Special Issue

Preparation, Properties, and Application of High Entropy Oxide Ceramics

Message from the Guest Editor

The emerging of high-entropy oxide ceramics has attracted great attention in both academic research and application communities due to its superb mechanical, functional, and chemical properties, as compared to the design paradigm of traditional oxide ceramics. In light of composition, more than five cations are incorporated by equal or near-equal atomic ratios into a single lattice to form a single phase, which can open up the design concept of new materials. In light of properties, high-entropy oxide ceramics have exhibited many unique and enhanced performances, such as ultimate mechanical properties, colossal dielectric properties, high capacity with excellent cycling performance of storage energy, high-efficiency catalytic activity, larger thermoelectric figure of merit, unique magnetism, and better corrosion resistance. The diverse properties are beneficial to practical applications. Moreover, machine learning and theoretical calculation stepped in and speeded up the rapid development of this community. This Special Issue aims to report the state of the art of results in this field.

Guest Editor

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