



## Speciation and Characterization of Transition Metals and Rare Earth Elements

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### Message from the Guest Editors

Transition metals are very important in many geochemical processes. Many factors affect their reactivity in the environment, for instance their oxidation state reflects the redox condition of the environment. In addition, the transition metals can play a key role into the crystal-chemistry of the minerals. Therefore, the characterization of the transition metals can provide valuable information about the petrogenetic conditions of the host rocks, while the understanding of their mineralogical and crystal-chemical aspects can suggest paths to the synthesis of innovative materials.

Rare earth elements (REEs) are another critical issue. In geology, REEs can be used as natural tracers of specific geological processes or as indicators of geochemical signatures. In materials science, they are used in many electronic devices or for the production of catalysts, phosphors, and polishing compounds. For these reasons, all of these elements are expected to experience rising demand.

The special issue is intended to focus on transition metals and REEs, and on promising techniques for their full characterization in geological materials.





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## Message from the Editor-in-Chief

*Minerals* welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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