Special Issue

Solvent Extraction of Rare-Earth Elements with Ionic Liquids and Deep Eutectic Solvents

Message from the Guest Editors

Lanthanides or so-called rare earth elements (REEs) have attracted much attention in the scientific community due to their increasing number of technological applications, especially those related to the low carbon economy, such as hybrid vehicles, electric vehicles, and wind turbines. Recovery from leached minerals and, more recently, from recycled technological wastes is carried out through solvent extraction (SX), where the purification of REEs is not straightforward and uses toxic solvents. In this sense, ionic liquids (ILs) are a novel and outstanding class of solvents which have been proposed for SX of metal ions due to their excellent properties, such as negligible vapor pressure, non-flammability, and wide solvating power, but also an increased performance (distribution ratios and selectivity) over toxic solvents, opening many opportunities for these solvents to be applied in the REE purification industry. However, recently, deep eutectic solvents (DES) have gained much attention due to their ability to keep the same green characteristics as ILs but with simpler, cheaper, and less toxic synthesis.

Guest Editors

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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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