Special Issue

Laser Metal Deposition Process in Advanced Manufacturing

Message from the Guest Editors

Laser metal deposition (LMD) is an additive manufacturing-based process and is classified under the direct energy deposition/direct metal deposition technique. It is one of the most used metal additive manufacturing processes, and it is capable of manufacturing complex components. It is also used for the repair of damaged components, refurbishment of high-valued components for improved life spans, and re-engineering of existing components with protective coatings. It uses a laser energy source, metal powder, and incorporates a method of layered production to build a metal component from a design data file. Areas that will be discussed in this Special Issue will focus on the in situ alloying, in situ melt pool monitoring, in situ temperature monitoring, heating processes (occurs due to/during the manufacturing process), ex situ characterization, novel materials, metal matrix composites, aluminide alloys, shape–memory alloys, biomedical materials, product improvement through use of LMD, and industry participation works through refurbishment.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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