Special Issue

Mechanochemistry in Mineral Processing and Waste Resource Recovery

Message from the Guest Editors

Mechanochemistry is a branch of science concerned with chemical and physico-chemical changes in solids due to the influence of mechanical forces. This force may break down crystals, thus exposing fresh, active surfaces and enhance the mass transfer required for reaction partners in the solid state to make the contact required for initiating a chemical reaction. The mechanical activation of minerals makes it possible to reduce their decomposition temperature or causes such a degree of disordering that the thermal activation may be omitted entirely. In this process, the complex influence of surface and bulk properties occurs. The mineral activation may increase the chemical reactivity of the processed material and has been extensively utilized in extractive metallurgy, synthesis of mineral composite materials, crystal engineering, and waste treatment. This Special Issue mainly focuses on the new mechanism, new materials, and new applications developed in the mechanochemistry upon minerals processing and waste resources recovery and aims to contribute to the minerals, environment, and resources science.

Guest Editors

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Deadline for manuscript submissions

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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 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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