



Design and Additive Manufacturing of Lightweight Composite Structures

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Message from the Guest Editors

Additive manufacturing (AM) is a collective term for processes that fabricate 3D objects using layer-based material deposition. It enables the seamless integration of product design and manufacturing phases; thus, it offers significant advantages over conventional manufacturing. The design freedoms of AM offer a singular opportunity to revolutionize existing manufacturing boundaries for lightweight composite structures, especially for complex structures.

The 3D printing of lightweight composites is currently conducted by stereolithography (SL), laminated object manufacturing (LOM), fused deposition modeling (FDM), selective laser sintering (SLS), and extrusion. This is one of the hottest topics in the field of AM and is under intense attention. This also offers a significant improvement in mechanical properties; however, it requires a complex procedure to be manufactured and is difficult to incorporate into processing. Implementing the traditional methods of composite manufacturing in AM requires novel technologies.





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Message from the Editor-in-Chief

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