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Advances in Metal Additive Manufacturing: Process Monitoring, Material Characterization, and Computational Modeling

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Deadline for manuscript submissions:

closed (20 April 2021)

Message from the Guest Editors

Metal-based additive manufacturing (AM) is considered a promising technology, with many potential applications due to the process's unparalleled design flexibility. AM works by “building up” a part layer by layer, e.g., adding material rather than removing material. As a result, new designs an innovation can be realized that were not possible with traditional manufacturing. However, the full utility of this material fabrication technology remains unrealized due to the lack of reproducibility and reliability in the process and the uncertainty in their structural properties of fabricated parts. To overcome these challenges, it is essential to establish relationships that integrate process parameters, thermal history, solidification, resultant microstructure, and mechanical behavior of parts fabricated by AM processes. In this view, the objective of this special issue is to highlight recent progress in process monitoring, material characterization, and computational modeling methods aimed at advancing the understanding of the processing parameters-structure-property relationships for metal AM materials.



mdpi.com/si/62064

Special Issue



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Message from the Editor-in-Chief

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