Special Issue

Laser Doppler Sensors

Message from the Guest Editors

Laser Doppler vibrometers, laser Doppler anemometers, laser surface velocimeters, and laser Doppler extensometers are sensors based on laser Doppler technology. Such sensors utilize an interferometric detection scheme and broadband demodulation of the derivative of the interference phase. Since the derivative of the interference phase corresponds to the laser Doppler frequency shift generated by a moving target reflecting or scattering the measuring laser beam, such sensors are called laser Doppler sensors. Special techniques such as heterodyning, signal diversity, and multiwavelength length detection make laser Doppler sensors reliable, accurate, and highly sensitive. Laser Doppler sensors therefore influence many research areas and industrial applications. Recent developments have even enabled speckle-insensitive laser Doppler sensors. Other topics include, for example, suppression of the sensor's self-movement, tracking of moving objects, multichannel detection and measurements of microscopic objects. This Special Issue on laser Doppler sensors deals with the latest findings and developments, and contemporary applications in sensors based on laser Doppler techniques.

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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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