

Special Issue

Additive and Subtractive Manufacturing of Advanced Material: Modeling and Surface Integrity

Message from the Guest Editor

The aerospace and marine fields are rapidly adopting advanced materials, especially composite materials, to meet objectives of light-weighting, durability, and efficiency. In additive, subtractive, and hybrid manufacturing, the advantages of these materials can be realized only when the manufacturing quality is controllable and verifiable. The key to achieving this lies in the understanding and control of manufacturing process variables and surface integrity. We invite original research and review articles aimed at exploring process variables and surface integrity in the additive, subtractive, and hybrid manufacturing of composite materials. Topics of interest include, but are not limited to, the following: In situ multimodal monitoring and data fusion for the acquisition, quantitative characterization, and mechanistic analysis of process variables. Numerical modelling and validation of process variables.

Mechanisms of surface and subsurface integrity formation.

Prediction and mitigation strategies for defects or damage in composite manufacturing.

Quantitative relationships between process variables and surface integrity, and the development of process windows.

Guest Editor

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About the Journal

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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