

Special Issue

Highly Siderophile Elements and Their Isotopes in the Earth's Mantle

Message from the Guest Editor

Absolute and relative abundances of the highly siderophile elements (HSE = PGE (Os, Ir, Ru, Rh, Pt, Pd), Re, Au) and their isotopes are important for geological, petrological, and geochemical investigations. Since Re and Os have strongly contrasting partitioning behavior during mantle melting and magma differentiation, the ^{187}Re – ^{187}Os isotopic system is particularly useful in (i) distinguishing between crustal and mantle sources of the HSE and (ii) tracking melt extraction events, which can be applied at both the whole-rock and mineral (i.e., chromite, Ru–Os–Ir alloy, sulfide) scale. Further advances in mass spectrometry have allowed PGE alloys and sulfides to be dated using the ^{190}Pt – ^{186}Os system. In order to gain further insights into large-scale geodynamic processes as well as the concentration of the HSE at the local scale, we invite contributions that use combined mineralogical, geochemical and isotopic studies, including the integration of whole-rock and mineral separate (via N-TIMS) and sub-grain scale (via LA-MC-ICPMS) Pt–Re–Os isotopic data

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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