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Materials Behavior under Compression

Guest Editor:

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Deadline for manuscript submissions:
closed (20 September 2022)

Message from the Guest Editor

Pressure can induce dramatic changes in materials and give us a much broader field to search for new phases with enhanced properties. Pressure also serves as a smooth and clean tuning parameter that could improve our basic understanding of existing materials at different levels of atomic and molecular interactions. These materials can vary from crystalline to amorphous phases at macro–meso–nano scales and display different dimensionalities. The advent and development of the diamond anvil cell technology and concurrent breakthroughs in next-generation synchrotron, neutron, and laser facilities offer numerous opportunities to probe samples over a wide pressure–temperature space at the relevant energy, spatial, and temporal scales. The experimental approach and theoretical simulations alone or in combination have provided fruitful results for advancing the understanding on the key problems in high-pressure physics, chemistry, materials sciences, and geosciences. This is a prime time to be involved in the transformative science associated with the pressure dimension.

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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.

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

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