w x 5.90" l, .0 pounds
- Binding: Hardcover
- 284 pages

Editorial Review

From the Inside Flap
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