Special Issue

Recent Advances in Automated Mineralogy: From SEM-Based Systems to µXRF, 3D µCT and Beyond

Message from the Guest Editors

Automated mineralogy systems have become an important tool in both academy and industry for the quantitative analysis of different materials in several fields, such as geosciences, petroleum, forensics, and environmental monitoring. These SEM-based systems comprise microscope control and automation, BSE image acquisition, EDS mapping and analysis, image processing, mineral phase recognition, and automatic results reporting. However, although they are a powerful tool and the variety of their applications has grown, their set-up has changed little since their conception. This scenario has changed recently with the launch of automated mineralogy systems based on µXRF and 3D µCT, as well as multimodal systems that combine different imaging and analytical techniques. Furthermore, the incorporation of recent advances in artificial intelligence has improved their capabilities in image analysis and phase recognition. We welcome papers dealing with new methods of automated mineralogy, as well as case studies in areas that may include, but are not limited to, petrology, mineral processing, petroleum exploration and production, recycling, environmental monitoring, and forensics.

Guest Editors

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Deadline for manuscript submissions

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Minerals

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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