Special Issue

Advanced Research on Metal Phosphate Materials for Supercapacitor and Sensing Applications

Message from the Guest Editors

In the field of hybrid electrode materials, phosphate-based compounds are important candidates for energy storage, owing to their open framework-like geometry with outstanding electrochemical activity and structural stability due to the presence of P–O covalent bonds. One of the major advantages of metal phosphates is their zeolite structure built from polyhedral ions, which can be easily tuned for fast electronic and ionic transport. Moreover, the existence of infinite tunnel-type networks of ions linked together with oxygen atoms provides plentiful active sites for redox reactions to occur with good reversibility. Moreover, the different transition metal phosphates (binary or ternary metal phosphates) have different modified surface architectures to improve the number of electrochemically active sites. This enhances the electronic behavior of the active electrode material, which further boosts the reaction kinetics with electrolyte ions by overcoming the weaknesses of individual components during electrochemical activities. This hybrid approach achieves a superior performance, which is constrained by using individuals.

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Deadline for manuscript submissions

closed (20 November 2024)

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/si/191463

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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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