Special Issue

Optical Thermometry: Concepts, Methods, and Applications

Message from the Guest Editors

Temperature is one of the fundamental thermodynamic quantities of many particle systems and plays a key role in the behavior of matter. Its measurement is ubiquitous in scientific research and industrial applications. Hence, developing novel sensors for temperature monitoring has long been an active and dynamic field of research. Optical thermometry allows optical read outs of local temperature and is able to circumvent many of the challenges and limitations encountered in other traditional thermometry techniques, which are mostly based on contact electrical resistance probes. Optical thermometry possesses the advantages of noncontactness and corrosion resistance, high accuracy and fast response, and multiplex and high-resolution imaging capacity. This Special Issue addresses the state-of-the-art research on optical thermometry, with emphasis on technical concepts, instrumentation, implementation, calibration algorithm, and novel applications. Topics of interest include but are not limited to both development and application aspects, thermometry or temperature sensing based on fluorescence or photoluminescence, fiber-optics, and photonic bandgap

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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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