Special Issue

High Thermal Conductivity Alloys: Processing, Properties and Applications

Message from the Guest Editor

Metal additive manufacturing (AM) is a rapidly growing manufacturing method. The current metal AM market is worth over £330m, with increasing application in the aerospace and defence industries. High thermal conductivity metals, such as copper and aluminum, play a significant role in AM due to their ability to efficiently manage heat during the printing process. Their high thermal conductivity helps to control thermal gradients, reducing the risk of warping and distortion in printed parts. However, challenges remain, such as the difficulty in achieving good layer adhesion and the need for specialized equipment to handle their unique properties. Overall, the integration of high thermal conductivity metals in additive manufacturing holds promise for advancing the performance of a wide range of applications. For this Special Issue in *Metals*, we welcome reviews and articles in the areas of processing, microstructure, mechanical, thermal properties, and applications of additively manufactured high thermal conductivity metals and alloys.

Guest Editor

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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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