

Ll Lavier

List of Publications by Year in descending order

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66
papers

4,887
citations

109321

35
h-index

110387

64
g-index

71
all docs

71
docs citations

71
times ranked

3527
citing authors

#	ARTICLE	IF	CITATIONS
1	A mechanism to thin the continental lithosphere at magma-poor margins. <i>Nature</i> , 2006, 440, 324-328.	27.8	523
2	Catastrophic initiation of subduction following forced convergence across fracture zones. <i>Earth and Planetary Science Letters</i> , 2003, 212, 15-30.	4.4	381
3	Modes of faulting at mid-ocean ridges. <i>Nature</i> , 2005, 434, 719-723.	27.8	342
4	Evolving force balance during incipient subduction. <i>Geochemistry, Geophysics, Geosystems</i> , 2004, 5, .	2.5	341
5	Tectonosedimentary evolution related to extreme crustal thinning ahead of a propagating ocean: Example of the western Pyrenees. <i>Tectonics</i> , 2009, 28, .	2.8	288
6	Self-consistent rolling-hinge model for the evolution of large-offset low-angle normal faults. <i>Geology</i> , 1999, 27, 1127.	4.4	205
7	Factors controlling normal fault offset in an ideal brittle layer. <i>Journal of Geophysical Research</i> , 2000, 105, 23431-23442.	3.3	205
8	Climatic and tectonic control on the Cenozoic evolution of the West African margin. <i>Marine Geology</i> , 2001, 178, 63-80.	2.1	146
9	The role of inheritance in structuring hyperextended rift systems: Some considerations based on observations and numerical modeling. <i>Gondwana Research</i> , 2015, 27, 140-164.	6.0	143
10	Numerical models of crustal scale convection and partial melting beneath the Altiplano-Puna plateau. <i>Earth and Planetary Science Letters</i> , 2002, 199, 373-388.	4.4	139
11	Inversion of a hyper-extended rifted margin in the southern Central Range of Taiwan. <i>Geology</i> , 2013, 41, 871-874.	4.4	114
12	Rifting and magmatism in the northeastern South China Sea from wide-angle tomography and seismic reflection imaging. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 2305-2323.	3.4	113
13	Crustal structure and inferred rifting processes in the northeast South China Sea. <i>Marine and Petroleum Geology</i> , 2014, 58, 612-626.	3.3	100
14	Half graben versus large-offset low-angle normal fault: Importance of keeping cool during normal faulting. <i>Journal of Geophysical Research</i> , 2002, 107, ETG 8-1.	3.3	96
15	How to make a rift wide. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 1999, 357, 671-693.	3.4	90
16	Seismic evidence of hyper-stretched crust and mantle exhumation offshore Vietnam. <i>Tectonophysics</i> , 2013, 608, 72-83.	2.2	90
17	The geologic record of deep episodic tremor and slip. <i>Geology</i> , 2014, 42, 195-198.	4.4	81
18	Extension of continental crust at the margin of the eastern Grand Banks, Newfoundland. <i>Tectonophysics</i> , 2009, 468, 131-148.	2.2	75

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19	Crustal-scale seismic profiles across the Manila subduction zone: The transition from intraoceanic subduction to incipient collision. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 1-17.	3.4	75
20	Conjugate rifted margins width and asymmetry: The interplay between lithospheric strength and thermomechanical processes. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 8672-8700.	3.4	72
21	On spreading modes and magma supply at slow and ultraslow mid-ocean ridges. <i>Earth and Planetary Science Letters</i> , 2019, 519, 223-233.	4.4	72
22	Extreme crustal thinning in the Bay of Biscay and the Western Pyrenees: From observations to modeling. <i>Geochemistry, Geophysics, Geosystems</i> , 2010, 11, .	2.5	66
23	Thermal evolution of a hyperextended rift basin, Mauléon Basin, western Pyrenees. <i>Tectonics</i> , 2017, 36, 1103-1128.	2.8	62
24	Oceanic corrugated surfaces and the strength of the axial lithosphere at slow spreading ridges. <i>Earth and Planetary Science Letters</i> , 2009, 288, 174-183.	4.4	59
25	The effect of sedimentary cover on the flexural strength of continental lithosphere. <i>Nature</i> , 1997, 389, 476-479.	27.8	57
26	Crustal accretion in the Manila trench accretionary wedge at the transition from subduction to mountain-building in Taiwan. <i>Earth and Planetary Science Letters</i> , 2013, 375, 430-440.	4.4	55
27	Interaction between prerift salt and detachment faulting in hyperextended rift systems: The example of the Parentis and Mauléon basins (Bay of Biscay and western Pyrenees). <i>AAPG Bulletin</i> , 2010, 94, 957-975.	1.5	54
28	Thermomechanics of mid-ocean ridge segmentation. <i>Physics of the Earth and Planetary Interiors</i> , 2008, 171, 374-386.	1.9	52
29	Assessing the impact of orogenic inheritance on the architecture, timing and magmatic budget of the North Atlantic rift system: a mapping approach. <i>Journal of the Geological Society</i> , 2015, 172, 711-720.	2.1	50
30	Triggering mechanism and tsunamogenic potential of the Cape Fear Slide complex, U.S. Atlantic margin. <i>Geochemistry, Geophysics, Geosystems</i> , 2007, 8, .	2.5	49
31	Experimental demonstration of a semi-brittle origin for crustal strain transients. <i>Nature Geoscience</i> , 2015, 8, 712-715.	12.9	40
32	A finite strain Eulerian formulation for compressible and nearly incompressible hyperelasticity using high-order Bé-spline finite elements. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 89, 762-785.	2.8	39
33	Pattern of mantle thinning from subsidence and heat flow measurements in the Gulf of Suez: Evidence for the rotation of Sinai and along-strike flow from the Red Sea. <i>Tectonics</i> , 1998, 17, 903-920.	2.8	36
34	The role of frictional strength on plate coupling at the subduction interface. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	36
35	Using core complex geometry to constrain fault strength. <i>Geophysical Research Letters</i> , 2013, 40, 3863-3867.	4.0	35
36	New geophysical constraints on a failed subduction initiation: The structure and potential evolution of the Gagua Ridge and Hutung Basin. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 380-400.	2.5	35

