



LIPSS (Laser-Induced Periodic Surface Structures) Based Sensors in Intelligent Manufacturing

Guest Editors:

Dr. Mikel Gomez-Aranzadi

Dr. Santiago M. Olaizola

Dr. Ainara Rodriguez

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Message from the Guest Editors

when solids are exposed to linearly polarized laser radiation, a phenomena known as Laser Induced Periodic Surface Structures (LIPSS) occurs. Typically, they manifest as a surface relief made up of periodic or quasiperiodic lines that display a strong link to both the wavelength and the polarization of the radiation. These structures can be produced on practically every material (metals, semiconductors, and dielectrics).

LIPSS nanostructuring has demonstrated its efficiency in important applications including the creation of geometrical phase elements, gas sensing, enhanced tribological qualities towards drag reduction, cell migration control, or structural colorization. As a result, their use has the potential to enhance the functionality of numerous applications.

This Special Issue is addressed to all types of sensors and related devices in which LIPSS play a prominent part.

Keywords:

- LIPSS
- Femtosecond
- Laser
- Nanostructuring

Polarization





sensors



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Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro

Dipartimento di Ingegneria
Elettrica e dell'Informazione
(Department of Electrical and
Information Engineering),
Politecnico di Bari, Via Edoardo
Orabona n. 4, 70125 Bari, Italy

Message from the Editor-in-Chief

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Sensors Editorial Office
MDPI, Grosspeteranlage 5
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