Special Issue

Isomorphism, Chemical Variability, and Solid Solutions of Minerals and Related Compounds, 2nd Edition

Message from the Guest Editor

Many minerals and related crystalline compounds are characterized by the phenomenon of isomorphism, during which substitution of some components by others in certain positions of the crystal structure leads to the formation of series of solid solutions. Isomorphic admixtures in minerals (including trace elements) and chemical zoning of their crystals are important geochemical markers that reflect the conditions of mineral formation because fluid properties (temperature, pressure, chemical composition, pH, oxygen fugacity, etc.) affect the substitutions. On the other hand, isomorphic substitutions affect the properties of minerals, including those characteristics that make it possible to consider minerals as prototypes of materials with technologically important properties. These materials may be used in ion exchange, sorption, immobilization of heavy metals and radionuclides, as optical materials, ionic conductors, and so on. This Special Issue will focus on recent advances in the study of isomorphism and compositional variability in minerals and related compounds.

Guest Editor

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About the Journal

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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