Alain Vauchez

List of Publications by Year
in descending order

90 papers	5,790 citations	57719 44 h-index	76872 74 g-index
96 all docs	96 docs citations	96 times ranked	3077 citing authors

#	Article	IF	Citations
1	The Lherz spinel lherzolite: Refertilized rather than pristine mantle. Earth and Planetary Science Letters, 2007, 259, 599-612.	1.8	305
2	The Borborema shear zone system, NE Brazil. Journal of South American Earth Sciences, 1995, 8, 247-266.	0.6	265
3	Upper mantle tectonics: three-dimensional deformation, olivine crystallographic fabrics and seismic properties. Earth and Planetary Science Letters, 1999, 168, 173-186.	1.8	210
4	Continental rifting parallel to ancient collisional belts: an effect of the mechanical anisotropy of the lithospheric mantle. Earth and Planetary Science Letters, 2001, 185, 199-210.	1.8	209
5	Seismic anisotropy in the eastern United States: Deep structure of a complex continental plate. Journal of Geophysical Research, 1997, 102, 8329-8348.	3.3	159
6	Mountain building: strike-parallel motion and mantle anisotropy. Tectonophysics, 1991, 185, 183-201.	0.9	158
7	Why do continents break-up parallel to ancient orogenic belts?. Terra Nova, 1997, 9, 62-66.	0.9	146
8	Rheological heterogeneity, mechanical anisotropy and deformation of the continental lithosphere. Tectonophysics, 1998, 296, 61-86.	0.9	141
9	Faults (shear zones) in the Earth's mantle. Tectonophysics, 2012, 558-559, 1-27.	0.9	136
10	Magma-assisted strain localization in an orogen-parallel transcurrent shear zone of southern Brazil. Tectonics, 1994, 13, 421-437.	1.3	135
11	A simple parameterization of strain localization in the ductile regime due to grain size reduction: A case study for olivine. Journal of Geophysical Research, 1999, 104, 25167-25181.	3.3	132
12	EBSD-measured lattice-preferred orientations and seismic properties of eclogites. Tectonophysics, 2001, 342, 61-80.	0.9	129
13	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. Precambrian Research, 2006, 149, 197-216.	1.2	127
14	Microstructure, texture and seismic anisotropy of the lithospheric mantle above a mantle plume: Insights from the Labait volcano xenoliths (Tanzania). Earth and Planetary Science Letters, 2005, 232, 295-314.	1.8	120
15	Structural reactivation in plate tectonics controlled by olivine crystal anisotropy. Nature Geoscience, 2009, 2, 423-427.	5.4	111
16	Shear zone-controlled magma emplacement or magma-assisted nucleation of shear zones? Insights from northeast Brazil. Tectonophysics, 1996, 262, 349-364.	0.9	110
17	Deformation, static recrystallization, and reactive melt transport in shallow subcontinental mantle xenoliths (Tok Cenozoic volcanic field, SE Siberia). Earth and Planetary Science Letters, 2008, 272, 65-77.	1.8	104
18	Seismic properties of an asthenospherized lithospheric mantle: constraints from lattice preferred orientations in peridotite from the Ronda massif. Earth and Planetary Science Letters, 2001, 192, 235-249.	1.8	102

