Special Issue

Stylolites: Development, Properties, Inversion and Scaling

Message from the Guest Editors

Stylolites are seams of localized dissolution that develop in a variety of rocks that undergo pressure solutions. They recenty received growing interest among the scientific community because they can be used as inversion tools to derive paleo-burial depth, tectonic stresses, and compaction. In addition, they can significantly alter the properties of rocks in terms of mechanics and anisotropic permeability, and are thus important in mineral deposits, as well as for fluid flow and geo-engineering. However, there are significant gaps in our knowledge about these structures, especially with regards to their nucleation, as well as their mechanical and flow properties. The way stylolites can develop as a population is also a complex research question. In addition, inversion based on stylolites is a new concept and requires more testing and application for validation purposes, along with further methodological developments. This Special Issue will focus on how this somehow overlooked ubiquitous features of sedimentary rocks by covering a broad variety of topics in order to enhance our knowledge and use of stylolites in geology and beyond.

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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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