

Special Issue

Rare Earth-Doped Ceria Systems and Their Applications

Message from the Guest Editor

The remarkable values of ionic conductivity shown by ceria, when doped with proper amounts of trivalent lanthanide ions, have been well known since the seventies of the last century. Nevertheless, it has only been in the last few years that interest has increased in the production of sustainable energy, coupled with the relatively easy access to synchrotron facilities, which has allowed for the investigation of subtle crystallographic details. This has made doped ceria an attractive and widely studied material for use as an electrolyte in solid oxide fuel and electrolysis cells, working in the intermediate temperature range (400–700 °C). These issues justify the large number of experimental and theoretical studies focusing on doped ceria that have appeared in the literature in the last decade. This Special Issue is intended to collect contributions regarding crystallography, physical features, and the use of doped ceria in solid oxide cells, with the main aim of highlighting the correlation between the structure, properties, and applications of this material.

Guest Editor

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Inorganic chemistry remains a lynchpin of modern chemistry, not only embracing the function and reactivity of combinations of most elements of the periodic table, but also providing a footing for studies of materials, catalysts, drugs, fuels and industrial chemicals. Arguably, the role and reach of inorganics in society have never been as great as today. Adventurous research at the heart and at the extremes of inorganic chemistry is vital to further advances and Inorganics offers authors the opportunity to publish exciting new research in an open access format.

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