Special Issue

Additive Manufacturing of Titanium Alloys 2022

Message from the Guest Editors

Titanium alloys have been widely adopted in many industrial applications because of their high strength, low density, and excellent corrosion resistance. Examples of their application include aircraft that require a high specific strength and excellent fatigue resistance, aero-engines that require a good creep resistance, and biomedical and chemical processing equipment where good corrosion resistance is critical. Additive manufacturing offers the advantage of allowing for near-net-shaped part fabrication using only one fabrication step, design flexibility, near-zero material wastage, and flexibility in manufacturing different types of components using other alloys, to name a few. Thus, the AM of titanium alloys has gained significant interest over the past decade. We welcome your contributions to the latest developments in AM titanium alloys. We invite the submission focused on (i) the development of titanium alloys for AM; (ii) the relationship between AM process parameters, the evolution of the resulting microstructure; (iii) the effect of various heat treatments; (iv) mechanical performance and environmental effects; and (v) modelling and design for performance optimisation.

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Deadline for manuscript submissions

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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.

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