

Special Issue

Electromagnetic Exploration: Theory, Methods and Applications

Message from the Guest Editors

Electromagnetic (EM) methods, both airborne and ground, are one of the most widely used geophysical techniques in mineral exploration, in which natural or controlled sources are used to transmit EM waves into the Earth and measure the returned EM fields. The EM methods are used not only for the discovery of mineral deposits and extension of reserves of existing mines, but also for structural mapping of the Earth, oil and gas exploration, environment and engineering, and groundwater investigation. The ability of these methods to explore deep Earth has improved significantly in recent decades with advances in sensors, space- and drone-based observation platforms, electronics, data processing, and inversion techniques, and application of machine learning. All these have improved the resolution and detectability of EM methods. In this Special Issue, we seek contributions from the EM geophysical community with the latest innovation on EM equipment developments, data processing, forward modeling and inversion, and especially applications to mineral explorations. We also welcome papers on review and case studies of EM technologies.

Guest Editors

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Deadline for manuscript submissions

closed (30 June 2022)



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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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.2 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).