

Special Issue

Distribution of Major- and Trace-Elements in Igneous Minerals

Message from the Guest Editor

Many aspects of the petrogenesis of igneous rocks can be addressed by analyzing the distribution of major and trace elements in igneous minerals. It is controlled by thermodynamic factors and may have a significant dependence on physicochemical parameters such as pressure, temperature or the fugacity of oxygen and other volatile components. This makes it possible to estimate the conditions of melting and magma crystallization from the composition of, respectively, (1) minerals from source-derived xenoliths (e.g., mantle xenoliths, restites in granitoids) and from melanosomes in anatectic complexes, and (2) phenocrysts and their hosted mineral and melt inclusions...This Special Issue aims to bring together contributions on major and trace element compositions of natural and synthetic minerals to address questions about the nature of magmatic sources, the mineral controls on trace element fractionation in magmatic processes, and the physicochemical conditions of melting and magma crystallization.

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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