Special Issue

Advances in Directed Energy Deposition Additive Manufacturing

Message from the Guest Editors

Directed energy deposition (DED) additive manufacturing (AM) has been recognized as an efficient and sustainable technology in advanced manufacturing. Over the past few years, considerable discussion has been made to promote DED AM for better performance in manufacturing. The discussions focus on basic theoretical research, process optimization and control, technology innovation and industrial applications. The challenges include complex phase transformations and microstructural changes, non-uniform residual stresses and distortions, porosity, lack of fusion and cracking, etc. In this Special Issue of *JMMP*, we are looking for recent advances in DED technology, including material development, process design and optimization, physical characteristics, defects, challenges and applications. We are interested in contributions that focus on topics such as:

- Laser–material interaction mechanisms;
- Melt pool thermal behavior modeling and simulation;
- Process optimization, in situ process monitoring and feedback control;
- Mechanical characteristics and behaviors;
- Defect formation mechanisms and characterization;
- DED-based hybrid additive manufacturing.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Journal of Manufacturing and Materials Processing (*JMMP*)(ISSN 2504-4494) is a new MDPI peer-reviewed, open access venue with a focus on the scientific fundamentals and engineering methodologies of manufacturing and materials processing. We offer an online platform facilitating effective exchange of innovative scientific and engineering ideas and the dissemination of recent, original, and significant research and developmental findings. On behalf of the Editorial Board, I extend an invitation to our scientific and engineering colleagues to contribute high-quality, innovative, and ground-breaking research articles to *JMMP.*

Editor-in-Chief

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