Special Issue

Microstructure and Mechanical Properties of Welding Joints

Message from the Guest Editors

Welding is the basic method employed to manufacture complex structures. The relationship between the welding process and microstructures has been discussed for many years regarding the enhancement of joint properties. In recent decades, novel welding methods and materials have been applied in order to modify the microstructure of joints, enhance their mechanical properties, and enable joints to be applied in harsher working environments. For example, laser shock peening is employed to eliminate the surface residual tensile stress of joints; high-energy beam connections between the engine combustion chamber fascia and skin are utilized to realize the assembly of additively manufactured parts; the biocompatibility of structures such as hip joints is enhanced via the fabrication of parts from a combination of titanium alloys and ceramics. This Special Issue will include (but is not limited to) research on the welding of metals, ceramics, and composite materials, as well as the post-treatment of related parts. Attention should also be paid to the relationship between materials, structure, and mechanical performance.

Guest Editors

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Deadline for manuscript submissions

closed (20 November 2024)

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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.

Editor-in-Chief

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