



Crystal Chemistry of Zinc, Cadmium and Mercury

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Message from the Guest Editor

This Special Issue promotes the investigation of the metallic and intermetallic crystalline properties of direct energy deposited materials on thin substrates to pave the way for a new manufacturing paradigm based on adding-value functional features (AVFF): small scale 3D geometric or bionic features deposited on a preformed substrate, which provide one or more additional functionalities, such as static and dynamic stiffening, heat dissipation, vibration dumping, energy absorption guidance, etc. The melting of the added material, by local heat transfer, and its crystallization, due to the subsequent cooling process, determine the nature of both the deposited material and the substrate, and, most importantly, their interface. This Special Issue will consider the mesoscale modeling of these system types, links to the material properties and their structural and mechanical functionalities, and the physical testing of tailored patterns as-deposited and post-treated. The fine characterization of these systems is also recommended to determine the nature of process-induced defects within the deposited material, substrate, and interfaces to be linked with functionality.





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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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