

Special Issue

Emerging Perovskite Materials and Applications

Message from the Guest Editors

Perovskite materials have shown good application prospects in optoelectronics and photovoltaics due to their unique structural advantages. How to control the local structure of perovskite materials based on the original structure and performance advantages, to explore potential high performance and new properties, is of great significance to further expanding the application prospects of such materials. In view of the structural characteristics of the vacancy configuration of the double perovskite Cs_2BX_6 , different ions can be easily doped, especially the 6-coordinated tetravalent cation B position. After ion doping, due to the different ionic radii, local distortion of the octahedral structural unit is caused, the symmetry of the local structure is reduced, a local potential well is generated, and the transition from free exciton to self-trapped exciton is induced. It is expected to break the odd–even forbidden transition and provide additional emission centers to excite the novel photoelectric properties of perovskite. Therefore, it can be foreseen that regulating the local behavior of double perovskite octahedral units is expected to optimize their physical properties.

Guest Editors

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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.

Editor-in-Chief

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