Special Issue

Processing Optimization and Performance Characterization of Additively Manufactured Metallic Materials

Message from the Guest Editor

Additive manufacturing (AM) processes provide the freedom of design where material is deposited and joined layer by layer to obtain complex components. This technology is relatively new for metallic materials but is already established for products in medical applications, such as dental crowns and prostheses, as well as fabricating prototypes for aircraft or high-performance automotive components. Current research examines the material properties in the condition of as-built, heat-treated, and/or HIP (hot isostatic pressing). Aiming to contribute to the qualification of AM components, this Special Issue focuses on present investigations on the optimization of the AM process itself, pre- and post-processes, and the process–structure–properties relationship. The call is open for all metals, especially lightweight and/or high temperature alloys, such as Ti6Al4V or Inconel, with respect to feasible application fields.

Guest Editor

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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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