metals

an Open Access Journal by MDPI

IMPACT FACTOR 2.6

CITESCORE 4.9

Twinning in Hexagonal Materials

Guest Editors:

Dr. Jean-Sebastien Lecomte
LEM3—Laboratoire d'Etude des Microstructures et de Mécanique des Matériaux, University of Lorraine, F-57045 Metz, France

Dr. Christophe Schuman
LEM3—Laboratoire d'Etude des Microstructures et de Mécanique des Matériaux, University of Lorraine, F-57045 Metz, France

Deadline for manuscript submissions:
closed (31 January 2020)

Message from the Guest Editors

In hexagonal-close-packed (HCP) metals, slips occur mainly in <**a**> direction in the basal planes (B<**a**>), in the prismatic planes (P<**a**>) or in the first-order pyramidal planes (π_1<**a**>). The hierarchy of these deformation modes changes, among other things, in function of the axial ratio *c/a*: so the HCPs, having a $c/a < 1.633$ (Ti, Zr), P<**a**> is the principal glide system (PGS) contrary to the HCPs with a $c/a > 1.633$, such as Zn or Cd, where the PGS is B<**a**>.

This Special Issue invites researchers to submit original research and review articles on all disciplines in which the theoretical or practical problems of twinning in HCP metals are taken into account. Topics of interest include, but are not limited to:

- Atomistic calculations ab-initio type, first principles, dislocation dynamics
- Inclusion of twinning in VPSC medium or full field models
- Twin transmission by grain boundaries
- Crystal plasticity, behavioral laws that explain plastic deformation based on dislocation and twinning
- Self-consistent, fast Fourier transform (FFT), and finite element (FE) methods (like CPFEM)
- Characterization methods: EBSD, TEM; in 3D: FIB, neutrons

metals

IMPACT FACTOR 2.6

CITESCORE 4.9

an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang
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.

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), Inspec, CAPlus / SciFinder, and other databases.
Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
𝕏@Metals_MDPI