

Special Issue on Structural, Electronic, and Optical Properties of Functional Metal Oxides

Call for Papers

Metal oxides exhibit the full spectrum of various behaviors and become increasingly important for modern technologies. The research interest in functional metal oxides is reflected by the rapid growth of publications in this field over the last few decades. Many metal-oxide materials are usually wide-band gap compounds. The conductivity of oxides can vary from insulator to semiconductor to conductor. Due to their varied electronic and optical properties, metal oxides have been used for a wide variety of applications, such as smart sensor, data storage, energy, catalysis, optical, and display devices. The key to these device applications is an improved understanding of fundamental structural, electronic, dielectric, optical, and luminescent properties.

We invite authors to submit original research and review articles that will stimulate the continuing efforts to investigate the basic physical properties, such as transport, dielectrics, ferroelectricity, multiferroicity, superconductivity, optical spectroscopy, and luminescence. We are particularly interested in the articles on the investigation of the relationship between structure and the physical properties of functional metal oxides. Potential topics include, but are not limited to:

- Synthesis and processing of metal oxides in a variety of forms, including single-crystal, ceramics, glass, thin-films, composites, and nanostructures
- Structure, defects, and phase transitions of functional metal oxides
- Characterization and physical mechanism of electrical and magnetic transport properties
- Dielectrics, multiferroicity, ferroelectricity, and superconductivity of metal oxides
- Optical spectroscopy, photocatalysis, and optoelectronic properties of metal oxides
- Photoluminescence, cathodoluminescence, and electroluminescence of metal oxides
- Metal oxide based devices for electronic, photonic, and energy applications

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