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Dislocations and Twinning in Metals and Alloys

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Message from the Guest Editors

Dear Colleagues,

Crystalline defects endow materials with diverse microstructural characters, which enable the tuneable modification of the material's properties. Dislocations and twin boundaries (TBs) are two common types of crystalline defects in metals and alloys that have significant influence on their properties. The past few decades have witnessed eminent progress in the design and deployment of metals and alloys with superior performances by tuning their dislocations and/or TB microstructures. In this Special Issue, we aim to collect a wide spectrum of articles that elucidate the contributions of dislocations and/or TBs to the behaviours and properties of metals and alloys, which includes, but is not limited to, the following topics: (a) the interaction between dislocations, TBs and other defects, such as grain boundaries and precipitates; (b) the correlation between plastic deformation mechanisms and mechanical properties in nano-twinned structures; (c) deformation twinning mechanisms in metals and alloys. Experimental and/or computational investigations of plastic deformation related to dislocations and TBs are welcome.



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Special Issue



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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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