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Applications of Atomic Force Microscopy in Mineral Flotation

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Deadline for manuscript submissions:
closed (30 September 2018)

Message from the Guest Editors

Dear Colleagues,

Mineral flotation, belonging to the family of hetero-coagulation separation techniques, is based on the differences in surface hydrophobicity of dispersed mineral particles. It plays an important role in providing raw materials for various industries. Currently, more than two billion tons of minerals and fine coals are processed annually by using froth flotation worldwide. Up to now, the flotation mechanisms at the nanoscale are still not well understood due to the difficulty in experimental verification. In the last two decades, AFM has also been widely used by flotation scientists, greatly assisting the fundamental understanding of flotation. This Special Issue aims to publish papers focusing on recent advances in applications of AFM in mineral flotation field. Contributions reporting on surface imaging, water at mineral surface (water structure, surface nanobubbles, etc.), reagent adsorption, inter-particle force, and bubble–particle interaction (including film drainage) are especially welcome.

Dr.-Ing. Martin Rudolph
Mr. Yaowen Xing
Guest Editors

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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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