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Enhanced Sensing Performance in Optical Fibers

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Message from the Guest Editors

Fiber-optic sensors offer several advantages, such as their small size, resistance to electromagnetic interference, and remote and distributed measurement, making them widely applicable in various fields. The rapid evolution of fiber sensing techniques, fiber manufacturing, optical networks, and data processing has provided an opportunity for collaborative efforts across diverse multidisciplinary fields.

This Special Issue aims to present sensing performance-enhanced fiber-optic sensors in terms of both their fundamental research and field applications. Topics include but are not restricted to:

- Novel mechanisms and technologies in fiber-optic sensing;
- Novel mirco and nanostructured fiber devices for sensing applications;
- High-performance distributed fiber-optic sensors based on Rayleigh, Brillouin, and Raman scattering;
- Fiber Bragg grating-based quasi-distributed sensors;
- Data-driven artificial intelligence-enabled data processing methods for fiber-optic sensors;
- Optic-electronic detection techniques for fiber-optic sensors;
- Applications of performance-enhanced fiber-optic sensors in optical communication networks

We look forward to receiving your contributions.

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Special Issue