Special Issue

Microstructure Evolution in Welded Joints

Message from the Guest Editor

The microstructure of a weld is the connection between the manufacturing processes and mechanical properties. Thus, understanding the Microstructure Evolution of the weld during forming, welding, heat treatment, and service is very important to welding theory development and engineering applications. This Special Issue aims to collect innovative studies on welding metallurgy theory regarding the influence of welding parameters on microstructure evolution, such as dendrite growth in the welding pool, solid-state phase transformation in the cooling progress, hydrogen diffusion behavior throughout the whole welded joint's formation, and so on. Additionally, we are interested in the latest investigations into the effect of microstructure characteristics on the mechanical properties of welds in engineering applications, such as strength, toughness, fatigue, creep, corrosion resistance, friction and wear resistance.

Guest Editor

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Message from the Editor-in-Chief

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.

Editor-in-Chief

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