



Stylolites: Development, Properties, Inversion and Scaling

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Message from the Guest Editors

Dear Colleagues,

Stylolites are seams of localized dissolution that develop in a variety of rocks that undergo pressure solutions. They recently 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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Message from the Editor-in-Chief

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