

Alain Vauchez

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91
papers

4,958
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43
h-index

68
g-index

96
ext. papers

5,338
ext. citations

3.7
avg, IF

5.43
L-index

#	Paper	IF	Citations
91	The Lherz spinel lherzolite: Refertilized rather than pristine mantle. <i>Earth and Planetary Science Letters</i> , 2007 , 259, 599-612	5.3	276
90	The Borborema shear zone system, NE Brazil. <i>Journal of South American Earth Sciences</i> , 1995 , 8, 247-266	2.1	201
89	Upper mantle tectonics: three-dimensional deformation, olivine crystallographic fabrics and seismic properties. <i>Earth and Planetary Science Letters</i> , 1999 , 168, 173-186	5.3	194
88	Continental rifting parallel to ancient collisional belts: an effect of the mechanical anisotropy of the lithospheric mantle. <i>Earth and Planetary Science Letters</i> , 2001 , 185, 199-210	5.3	184
87	Seismic anisotropy in the eastern United States: Deep structure of a complex continental plate. <i>Journal of Geophysical Research</i> , 1997 , 102, 8329-8348	3.1	144
86	Mountain building: strike-parallel motion and mantle anisotropy. <i>Tectonophysics</i> , 1991 , 185, 183-201	3.1	142
85	Why do continents break-up parallel to ancient orogenic belts?. <i>Terra Nova</i> , 1997 , 9, 62-66	3	130
84	Rheological heterogeneity, mechanical anisotropy and deformation of the continental lithosphere. <i>Tectonophysics</i> , 1998 , 296, 61-86	3.1	126
83	A simple parameterization of strain localization in the ductile regime due to grain size reduction: A case study for olivine. <i>Journal of Geophysical Research</i> , 1999 , 104, 25167-25181	3.1	118
82	Magma-assisted strain localization in an orogen-parallel transcurrent shear zone of southern Brazil. <i>Tectonics</i> , 1994 , 13, 421-437	4.3	113
81	Faults (shear zones) in the Earth's mantle. <i>Tectonophysics</i> , 2012 , 558-559, 1-27	3.1	111
80	EBSD-measured lattice-preferred orientations and seismic properties of eclogites. <i>Tectonophysics</i> , 2001 , 342, 61-80	3.1	110
79	Timing of crust formation, deposition of supracrustal sequences, and Transamazonian and Brasiliano metamorphism in the East Pernambuco belt (Borborema Province, NE Brazil): Implications for western Gondwana assembly. <i>Precambrian Research</i> , 2006 , 149, 197-216	3.9	107
78	Microstructure, texture and seismic anisotropy of the lithospheric mantle above a mantle plume: Insights from the Labait volcano xenoliths (Tanzania). <i>Earth and Planetary Science Letters</i> , 2005 , 232, 295-314	5.3	106
77	Structural reactivation in plate tectonics controlled by olivine crystal anisotropy. <i>Nature Geoscience</i> , 2009 , 2, 423-427	18.3	100
76	Shear zone-controlled magma emplacement or magma-assisted nucleation of shear zones? Insights from northeast Brazil. <i>Tectonophysics</i> , 1996 , 262, 349-364	3.1	93
75	Deformation and Reactive Melt Transport in the Mantle Lithosphere above a Large-scale Partial Melting Domain: the Ronda Peridotite Massif, Southern Spain. <i>Journal of Petrology</i> , 2009 , 50, 1235-1266	3.9	92

