

Special Issue

Development of Fiber Bragg Grating Sensors for Measurements in Extreme Environments

Message from the Guest Editors

Fiber Bragg grating (FBG)-based optical sensors have attracted great attention in a variety of fields due to their inherent advantages, such as being electrically passive, being immune to electromagnetic interference (EMI), being small and having multiplexing capability. Although the applications have been successful, they have been mainly limited to conventional industrial environments. The application of FBG sensors in harsh and extreme environments is still under exploration. These harsh environments include but are not limited to the following:

- Nuclear power plants and furnaces, where the temperatures vary from a few hundred to a few thousand degrees Celsius.
- Cryogenic environments, where the FBG sensors could become less sensitive or insensitive.
- Fusion reactors, where the significantly high dose of radiation can cause light attenuation in the fiber.
- Corrosive environments.
- Space.

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Deadline for manuscript submissions

10 June 2025



Photonics

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CiteScore 2.6



mdpi.com/si/200519

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