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Compounds with Polar Metallic Bonding

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Message from the Guest Editor

Dear Colleagues,

This Special Issue on “Compounds with Polar Metallic Bonding” is intended to open an exchange between chemical, physical and material-oriented disciplines committed to intermetallic systems with strongly correlated electrons. The term “polar metal” is ubiquitous here, and can describe numerous different effects. Polarity can indicate the interplay of conduction electrons with magnetic dipoles in the lattice. It can also describe the presence of electric dipole moments within a ferroelectric metal. Additionally, the term is used when referring to an intermetallic phase crystallising in a polar space group, or when electronegativity differences between the constituent elements of an intermetallic phase induce Coulombic interactions within an overall metallic matrix. In all these cases, polarity induces new, interesting property combinations in metallic systems.

To understand the mechanisms in this field, it is necessary to understand interplay between localised moments, as electric or magnetic dipoles, as well as Coulombic monopoles with the delocalized conduction electrons.



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Special Issue



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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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