74	Deformation, static recrystallization, and reactive melt transport in shallow subcontinental mantle xenoliths (Tok Cenozoic volcanic field, SE Siberia). <i>Earth and Planetary Science Letters</i> , 2008 , 272, 65-77	5.3	92
73	The Pombal granite pluton: Magnetic fabric, emplacement and relationships with the Brasiliano strike-slip setting of NE Brazil (Paraíba State). <i>Journal of Structural Geology</i> , 1994 , 16, 323-335	3	92
72	Feedback between melt percolation and deformation in an exhumed lithosphere–asthenosphere boundary. <i>Earth and Planetary Science Letters</i> , 2008 , 274, 401-413	5.3	83
71	Tectono-thermal evolution, magma emplacement, and shear zone development in the Caruaru area (Borborema Province, NE Brazil). <i>Precambrian Research</i> , 2000 , 99, 1-32	3.9	80
70	Successive mixing and mingling of magmas in a plutonic complex of Northeast Brazil. <i>Lithos</i> , 1995 , 34, 275-299	2.9	75
69	Seismic properties of an asthenospherized lithospheric mantle: constraints from lattice preferred orientations in peridotite from the Ronda massif. <i>Earth and Planetary Science Letters</i> , 2001 , 192, 235-249	5.3	71
68	Self-indentation of a heterogeneous continental lithosphere. <i>Geology</i> , 1994 , 22, 967	5	66
67	Strain transfer at continental scale from a transcurrent shear zone to a transpressional fold belt: The Patos-Seridó system, northeastern Brazil. <i>Geology</i> , 1991 , 19, 586	5	66
66	Heterogeneity and anisotropy in the lithospheric mantle. <i>Tectonophysics</i> , 2015 , 661, 11-37	3.1	65
65	Upper mantle deformation and seismic anisotropy in continental rifts. <i>Physics and Chemistry of the Earth</i> , 2000 , 25, 111-117		64
64	Deformation and melt transport in a highly depleted peridotite massif from the Canadian Cordillera: Implications to seismic anisotropy above subduction zones. <i>Earth and Planetary Science Letters</i> , 2006 , 252, 245-259	5.3	57
63	Upper mantle structure of the South American continent and neighboring oceans from surface wave tomography. <i>Tectonophysics</i> , 2005 , 406, 115-139	3.1	55
62	Initiation and propagation of shear zones in a heterogeneous continental lithosphere. <i>Journal of Geophysical Research</i> , 1995 , 100, 22083-22101		55
61	Termination of a continental-scale strike-slip fault in partially melted crust: The West Pernambuco shear zone, northeast Brazil. <i>Geology</i> , 1992 , 20, 1007	5	53
60	Fluid transfer into the wedge controlled by high-pressure hydrofracturing in the cold top-slab mantle. <i>Earth and Planetary Science Letters</i> , 2010 , 297, 271-286	5.3	52
59	Microfabrics and zircon U/Pb (SHRIMP) chronology of mylonites from the Patos shear zone (Borborema Province, NE Brazil). <i>Precambrian Research</i> , 2014 , 243, 1-17	3.9	51
58	Shear wave splitting around the northern Atlantic: frozen Pangaeian lithospheric anisotropy?. <i>Tectonophysics</i> , 1997 , 279, 135-148	3.1	51
57	Upper mantle anisotropy in SE and Central Brazil from SKS splitting: Evidence of asthenospheric flow around a cratonic keel. <i>Earth and Planetary Science Letters</i> , 2006 , 250, 224-240	5.3	50

56	The Beni Bousera Peridotite (Rif Belt, Morocco): an Oblique-slip Low-angle Shear Zone Thinning the Subcontinental Mantle Lithosphere. <i>Journal of Petrology</i> , 2014 , 55, 283-313	3.9	49
55	High-temperature deformation in the Neoproterozoic transpressional Ribeira belt, southeast Brazil. <i>Tectonophysics</i> , 2002 , 352, 203-224	3.1	49
54	Lithospheric anisotropy beneath the Pyrenees from shear wave splitting. <i>Journal of Geophysical Research</i> , 1998 , 103, 30039-30053		49
53	Magma chambers at oceanic ridges: How large?. <i>Geology</i> , 1993 , 21, 53	5	49
52	Thermal history of the Pan-African/Brasiliano Borborema Province of northeast Brazil deduced from ⁴⁰ Ar/ ³⁹ Ar analysis. <i>Tectonophysics</i> , 1998 , 285, 103-117	3.1	48
51	Preorogenic exhumation of the North Pyrenean Agly massif (Eastern Pyrenees-France). <i>Tectonics</i> , 2013 , 32, 95-106	4.3	43
50	Deformation of a pervasively molten middle crust: insights from the neoproterozoic Ribeira-Araucária region (SE Brazil). <i>Terra Nova</i> , 2007 , 19, 278-286	3	43
49	Basement Cover decoupling and progressive exhumation of metamorphic sediments at hot rifted margin. Insights from the Northeastern Pyrenean analog. <i>Tectonophysics</i> , 2016 , 686, 82-97	3.1	43
48	Seismic anisotropy in ocean basins: Resistive drag of the sublithospheric mantle?. <i>Geophysical Research Letters</i> , 1996 , 23, 2991-2994	4.9	40
47	Conflicting structural and geochronological data from the Ibituruna quartz-syenite (SE Brazil): Effect of protracted Botobrogony and slow cooling rate?. <i>Tectonophysics</i> , 2009 , 477, 174-196	3.1	38
46	Continental-scale rheological heterogeneities and complex intraplate tectono-metamorphic patterns: insights from a case-study and numerical models. <i>Tectonophysics</i> , 1997 , 279, 327-350	3.1	38
45	Titanohematite lattice-preferred orientation and magnetic anisotropy in high-temperature mylonites. <i>Earth and Planetary Science Letters</i> , 2002 , 198, 77-92	5.3	38
44	Very high geothermal gradient during mantle exhumation recorded in mylonitic marbles and carbonate breccias from a Mesozoic Pyrenean palaeomargin (Lherz area, North Pyrenean Zone, France). <i>Comptes Rendus - Geoscience</i> , 2016 , 348, 290-300	1.4	37
43	An integrated study of microstructural, geochemical, and seismic properties of the lithospheric mantle above the Kerguelen plume (Indian Ocean). <i>Geochemistry, Geophysics, Geosystems</i> , 2008 , 9, n/a-n/a ⁶	2.6	36
42	Wrench faults down to the asthenosphere: geological and geophysical evidence and thermomechanical effects. <i>Geological Society Special Publication</i> , 2003 , 210, 15-34	1.7	35
41	Deformation regime variations in an arcuate transpressional orogen (Ribeira belt, SE Brazil) imaged by anisotropy of magnetic susceptibility in granulites. <i>Journal of Structural Geology</i> , 2005 , 27, 1750-1764 ³		35
40	Ductile duplexing at a bend of a continental-scale strike-slip shear zone: example from NE Brazil. <i>Journal of Structural Geology</i> , 1996 , 18, 385-394	3	35
39	The development of discrete shear-zones in a granite: stress, strain and changes in deformation mechanisms. <i>Tectonophysics</i> , 1987 , 133, 137-156	3.1	35

