Special Issue

Global Mineral Resource Exploration Using Multi-Sensor Satellite Data and Machine Learning Algorithms

Message from the Guest Editors

In recent years, global mineral resource exploration has seen significant advancements, driven by the fusion of multi-sensor satellite data and the rise in machine learning algorithms. These technological breakthroughs have transformed how we identify and assess mineral deposits, enabling more efficient, cost-effective, and accurate exploration processes. The issue will highlight innovative applications of remote sensing technologies such as hyperspectral, multispectral, and radar imaging, combined with artificial intelligence techniques like neural networks, random forests, and deep learning. Key topics include the integration of satellite data with geochemical, geological, and geophysical datasets, the development of novel machine learning models for mineral prospectivity mapping, and case studies demonstrating successful applications of these technologies in the field. We invite scholars, researchers, and practitioners to engage with this Special Issue and contribute to the ongoing discourse in this exciting intersection of geoscience and technology.

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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