Special Issue

Rapid Solidification Processing

Message from the Guest Editor

Rapid solidification processing (RSP), whether by rapid quenching, deep undercooling or a combination of the two, has been at the forefront of solidification science for the last 50 years or more. From an applications standpoint, RSP permits access to a range of compositional and morphological states, including metastable phases, highly grain refined structures and non-crystalline materials, not otherwise available to the materials engineer. This in turn leads to improved mechanical, thermal and corrosion resistance properties, which have found utilization in a range of high-value added sectors. With the rise of Additive Layer Manufacturing driving a near exponential growth in demand for melt atomized metal powders, an inherently RSP material, interest in the field looks set for continued growth. For this Special Issue in Metals, we welcome reviews and articles in all areas of experimental and theoretical rapid solidification, including the simulation of rapid solidification structures and processes.

Guest Editor

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Deadline for manuscript submissions

closed (30 September 2019)



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About the Journal

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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