38	Deformation, hydration, and anisotropy of the lithospheric mantle in an active rift: Constraints from mantle xenoliths from the North Tanzanian Divergence of the East African Rift. <i>Tectonophysics</i> , 2015 , 639, 34-55	3.1	33
37	Complex, 3D strain patterns in a synkinematic tonalite batholith from the Araçuaí/Neoproterozoic orogen (Eastern Brazil): Evidence from combined magnetic and isotopic chronology studies. <i>Journal of Structural Geology</i> , 2012 , 39, 158-179	3	32
36	Fluid-assisted strain localization in the shallow subcontinental lithospheric mantle. <i>Lithos</i> , 2016 , 262, 636-650	2.9	31
35	Shear-wave splitting in the Appalachians and the Pyrenees: importance of the inherited tectonic fabric of the lithosphere. <i>Physics of the Earth and Planetary Interiors</i> , 1996 , 95, 127-138	2.3	30
34	How long can the middle crust remain partially molten during orogeny?. <i>Geology</i> , 2018 , 46, 839-842	5	30
33	The Late Neoproterozoic/Early Palaeozoic evolution of the West Congo Belt of NW Angola: geochronological (U-Pb and Ar-Ar) and petrostructural constraints. <i>Terra Nova</i> , 2012 , 24, 238-247	3	29
32	Shear wave splitting in SE Brazil: an effect of active or fossil upper mantle flow, or both?. <i>Earth and Planetary Science Letters</i> , 2003 , 211, 79-95	5.3	29
31	Microstructures and seismic properties of south Patagonian mantle xenoliths (Gobernador Gregores and Pali Aike). <i>Tectonophysics</i> , 2014 , 621, 175-197	3.1	28
30	Intraplate continental deformation: Influence of a heat-producing layer in the lithospheric mantle. <i>Earth and Planetary Science Letters</i> , 2008 , 274, 392-400	5.3	28
29	Magma emplacement and shear zone nucleation and development in northeast Brazil (Fazenda Nova and Pernambuco shear zones; State of Pernambuco). <i>Journal of South American Earth Sciences</i> , 1995 , 8, 289-298	2	27
28	Strain distribution across a partially molten middle crust: Insights from the AMS mapping of the Carlos Chagas Anatexite, Araçuaí belt (East Brazil). <i>Journal of Structural Geology</i> , 2013 , 55, 79-100	3	26
27	Slow cooling and crystallization of the roots of the Neoproterozoic Araçuaí hot orogen (SE Brazil): Implications for rheology, strain distribution, and deformation analysis. <i>Tectonophysics</i> , 2019 , 766, 500-518	3.1	24
26	Connecting the Araçuaí and Ribeira belts (SE Brazil): Progressive transition from contractional to transpressive strain regime during the Brasiliano orogeny. <i>Journal of South American Earth Sciences</i> , 2018 , 86, 127-139	2	23
25	Fabrics of migmatites and the relationships between partial melting and deformation in high-grade transpressional shear zones: The Espinho Branco anatexite (Borborema Province, NE Brazil). <i>Journal of Structural Geology</i> , 2013 , 48, 45-56	3	21
24	Ribbon texture and deformation mechanisms of quartz in a mylonitized granite of great kabylia (Algeria). <i>Tectonophysics</i> , 1980 , 67, 1-12	3.1	21
23	Deformation naturelle par cisaillement ductile d'un granite de grande kabylie occidentale (algerie). <i>Tectonophysics</i> , 1978 , 51, 57-81	3.1	20
22	Hydrous melts weaken the mantle, crystallization of pargasite and phlogopite does not: Insights from a petrostructural study of the Finero peridotites, southern Alps. <i>Earth and Planetary Science Letters</i> , 2017 , 477, 59-72	5.3	19
21	Comment on BKS splitting beneath continental rifts zones by Gao et al.. <i>Journal of Geophysical Research</i> , 1999 , 104, 10787-10789		19

