Special Issue

Froth Characterisation and Behaviour in Mineral Processing

Message from the Guest Editors

The froth zone is of great importance in the flotation process since it is the final gatekeeper determining the grade and recovery produced by the flotation cell. The froth is sensitive to an overwhelming variety of interrelated factors. These can be broadly grouped as particle properties (size, mineralogy, shape), reagent type and addition rate, and cell operating conditions (air rate, froth depth). Characterisation of the froth is notoriously difficult, and many flotation models that have found practical application do not attempt to decouple the kinetics of the froth zone from that of the pulp. Those that do often use a fitted froth recovery factor since it is very difficult to measure froth recovery at an industrial scale. Prediction, control, and optimisation of froth properties to enhance separation performance remains challenging. This Special Issue is dedicated to all aspects of the froth in flotation processes, including but not limited to the effects of various factors on froth response, froth characterisation methods, and froth modelling.

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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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