



Petrogenesis and Geochemistry in Alkaline Ultramafic Rocks

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Message from the Guest Editors

Alkaline ultramafic rocks are of fundamental importance to deciphering the Earth's history. Although low in relative abundance, alkaline ultramafic massifs, volcanoes, and dikes record critical changes in the geochemical signatures and redox conditions of the Earth's mantle. The study of major, trace-element, and isotopic ratios of alkaline ultramafic rocks, and their minerals, melts, and mineral inclusions, coupled with detailed petrographic observations is a powerful tool for reconstructing mechanisms and P–T–X–fO₂ conditions of the generation and evolution of alkaline ultramafic melts. Geochemical and mineralogical investigations of mantle-derived xenoliths provide insight into the mantle's composition and its modification during the generation and ascent of alkaline ultramafic magmas from the deepest parts of the lithospheric mantle. This Special Issue invites contributions on any aspect of the evolution of alkaline ultramafic melts, including the composition and pre-history of mantle sources, subsequent melt ascent, crystal fractionation, crystallization of failed batches, melt–rock interaction in transport channels, fluid regimes.





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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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