Special Issue

Microstructural Characterization in Applied Mineralogy

Message from the Guest Editors

The most commonly studied materials (minerals, rocks, sediments, soils, and different products) in applied mineralogy, materials sciences and engineering are monophasic or polyphasic and largely (but not exclusively) crystalline. Their microstructure (which can be referred to different names in different fields, such as textures, micro-textures or fabrics) mainly concern particle size, orientation, distribution of sizes and orientations of the constitutive phases of the material at microscopic or sub-microscopic level.

For more than 60 years, microstructural aspects at a sub-microscopic level have mainly been studied by X-ray powder diffraction microstructural analysis and X-ray texture analysis. Different techniques have subsequently been used to image materials from microscopic to atomic level imaging. These methods of microstructure analysis can better explain the properties of mineral raw materials and products in different fields. The understanding of microstructures will continue to improve the optimization of mineral processing and interpretation of the formation conditions and behaviour of mineral assemblages.

Guest Editors

Prof. Dr. Joaquín Bastida Cuairán

Unit of Geology, University of Valencia, 46100 Burjasot, Valencia, Spain

Dr. Pablo Rafael Pardo Ibáñez

Establecimientos Baixens S.L.Paints area. R&D Lab. Pol. Ind. Moncarra, s/n. 46230 Alginet, Valencia, Spain

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Minerals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
minerals@mdpi.com

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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

Prof. Dr. Leonid Dubrovinsky
Bayerisches Geoinstitut, University Bayreuth, D-95440 Bayreuth, Germany

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