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19	Deformation and Reactive Melt Transport in the Mantle Lithosphere above a Large-scale Partial Melting Domain: the Ronda Peridotite Massif, Southern Spain. Journal of Petrology, 2009, 50, 1235-1266.	1.1	102
20	The Pombal granite pluton: Magnetic fabric, emplacement and relationships with the Brasiliano strike-slip setting of NE Brazil (Paraiba State). Journal of Structural Geology, 1994, 16, 323-335.	1.0	99
21	Tectono-thermal evolution, magma emplacement, and shear zone development in the Caruaru area (Borborema Province, NE Brazil). Precambrian Research, 2000, 99, 1-32.	1.2	92
22	Heterogeneity and anisotropy in the lithospheric mantle. Tectonophysics, 2015, 661, 11-37.	0.9	89
23	Feedback between melt percolation and deformation in an exhumed lithosphereâ€“asthenosphere boundary. Earth and Planetary Science Letters, 2008, 274, 401-413.	1.8	88
24	Successive mixing and mingling of magmas in a plutonic complex of Northeast Brazil. Lithos, 1995, 34, 275-299.	0.6	84
25	Strain transfer at continental scale from a transcurrent shear zone to a transpressional fold belt: The Patos-SeridÃ³ system, northeastern Brazil. Geology, 1991, 19, 586.	2.0	80
26	Self-indentation of a heterogeneous continental lithosphere. Geology, 1994, 22, 967.	2.0	75
27	Upper mantle deformation and seismic anisotropy in continental rifts. Physics and Chemistry of the Earth, 2000, 25, 111-117.	0.6	71
28	Microfabrics and zircon Uâ€“Pb (SHRIMP) chronology of mylonites from the Patos shear zone (Borborema Province, NE Brazil). Precambrian Research, 2014, 243, 1-17.	1.2	66
29	Upper mantle structure of the South American continent and neighboring oceans from surface wave tomography. Tectonophysics, 2005, 406, 115-139.	0.9	65
30	Termination of a continental-scale strike-slip fault in partially melted crust: The West Pernambuco shear zone, northeast Brazil. Geology, 1992, 20, 1007.	2.0	62
31	Initiation and propagation of shear zones in a heterogeneous continental lithosphere. Journal of Geophysical Research, 1995, 100, 22083-22101.	3.3	62
32	Fluid transfer into the wedge controlled by high-pressure hydrofracturing in the cold top-slab mantle. Earth and Planetary Science Letters, 2010, 297, 271-286.	1.8	62
33	Deformation and melt transport in a highly depleted peridotite massif from the Canadian Cordillera: Implications to seismic anisotropy above subduction zones. Earth and Planetary Science Letters, 2006, 252, 245-259.	1.8	60
34	Upper mantle anisotropy in SE and Central Brazil from SKS splitting: Evidence of asthenospheric flow around a cratonic keel. Earth and Planetary Science Letters, 2006, 250, 224-240.	1.8	58
35	The Beni Bousera Peridotite (Rif Belt, Morocco): an Oblique-slip Low-angle Shear Zone Thinning the Subcontinental Mantle Lithosphere. Journal of Petrology, 2014, 55, 283-313.	1.1	58
36	Shear wave splitting around the northern Atlantic: frozen Pangaean lithospheric anisotropy?. Tectonophysics, 1997, 279, 135-148.	0.9	56

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37	High-temperature deformation in the Neoproterozoic transpressional Ribeira belt, southeast Brazil. Tectonophysics, 2002, 352, 203-224.	0.9	54
38	Magma chambers at oceanic ridges: How large?. Geology, 1993, 21, 53.	2.0	53
39	Basement â€“ Cover decoupling and progressive exhumation of metamorphic sediments at hot rifted margin. Insights from the Northeastern Pyrenean analog. Tectonophysics, 2016, 686, 82-97.	0.9	53
40	Thermal history of the Pan-African/Brasiliano Borborema Province of northeast Brazil deduced from 40Ar/39Ar analysis. Tectonophysics, 1998, 285, 103-117.	0.9	52
41	Lithospheric anisotropy beneath the Pyrenees from shear wave splitting. Journal of Geophysical Research, 1998, 103, 30039-30053.	3.3	52
42	Deformation of a pervasively molten middle crust: insights from the neoproterozoic Ribeiraâ€AraÃ§uaÃ-orogen (SE Brazil). Terra Nova, 2007, 19, 278-286.	0.9	50
43	Wrench faults down to the asthenosphere: geological and geophysical evidence and thermomechanical effects. Geological Society Special Publication, 2003, 210, 15-34.	0.8	47
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,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 45	0.9	47
45	Preorogenic exhumation of the North Pyrenean Agly massif (Eastern Pyreneesâ€France). Tectonics, 2013, 32, 95-106.	1.3	46
46	Seismic anisotropy in ocean basins: Resistive drag of the sublithospheric mantle?. Geophysical Research Letters, 1996, 23, 2991-2994.	1.5	44
47	Continental-scale rheological heterogeneities and complex intraplate tectono-metamorphic patterns: insights from a case-study and numerical models. Tectonophysics, 1997, 279, 327-350.	0.9	44
48	Conflicting structural and geochronological data from the Ibituruna quartz-syenite (SE Brazil): Effect of protracted â€œhotâ€•orogeny and slow cooling rate?. Tectonophysics, 2009, 477, 174-196.	0.9	43
49	An integrated study of microstructural, geochemical, and seismic properties of the lithospheric mantle above the Kerguelen plume (Indian Ocean). Geochemistry, Geophysics, Geosystems, 2008, 9, .	1.0	42
50	Deformation regime variations in an arcuate transpressional orogen (Ribeira belt, SE Brazil) imaged by anisotropy of magnetic susceptibility in granulites. Journal of Structural Geology, 2005, 27, 1750-1764.	1.0	40
51	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. Tectonophysics, 2015, 639, 34-55.	0.9	40
52	How long can the middle crust remain partially molten during orogeny?. Geology, 2018, 46, 839-842.	2.0	40
53	The development of discrete shear-zones in a granite: stress, strain and changes in deformation mechanisms. Tectonophysics, 1987, 133, 137-156.	0.9	39
54	Titanohematite lattice-preferred orientation and magnetic anisotropy in high-temperature mylonites. Earth and Planetary Science Letters, 2002, 198, 77-92.	1.8	39

