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Sensors Based on Photonic Crystal Fiber

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Message from the Guest Editors

Dear Colleagues,

Photonic crystal fibers belong to a kind of special fiber that have numerous unique characteristics. Many air holes are distributed on the cross-section and go through the whole fibers, which makes the fiber easy to deform and more sensitive to ambient force. Photonic crystal fibers are less sensitive to temperature, and the crosstalk between detected parameters and temperature can be avoidable because the background materials of the special fiber are generally pure silica and air, whose thermal dependences are very low. Moreover, the existence of air holes provides a platform to integrate the fiber with optical functional materials, such as fluorescent materials, two-dimension nanomaterials, metallic materials, biochemical materials, photoelectric materials and so on. The sensing characteristics of fiber sensors could be improved by filling the photonic crystal fiber with optical functional materials. Meanwhile, the materials in the holes of the photonic crystal fiber can be protected from external mechanical damage, the stability of the sensors can be improved that way.

This Special Issue is focused on sensors based on photonic crystal fiber.



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Special Issue



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Message from the Editor-in-Chief

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