



Magnetic Materials and Their Electronic and Thermokinetic Properties

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Message from the Guest Editor

Multiple valence magnetic materials have been of interest in recent years, especially for their capacity to form diverse structures with various compositions showing a wide variety of properties. The key element of this Special Issue is to correlate the electronic properties (magnetic, oxygen ionic conductivity, electronic transport, and thermal expansion, even those potentially catalytic) of new multivalent magnetic materials processed by different routes with their structures, site occupation, valence, and spin states as well as the level of determined stoichiometry of new compounds. Using unconventional processing, as well as various substitutions involving different valence states, can generate new occupancy by pairs of ions and/or novel and unexpected behaviors which may have a strong impact on the development of modern materials. A major contribution to select the optimum conditions for synthesis will be provided by complex thermo-kinetic analysis.

Keywords

- magnetic materials
- unconventional processing routes
- complex thermal and thermokinetic analysis
- mechanism of reactions
- the correlation of electronic properties with synthesis conditions