20	Strain and deformation mechanisms in the Variscan nappes of Vendée, South Brittany, France. <i>Journal of Structural Geology</i> , 1987 , 9, 31-40	3	19
19	Thermal conditions during deformation of partially molten crust from Titanite geothermometry: rheological implications for the anatectic domain of the Araçuaí belt, eastern Brazil. <i>Solid Earth</i> , 2014 , 5, 1223-1242	3.3	18
18	Nature and Evolution of the Lithospheric Mantle beneath the Hoggar Swell (Algeria): a Record from Mantle Xenoliths. <i>Journal of Petrology</i> , 2014 , 55, 2249-2280	3.9	18
17	Southward extrusion tectonics during the Carboniferous Africa-North America collision. <i>Tectonophysics</i> , 1987 , 142, 317-322	3.1	17
16	Brevard fault zone, southern Appalachians: A medium-angle, dextral, Alleghanian shear zone. <i>Geology</i> , 1987 , 15, 669	5	16
15	Deformation, annealing, reactive melt percolation, and seismic anisotropy in the lithospheric mantle beneath the southeastern Ethiopian rift: Constraints from mantle xenoliths from Mega. <i>Tectonophysics</i> , 2016 , 682, 186-205	3.1	15
14	Transcurrent Shear Zones and Magma Emplacement in Neoproterozoic Belts of Brazil. <i>Petrology and Structural Geology</i> , 1997 , 275-293		14
13	The Rubim Pluton (Minas Gerais, Brazil): a petrostructural and magnetic fabric study. <i>Journal of South American Earth Sciences</i> , 1998 , 11, 179-189	2	13
12	Subcontinental lithosphere reactivation beneath the Hoggar swell (Algeria): Localized deformation, melt channeling and heat advection. <i>Tectonophysics</i> , 2015 , 650, 18-33	3.1	11
11	Focal mechanism of prehistoric earthquakes deduced from pseudotachylite fabric. <i>Geology</i> , 2015 , 43, 531-534	5	11
10	Orogen-parallel tangential motion in the Late Devonian to Early Carboniferous southern Appalachians internides. <i>Canadian Journal of Earth Sciences</i> , 1993 , 30, 1297-1305	1.5	11
9	Relationships between lower and upper crust tectonic during doming: the mylonitic southern edge of the Velay metamorphic core complex (Civennes-French Massif Central). <i>Geodinamica Acta</i> , 2006 , 19, 137-153	2	10
8	Short wavelength lateral variability of lithospheric mantle beneath the Middle Atlas (Morocco) as recorded by mantle xenoliths. <i>Tectonophysics</i> , 2015 , 650, 34-52	3.1	9
7	Flow in the western Mediterranean shallow mantle: Insights from xenoliths in Pliocene alkali basalts from SE Iberia (eastern Betics, Spain). <i>Tectonics</i> , 2016 , 35, 2657-2676	4.3	9
6	Crust-mantle coupling during continental convergence and break-up: Constraints from peridotite xenoliths from the Borborema Province, northeast Brazil. <i>Tectonophysics</i> , 2019 , 766, 249-269	3.1	8
5	Deformation, Annealing, Melt-Rock Interaction, and Seismic Properties of an Old Domain of the Equatorial Atlantic Lithospheric Mantle. <i>Tectonics</i> , 2019 , 38, 1164-1188	4.3	8
4	Polygenetic evolution and longitudinal transport within the Henderson mylonitic gneiss, North Carolina (southern Appalachian Piedmont). <i>Geology</i> , 1988 , 16, 1011	5	4
3	The Borborema Strike-Slip Shear Zone System (NE Brazil): Large-Scale Intracontinental Strain Localization in a Heterogeneous Plate. <i>Lithosphere</i> , 2021 , 2021,	2.7	4

- 2 Reply to comment by P. Olivier on Preorogenic exhumation of the North Pyrenean Agly Massif (Eastern Pyrenees, France) *Tectonics*, **2013**, 32, n/a-n/a 4-3 3
- 1 The São Francisco cratonic root beneath the Neoproterozoic Brasília belt (Brazil): Petrophysical data from kimberlite xenoliths. *Tectonophysics*, **2021**, 816, 229011 3-1 1