Special Issue

Hyperspectral Imaging of Rocks: Mineralogical Characteristics and Classification

Message from the Guest Editors

Hyperspectral imaging has increasingly become an essential method for characterizing and classifying rocks based on their unique mineralogical signatures. With advancements in imaging technology and spectral analysis techniques, hyperspectral approaches now offer unprecedented opportunities for detailed mineralogical studies, facilitating precise rock classification and improved exploration outcomes. However, accurately interpreting hyperspectral data requires comprehensive studies of minerals' spectral characteristics, integrated with the geological context. This Special Issue aims to present the latest, cutting-edge advances in hyperspectral imaging focused on the mineralogical characteristics and classification of rocks. It invites original scientific research addressing the following: (1) innovative methods for spectral data acquisition, processing, and analysis; (2) the interpretation of spectral signatures in visible, near-infrared, and infrared regions; and (3) integrated approaches that combine hyperspectral imaging with other geoscientific tools to enhance mineral identification and classification accuracy.

Guest Editors

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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 17.7 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).

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