



Active Deformation and Rheology of the Continental Lithosphere

Guest Editor:

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Message from the Guest Editor

Strain localization in continental plates, whatever the tectonic regime, depends both on external factors (far-field plate motions and/or local body forces) and on the mechanical resistance of the continental lithosphere. The latter is inherited from previous tectonic episodes and is modified during active deformation. Positive or negative feedback loops may then arise from the combination of thermal and mechanical processes, which may lead to either increasing strain localisation and eventually give birth to new plate boundaries, or instead generate short-lived tectonic features. Actively deforming areas are key areas to understand how tectonic deformation localizes, since their kinematics (far-field plate boundaries and local fault motions) can be monitored and their mechanical behaviour can be estimated or modelled from various proxies (seismicity distribution at depth, flexure of the lithosphere...).

This special issue welcomes papers dealing with the analysis, interpretation and/or modelling of active deformation in continental domains, in any tectonic (compressional, strike-slip or extensional) setting.





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Message from the Editor-in-Chief

Understanding the Earth's origin and its bio-geological evolution, the multiple implications of the geosciences (as a coherent set of interconnected disciplines), and the sociocultural and ethical interdisciplinary approaches, will be crucial for a better understanding of Nature, and also for undertaking scientifically based political decisions.

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