



## Theoretical, Computational, and Experimental Studies of Deformation Behavior in HCP Metals

Guest Editor:

**Dr. Andriy Ostapovets**

Department of Experimental Studies and Modelling of Structure, Institute of Physics of Materials, Czech Academy of Sciences, 616 00 Brno, Czech Republic

Deadline for manuscript submissions:

**closed (31 May 2022)**

### Message from the Guest Editor

Materials with a hexagonal close packed (HCP) crystal structure (e.g., magnesium and titanium alloys) are subjects of significant interest. HCP materials exhibit significant plastic anisotropy, which leads to the important role of deformation twinning in plastic deformation. The complexity of the deformation mechanisms in HCP metals leads to the continued interest to this problematic. Particularly, deformation twinning in these materials is still the subject of intensive study.

Topics addressed in this Special Issue may include but are not limited to:

- Atomistic modeling and simulations of crystallographic defects responsible for plastic deformation in HCP metals: dislocations, twin boundaries, grain boundaries;
- Experimental study of crystallographic defects: their structure, mobility, and mechanisms of mutual interaction;
- Theoretical and experimental studies of phase transformations, which take place during plastic deformation of HCP metals and alloys;
- Theoretical and experimental study of the relationship between microstructure and plastic properties of HCP metals.





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Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

## Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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Metals Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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