Geophysical Research Abstracts Vol. 18, EGU2016-9637-1, 2016 EGU General Assembly 2016 © Author(s) 2016. CC Attribution 3.0 License.



Mechanics of Alpine uplift

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The Alps are uplifting at a fast rate, although crustal tectonics is moderate, if any. Because this observation rules out the most serious contributor to vertical ground motion, many authors recently invoked alternative mechanisms, "deep processes" in particular. Here we review the observations and possible mechanisms, with a particular emphasis on dynamic topography. It is unlikely that a single process may explain the current vertical kinematics in the Alps.