



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

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Review Article

Photonic Crystal Fiber Sensors for Strain and Temperature Measurement

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

Abstract

This paper discusses the applications of photonic crystal fibers (PCFs) for strain and temperature measurement. Long-period grating sensors and in-fiber modal interferometric sensors are described and compared with their conventional single-mode counterparts. The strain sensitivities of the air-silica PCF sensors are comparable or higher than those implemented in conventional single-mode fibers but the temperature sensitivities of the PCF sensors are much lower.