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Special Issue Reprint

Additive Manufacturing of Metals and Alloys

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Over the past decade, metal additive manufacturing (AM) technologies have demonstrated themselves to be fabrication processes that enable innovative engineering solutions which exhibit unprecedented performance advantages not achievable through more conventional manufacturing methods. AM metal structures and alloys such as functionally graded materials shape memory alloys and high-entropy alloys, exhibit innovative performance properties such as self-healing, have excellent mechanical strength at high temperatures, shape memory effect, improve corrosion and wear resistance, and enhance biocompatibility, increasing the industrial impact in sectors such as aerospace, automotive, biomedical, and power generation, outperforming the current engineering solutions.

This reprint compiles recent and innovative developments in the field of additive manufacturing of metal alloys and structures. The presented articles will cover topics ranging from AM high-entropy alloy optimisation and characterisation, AM functionally graded materials, AM advanced metal design and development, processing, and microstructural simulation, and AM properties analysis and assessment.



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