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55	Fluid-assisted strain localization in the shallow subcontinental lithospheric mantle. Lithos, 2016, 262, 636-650.	0.6	38
56	Ductile duplexing at a bend of a continental-scale strike-slip shear zone: example from NE Brazil. Journal of Structural Geology, 1996, 18, 385-394.	1.0	37
57	Strain distribution across a partially molten middle crust: Insights from the AMS mapping of the Carlos Chagas Anatexite, AraÃ§uaÃ-belt (East Brazil). Journal of Structural Geology, 2013, 55, 79-100.	1.0	37
58	Magma emplacement and shear zone nucleation and development in northeast Brazil (Fazenda Nova) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 289-298.	0.6	35
59	The Late Neoproterozoic/Early Palaeozoic evolution of the West Congo Belt of NW Angola: geochronological (Uâ€Pb and Arâ€Ar) and petrostructural constraints. Terra Nova, 2012, 24, 238-247.	0.9	34
60	Microstructures and seismic properties of south Patagonian mantle xenoliths (Gobernador Gregores) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.9	34
61	Connecting the AraÃ§uaÃ-and Ribeira belts (SE â€“ Brazil): Progressive transition from contractional to transpressive strain regime during the Brasiliano orogeny. Journal of South American Earth Sciences, 2018, 86, 127-139.	0.6	34
62	Complex, 3D strain patterns in a synkinematic tonalite batholith from the AraÃ§uaÃ-Neoproterozoic orogen (Eastern Brazil): Evidence from combined magnetic and isotopic chronology studies. Journal of Structural Geology, 2012, 39, 158-179.	1.0	33
63	Ribbon texture and deformation mechanisms of quartz in a mylonitized granite of great kabylia (Algeria). Tectonophysics, 1980, 67, 1-12.	0.9	32
64	Intraplate continental deformation: Influence of a heat-producing layer in the lithospheric mantle. Earth and Planetary Science Letters, 2008, 274, 392-400.	1.8	32
65	Hydrous melts weaken the mantle, crystallization of pargasite and phlogopite does not: Insights from a petrostructural study of the Finero peridotites, southern Alps. Earth and Planetary Science Letters, 2017, 477, 59-72.	1.8	32
66	Shear-wave splitting in the Appalachians and the Pyrenees: importance of the inherited tectonic fabric of the lithosphere. Physics of the Earth and Planetary Interiors, 1996, 95, 127-138.	0.7	31
67	Shear wave splitting in SE Brazil: an effect of active or fossil upper mantle flow, or both?. Earth and Planetary Science Letters, 2003, 211, 79-95.	1.8	30
68	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). Journal of Structural Geology, 2013, 48, 45-56.	1.0	30
69	Slow cooling and crystallization of the roots of the Neoproterozoic AraÃ§uaÃ-hot orogen (SE Brazil): Implications for rheology, strain distribution, and deformation analysis. Tectonophysics, 2019, 766, 500-518.	0.9	26
70	Nature and Evolution of the Lithospheric Mantle beneath the Hoggar Swell (Algeria): a Record from Mantle Xenoliths. Journal of Petrology, 2014, 55, 2249-2280.	1.1	22
71	Strain and deformation mechanisms in the Variscan nappes of VendÃ©e, South Brittany, France. Journal of Structural Geology, 1987, 9, 31-40.	1.0	21
72	Brevard fault zone, southern Appalachians: A medium-angle, dextral, Alleghanian shear zone. Geology, 1987, 15, 669.	2.0	20

