Special Issue

Electron-Phonon Coupling of Metals

Message from the Guest Editor

The field of two-temperature state of matter has attracted physicists' attention since the early 1960s, with the advent of first powerful lasers. Upon high-energy-density deposition, matter enters a transient state with highly excited electrons and relatively cold and unaffected atoms/ions. Many practical applications of irradiation of materials demand a detailed understanding of the fundamental processes taking place. To this date, there are many unknown aspects of states of matter produced under irradiation. In particular, electron–phonon (electron–ion) coupling is one of the most important parameters governing material evolution after ultrafast energy deposition, which remains the most unexplored. This Special Issue focuses on the current state of knowledge in the field of electron–phonon coupling in metals. It may include experimental as well as theoretical papers, describing all aspects of the electron–ion coupling process in metals and comparisons with nonmetallic materials. It is my pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome.

Guest Editor

Dr. Nikita Medvedev

Institute of Physics and Institute of Plasma Physics, Academy of Science of Czech Republic, Na Slovance 1999/2, 18221 Prague 8, Czech Republic

Deadline for manuscript submissions

closed (20 June 2022)

Materials

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 5.8
Indexed in PubMed

mdpi.com/si/64765

Materials
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 3.1
CiteScore 5.8
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 - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (Condensed Matter Physics)