

The European Physical Journal

EPJ AP



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Call for papers

Applied Physics

Special Issue on 'Laser Applications'

From:
Partial discharge localization
in power transformers based
on the sequential quadratic
programming-genetic algorithm
adopting acoustic emission techniques
by H.-L. Liu and H.-D. Liu

Guest Editors

- ***Prof. Sophie COSTIL, Belfort, University of Technology Belfort-Montbéliard (UTBM), France***
- ***Ass. Prof Matthieu SCHNEIDER, Paris, Arts et métiers, France***

edp sciences

Background

Laser processes are constantly evolving, both from a technological point of view and from the point of view of associated applications. The arrival on the market of new laser sources forces us to regularly revisit the physics associated with the various laser-matter interaction regimes. This situation brings to light new emerging processes (welding, cutting, surface treatments, additive manufacturing, micromachining) which require new studies on a

permanent basis. The relationship between processing conditions (laser power, pulse duration, etc.) and material properties must therefore be studied at different scales. The tremendous growth of interest for **multiscale materials** comes from the fact that their chemical and physical properties can be tuned by varying their compositions and structures.

Aim and Scope of the Themed Issue

The aim of this Special Issue on the laser processes and multiscale materials is to bring together information on the recent progress, novel technologies, advanced equipment described in our works on the design and development of advanced materials using laser and provide guidelines/benchmarks for further research in surface treatments, Additive Manufacturing, machining, welding, etc. Different alloy materials can be prepared by laser technology, designing appropriate atomic structures to construct nano and microstructures as well as dissimilar assembly. Examples of some of the recent advances relating to the design, properties, and processing of advanced alloys including novel material processing techniques, microstructural characterization, computer simulation, and advanced equipment.

This special edition is mainly based on the thematic school named ‘Laserap’ dedicated to laser applications and held from October 10 to 14, 2022 in France. The topics of the papers that will be considered for publication cover the current research in the field of laser processing of materials in order to relate the influence of their compositions, structures on the properties of use.

Submissions

All relevant papers will be carefully considered, reviewed by a distinguished team of international experts, and published in accordance to the [Journal’s standard policies](#). Full research papers and comprehensive review articles can be submitted online via the journal’s [submission and peer review site](#) and choose, during the submission, the special issue: ‘**Laser Applications**’.

Submission deadline – October 31st 2022

Charges

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2. For papers that have not chosen the Open Access Option (those papers will be read only by subscribers), there are **no publication charges**.

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