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73	Southward extrusion tectonics during the Carboniferous Africa-North America collision. Tectonophysics, 1987, 142, 317-322.	0.9	20
74	Comment on â€œSKS splitting beneath continental rifts zonesâ€•by Gao et al.. Journal of Geophysical Research, 1999, 104, 10787-10789.	3.3	20
75	Thermal conditions during deformation of partially molten crust from TitaniQ geothermometry: rheological implications for the anatectic domain of the AraÃ§uaÃ-belt, eastern Brazil. Solid Earth, 2014, 5, 1223-1242.	1.2	18
76	Short wavelength lateral variability of lithospheric mantle beneath the Middle Atlas (Morocco) as recorded by mantle xenoliths. Tectonophysics, 2015, 650, 34-52.	0.9	18
77	Deformation, annealing, reactive melt percolation, and seismic anisotropy in the lithospheric mantle beneath the southeastern Ethiopian rift: Constraints from mantle xenoliths from Mega. Tectonophysics, 2016, 682, 186-205.	0.9	18
78	The Rubim Pluton (Minas Gerais, Brazil): a petrostructural and magnetic fabric study. Journal of South American Earth Sciences, 1998, 11, 179-189.	0.6	17
79	The Borborema Strike-Slip Shear Zone System (NE Brazil): Large-Scale Intracontinental Strain Localization in a Heterogeneous Plate. Lithosphere, 2021, 2021, .	0.6	17
80	Focal mechanism of prehistoric earthquakes deduced from pseudotachylyte fabric. Geology, 2015, 43, 531-534.	2.0	16
81	Relationships between lower and upper crust tectonic during doming: the mylonitic southern edge of the Velay metamorphic core complex (CÃ©vennes-French Massif Central). Geodinamica Acta, 2006, 19, 137-153.	2.2	15
82	Deformation, Annealing, Meltâ€Rock Interaction, and Seismic Properties of an Old Domain of the Equatorial Atlantic Lithospheric Mantle. Tectonics, 2019, 38, 1164-1188.	1.3	15
83	Orogen-parallel tangential motion in the Late Devonian â€“ Early Carboniferous southern Appalachians internides. Canadian Journal of Earth Sciences, 1993, 30, 1297-1305.	0.6	14
84	Subcontinental lithosphere reactivation beneath the Hoggar swell (Algeria): Localized deformation, melt channeling and heat advection. Tectonophysics, 2015, 650, 18-33.	0.9	13
85	Crust-mantle coupling during continental convergence and break-up: Constraints from peridotite xenoliths from the Borborema Province, northeast Brazil. Tectonophysics, 2019, 766, 249-269.	0.9	13
86	Flow in the western Mediterranean shallow mantle: Insights from xenoliths in Pliocene alkali basalts from SE Iberia (eastern Betics, Spain). Tectonics, 2016, 35, 2657-2676.	1.3	10
87	Polygenetic evolution and longitudinal transport within the Henderson mylonitic gneiss, North Carolina (southern Appalachian Piedmont). Geology, 1988, 16, 1011.	2.0	5
88	The SÃ£o Francisco cratonic root beneath the Neoproterozoic Brasilia belt (Brazil): Petrophysical data from kimberlite xenoliths. Tectonophysics, 2021, 816, 229011.	0.9	5
89	Reply to comment by P. Olivier on â€œPreorogenic exhumation of the North Pyrenean Agly Massif (Eastern Pyrenees, France)â€• Tectonics, 2013, 32, 823-826.	1.3	3
90	Un exemple de cisaillements congeneres de plis synschisteux; proposition d'un modele d'evolution. Bulletin - Societie Geologique De France, 1977, S7-XIX, 135-142.	0.9	0