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Thermomechanical Processing and Microstructure Control of Ti Alloys

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Message from the Guest Editors

Ti alloys offer a wide range of properties such as excellent corrosion resistance and biocompatibility, high specific strength, and high-temperature strength, which are facilitated by proper control of microstructures. Ti has an allotropic nature which provides an opportunity to be processed with diverse phases and crystallographic structures. Enhanced mechanical properties are attributed to the tailoring microstructure, constituent phases, grain refinement, and crystallographic texture, which can be imparted by thermomechanical treatments. Significant progress has been made over the last few decades in developing high-strength Ti alloys at both room temperature and elevated temperatures via solid solution and particulate reinforcement; however, further improvement in the mechanical properties of Ti alloys is still needed. This Special Issue aims to present recent original research on the microstructure and mechanical properties of Ti alloys. The scope includes detailed microstructure characterization and its correlation with improved mechanical properties, including but not limited to tensile and compression strength, ductility, creep resistance, and fracture toughness.

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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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