

Special Issue

Recent Advances in Metal Additive Manufacturing

Message from the Guest Editor

Today, laser-based powder bed fusion (L-PBF) of metals is beyond doubt the additive manufacturing process with the strongest industrial impact. High-end PBF components demand a thorough knowledge of the mechanical behaviour in terms of their static and, even more importantly, their dynamic properties. At present, one of the most critical risks to long-term reliability is certainly the almost unavoidable presence of microstructural singularities acting as stress intensifiers, mainly pores and local variations of composition or phase. Concurrently, dedicated design approaches and pioneering simulation tools can support the avoidance both of build failures and of design loops due to the breakdown of the component during the validation phase, with increased confidence and repeatability, a tighter schedule and reduced costs. This Special Issue will address the advancements in the complex set of innovations that is contributing to the complete deployment and adoption of L-PBF in the industrial sector for the production of right-first-time components.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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