



Journal Menu

- Abstracting and Indexing
- Aims and Scope
- Article Processing Charges
- Articles in Press
- Author Guidelines
- Bibliographic Information
- Contact Information
- Editorial Board
- Editorial Workflow
- Reviewers Acknowledgment
- Subscription Information

- Open Special Issues
- Published Special Issues
- Special Issue Guidelines

Call for Proposals for Special Issues

Journal of Sensors
Volume 2009 (2009), Article ID 470175, 11 pages
doi:10.1155/2009/470175

Research Article

Design and Fabrication of Slotted Multimode Interference Devices for Chemical and Biological Sensing

M. Mayeh,^{1,2} J. Viegas,^{1,2,3,4} P. Srinivasan,⁵ P. Marques,^{3,4} J. L. Santos,^{3,4} E. G. Johnson,^{1,2} and F. Farahi^{1,2}

¹Department of Physics and Optical Science, University of North Carolina at Charlotte, Charlotte, NC 28223, USA

²Center for Optoelectronics and Optical Communications, University of North Carolina at Charlotte, NC 28223, USA

³INESC Porto, Rua do Campo Alegre 687, 4169-007 Porto, Portugal

⁴Departamento de Física, Faculdade de Ciências da Universidade do Porto, 4169-007 Porto, Portugal

⁵College of Optics and Photonics, University of Central Florida, Orlando, FL 32816, USA

Received 2 February 2009; Accepted 5 May 2009

Academic Editor: Christos Riziotis

Abstract

We present optical sensors based on slotted multimode interference waveguides. The sensor can be tuned to highest sensitivity in the refractive index ranges necessary to detect protein-based molecules or other water soluble chemical or biological materials. The material of choice is low-loss silicon oxynitride (SiON) which is highly stable to the reactivity with biological agents and processing chemicals. Sensors made with this technology are suited to high volume manufacturing.

- Abstract
- Full-Text PDF
- Full-Text HTML
- Linked References
- How to Cite this Article
- Complete Special Issue