

Special Issue

Microbeam Analysis Characterization in Petrogenesis and Ore Deposit

Message from the Guest Editors

Major breakthroughs in modern geosciences research depend largely on the innovation of observation and analytical technologies. Microbeam analysis is used to accurately analyze the phase, morphology, structure, chemical and isotopic composition of minerals on the micrometer–nanometer scale. According to different primary beam types, microbeam analysis techniques can be divided into the following four categories: (1) electron beam-related microbeam analysis techniques, including electron probes (EPMA), scanning electron microscopes (SEM) and transmission electron microscopes (TEM); (2) laser beam-related microbeam analysis technology, including laser ablation inductively coupled plasma mass spectrometry (LA-Q/HR/MC-ICPMS) and laser-induced atom probes (LI-APT), etc.; (3) ion beam-related microbeam analysis techniques, including secondary ion mass spectrometry (SIMS) and time-of-flight secondary ion mass spectrometry (TOF SIMS), etc... This Special Issue aims to contribute to the progress of various microbeam analytical technologies and methods, and their applications in mineralogy and ore deposits, including the characterization of Earth and extraterrestrial materials.

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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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