Special Issue

Advances in Electron Probe Microanalysis and Microscopy

Message from the Guest Editor

Recent advances in quantitative electron probe microanalysis (EPMA) and related microscopy imaging techniques include the following: (1) a higher sensitivity and resolution for trace and light element analysis, (2) a higher spatial resolution at a low accelerating voltage with enhanced FEG electron optics, (3) standard characterization and development, (4) improved EDS and WDS detector technology, (5) advanced software algorithms for automated quantification and phase identification, and (6) artificial intelligence and machine learning techniques for standardless quantification. This Special Issue on electron probe microanalysis and microscopy will focus on recent advances in these techniques and the characterization of minerals and related synthetic materials (e.g., minerals, rocks, bones, teeth, biomaterials). The scope of this Special Issue includes, but is not limited to, electron probe microanalysis (WDS/EDS), scanning electron microscopy (SEM), transmission electron microscopy (TEM/STEM), microanalysis standards and reference materials, analytical procedures, and sample preparation methods.

Guest Editor

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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.

Editor-in-Chief

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Journal Rank:

JCR - Q2 (Mining and Mineral Processing) / CiteScore - Q1 (Geology)

Rapid Publication:

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).

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