



an Open Access Journal by MDPI

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

Guest Editor:

## Dr. Kreshimir N. Malitch

Department of Geochemistry and Ore-Forming Processes, Zavaritsky Institute of Geology and Geochemistry, Ural Branch of Russian Academy of Sciences, Vonsovsky str. 15, Russia

dunite@yandex.ru

Deadline for manuscript submissions: **31 May 2023** 



Dear Colleagues,

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 <sup>187</sup>Re–<sup>187</sup>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 <sup>190</sup>Pt-<sup>186</sup>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 subgrain scale (via LA-MC-ICPMS) Pt-Re-Os isotopic data from a selected set of rocks and robust minerals (e.g., chromite, PGE alloy) derived from various mantle domains. The latter may include, but are not limited to: komatiite systems, mantle xenoliths, abyssal peridotites, deep portions of ophiolite sections within the oceanic mantle, orogenic peridotite massifs, typical of subcontinental lithospheric mantle, and spatially associated PGE placer deposits.



mdpi.com/si/119616

**Special**sue





an Open Access Journal by MDPI

Editor-in-Chief Prof. Dr. Paul Sylvester

#### **Section Editors-in-Chief**

Prof. Dr. William Skinner Prof. Dr. Theodore J. Bornhorst Prof. Dr. Nigel J. Cook Dr. Anna H. Kaksonen Prof. Dr. Huifang Xu Dr. Andrey G. Kalinichev Prof. Dr. Michael S. Zhdanov Dr. Yannicke Dauphin

### 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.

#### **Author Benefits**

**Open Access:**— free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), GeoRef, CaPlus / SciFinder, Inspec, Astrophysics Data System, AGRIS, and other databases.

Journal Rank: JCR - Q2 (Mineralogy) / CiteScore - Q2 (Geology)

#### **Contact Us**

*Minerals* Editorial Office MDPI, St. Alban-Anlage 66 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/minerals ☑ minerals@mdpi.com☑ @Minerals\_MDPI