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Optical Fiber Sensors and Its Application in Structural Health Monitoring

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Message from the Guest Editor

Dear Colleagues,

This Special Issue of *Sensors* focuses on the emerging field of optical fiber sensors and their applications in structural health monitoring of critical infrastructures, large mechanical structures, and composite materials. Optical fiber sensors, such as fiber Bragg grating, Brillouin optical time domain reflectometry, and optical frequency domain reflectometry, offer unique advantages like high sensitivity, immunity to electromagnetic interference, and distributed sensing capabilities. These sensors can be embedded inside materials for in situ online monitoring of structural deformations and damages.

The Special Issue aims to collect papers including:

- Novel optical fiber sensor designs, fabrication techniques, and materials for enhanced sensing performance;
- Forming process and sensing method of embedded fiber optic intelligent materials;
- Multiplexing and interrogation methods for large-scale sensor networks in SHM;
- Distributed fiber optic sensing techniques and applications in material health monitoring;
- Integration of optical fiber sensors with other sensing technologies and IoT platforms for comprehensive SHM solutions;



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Special Issue



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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. *Sensors* organizes Special Issues devoted to specific sensing areas and applications each year.

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