



Gas Tungsten Arc Welding

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Message from the Guest Editors

Dear Colleagues,

Gas Tungsten arc welding (GTAW) is an arc welding process that uses a non-consumable tungsten electrode to produce an arc and form a weld. It is widely used in joining thin sheet metals because of its high weld quality and its suitability for most commercial metals. GTAW is also a complex process, which involves interaction of arc plasma, weld pool dynamics and solidification, with simultaneous interaction of materials at the plasma, gaseous, and solid states. Extensive experimental and numerical studies have been carried out to study a large number of phenomena in a GTAW process, including electromagnetics, heat transfer, fluid flow, metal transfer, microstructure evolution, and thermal mechanical effects. The Special Issue “Gas Tungsten Arc Welding” aims to cover recent advances in the development of numerical modeling and experimental study of GTAW processes, sensing and control of GTAW processes, process optimization, and new applications of GTAW.





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Message from the Editor-in-Chief

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