



metals



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The Integration and Validation of Additive Layer Manufactured (ALM) Components

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Deadline for manuscript
submissions:

closed (31 December 2018)

Message from the Guest Editor

Additive layer manufacturing is a process that involves the net-shape fabrication of a three-dimensional structure by fusing metal or polymer powders, metal or polymer wires and liquids and with a high-energy heat source or catalyst on a layer-by-layer basis to enable the production of highly-detailed components that would not be possible to make using traditional manufacturing methods.

However, as these metal alloy or polymer based components become more complex, the post-processing and pre-production certification for these parts need to reflect more closely the process of manufacturing. In order to validate components as fit for purpose, new and innovative approaches are needed for the inspection of such parts. Comprehensive study is required to fully understand the variables involved in producing complex ALM components from both metals and polymers.

The Special Issue aims to collate contributions from scientists, production engineers and manufacturing specialists from around the world, researching ALM with the common goal of enriching the knowledge-base that will lead to the production of higher quality and more predictable additively-manufactured components.



mdpi.com/si/12887

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Message from the Editorial Board

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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