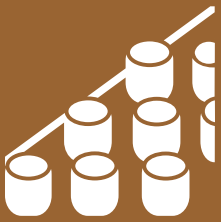

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Special Issue Reprint

New Perspectives in Welding and Joining Processes of Metallic Materials

Edited by: Fabio Giudice and Cristina Scolaro

The continuous development of new metal alloys promotes research on advanced welding and joining technologies. Given the vast and diverse range of requirements and functions to be satisfied, investigations into the compatibility and weldability of materials, and also into the metallurgical effects of joining processes and parameters on their final microstructure and properties, are an essential phase in selecting and setting the most efficient joining processes. In this regard, research to thoroughly understand the process mechanisms and related metallurgical phenomena on a scientific basis is required to be continuously and intensively carried out, and further work is still required in this field to interpret the correlation between process parameters, material microstructure, and joint efficiency. In addition, the current strong push towards environmental protection policies also raises the question of how welding and joining technologies can fit into the more general framework of the environmental sustainability of manufacturing processes. This Special Issue presents research articles and reviews from academia, research institutions, and industry with the aim of providing an overview on recent advances in welding and joining processes of metallic materials and outlining the current perspectives in the field.

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