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37	Creep events at the brittle ductile transition. <i>Geochemistry, Geophysics, Geosystems</i> , 2013, 14, 3334-3351.	2.5	34
38	How do detachment faults form at ultraslow mid-ocean ridges in a thick axial lithosphere?. <i>Earth and Planetary Science Letters</i> , 2020, 533, 116048.	4.4	32
39	Localization and delocalization of deformation in a bimineralic material. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 3649-3663.	3.4	28
40	Stick-slip and creep behavior in lubricated granular material: Insights into the brittle-ductile transition. <i>Geophysical Research Letters</i> , 2014, 41, 3471-3477.	4.0	24
41	The effect of bimineralic composition on extensional processes at lithospheric scale. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 3375-3392.	2.5	24
42	Influences on the development of volcanic and magma-poor morphologies during passive continental rifting. , 2017, 13, 1524-1540.		23
43	Earthquake supercycles as part of a spectrum of normal fault slip styles. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 3221-3240.	3.4	21
44	A lithospheric profile across northern Taiwan: from arc-continent collision to extension. <i>Geophysical Journal International</i> , 2016, 204, 331-346.	2.4	20
45	The effects of lower crustal strength and preexisting midcrustal shear zones on the formation of continental core complexes and low-angle normal faults. <i>Tectonics</i> , 2016, 35, 2195-2214.	2.8	19
46	A Numerical Model of Lithospheric Extension Producing Fault-Bounded Basins and Ranges. <i>International Geology Review</i> , 2003, 45, 712-723.	2.1	18
47	Thinning factor distributions viewed through numerical models of continental extension. <i>Tectonics</i> , 2016, 35, 3050-3069.	2.8	18
48	Variable Holocene deformation above a shallow subduction zone extremely close to the trench. <i>Nature Communications</i> , 2015, 6, 7607.	12.8	17
49	Episodic heating of continental lower crust during extension: A thermal modeling investigation of the Ivrea-Verbanò Zone. <i>Earth and Planetary Science Letters</i> , 2019, 521, 158-168.	4.4	17
50	Strong-form approach to elasticity: Hybrid finite difference-meshless collocation method (FDMCM). <i>Applied Mathematical Modelling</i> , 2018, 57, 316-338.	4.2	16
51	Simulation of slip transients and earthquakes in finite thickness shear zones with a plastic formulation. <i>Nature Communications</i> , 2018, 9, 3893.	12.8	16
52	Mechanical Implications of Creep and Partial Coupling on the World's Fastest Slipping Low-Angle Normal Fault in Southeastern Papua New Guinea. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB020117.	3.4	15
53	Strain Localization in the Root of Detachment Faults at a Melt-Starved Mid-Ocean Ridge: A Microstructural Study of Abyssal Peridotites From the Southwest Indian Ridge. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2020GC009434.	2.5	14
54	Physical conditions and frictional properties in the source region of a slow-slip event. <i>Nature Geoscience</i> , 2021, 14, 334-340.	12.9	14

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55	Modes of continental extension in a crustal wedge. <i>Earth and Planetary Science Letters</i> , 2015, 421, 89-97.	4.4	13
56	A tale of two kinds of normal fault: the importance of strain weakening in fault development. <i>Geological Society Special Publication</i> , 2001, 187, 289-303.	1.3	12
57	A novel method for predicting fracture in floating ice. <i>Journal of Glaciology</i> , 2013, 59, 750-758.	2.2	12
58	Controls on the Thermomechanical Evolution of Hyperextended Lithosphere at Magma-Poor Rifted Margins: The Example of Espirito Santo and the Kwanza Basins. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 5148-5176.	2.5	12
59	Neogene siliciclastic deposition and climate variability on a carbonate margin: Australian Northwest Shelf. <i>Marine Geology</i> , 2018, 403, 285-300.	2.1	11
60	Tectonic Inheritance Following Failed Continental Subduction: A Model for Core Complex Formation in Cold, Strong Lithosphere. <i>Tectonics</i> , 2019, 38, 1742-1763.	2.8	9
61	Impact of Mafic Underplating and Mantle Depletion on Subsequent Rifting: A Numerical Modeling Study. <i>Tectonics</i> , 2019, 38, 2185-2207.	2.8	8
62	Effect of contrasting strength from inherited crustal fabrics on the development of rifting margins. <i>Tectonics</i> , 2018, 37, 407-422.		7
63	The Mechanics of Creep, Slow Slip Events, and Earthquakes in Mixed Brittle-Ductile Fault Zones. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB020325.	3.4	7
64	Emerged Coral Reefs Record Holocene Low-Angle Normal Fault Earthquakes. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089301.	4.0	6
65	Semi-brittle rheology and ice dynamics in DynEarthSol3D. <i>Cryosphere</i> , 2017, 11, 117-132.	3.9	2
66	Late Miocene-Pliocene Vigorous Deep-Sea Circulation in the Southeast Indian Ocean: Paleoceanographic and Tectonic Implications. <i>Paleoceanography and Paleoclimatology</i> , 2022, 37, .	2.9	2