Special Issue

Intense Optical Pulse Processing

Message from the Guest Editor

Intense optical pulse processing, utilizing either xenon flash lamps or lasers, allows a fast and selective heating of materials. The thermal processing times can be reduced down to milliseconds or nanoseconds. The processing can be precisely limited to the material surface with a minimal thermal exposure of the whole solid body. The achievable final temperature of the surface layer can be more than 2000 °C depending on the intensity of the light pulse and on the optical properties of the material. Therefore, intense optical pulse can be used for various applications in recrystallizing implanted semiconductors, solar cells, roll-to-roll flexible electronics, etc. This Special Issue invites submissions on aspects of material processing by utilizing an intense optical pulse, including full papers, communications and reviews. Topics can include, but are not limited to, the following:

- Doping semiconductors
- Thin film solar cells
- Energy materials
- Flexible electronics
- Ion beam modified materials
- Roll-to-roll processing
- Flash lamp annealing
- Pulsed laser melting

Guest Editor

Dr. Shengqiang Zhou

Department of Semiconductor Materials, Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), D-01314 Dresden, Germany

Deadline for manuscript submissions

closed (31 December 2019)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/15079

Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

MDPI

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)