

Sylvain Barbot

List of Publications by Year in descending order

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77
papers

4,056
citations

109137

35
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123241

61
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87
all docs

87
docs citations

87
times ranked

3106
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental evidence for multiple controls on fault stability and rupture dynamics. <i>Earth and Planetary Science Letters</i> , 2022, 577, 117252.	1.8	9
2	Community-Driven Code Comparisons for Three-Dimensional Dynamic Modeling of Sequences of Earthquakes and Aseismic Slip. <i>Journal of Geophysical Research: Solid Earth</i> , 2022, 127, .	1.4	27
3	Tsunami excitation in the outer wedge of global subduction zones. <i>Earth-Science Reviews</i> , 2022, 230, 104054.	4.0	14
4	Rupture styles linked to recurrence patterns in seismic cycles with a compliant fault zone. <i>Earth and Planetary Science Letters</i> , 2022, 591, 117593.	1.8	15
5	Connecting subduction, extension and shear localization across the Aegean Sea and Anatolia. <i>Geophysical Journal International</i> , 2021, 226, 422-445.	1.0	14
6	A Spectral Boundary-Integral Method for Quasi-Dynamic Ruptures of Multiple Parallel Faults. <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 1614-1630.	1.1	25
7	Period-Multiplying Cycles at the Transition Between Stick-Slip and Stable Sliding and Implications for the Parkfield Period-Doubling Tremors. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091807.	1.5	19
8	The stop-start control of seismicity by fault bends along the Main Himalayan Thrust. <i>Communications Earth & Environment</i> , 2021, 2, .	2.6	16
9	Seismogenic and tremorgenic slow slip near the stability transition of frictional sliding. <i>Earth and Planetary Science Letters</i> , 2021, 569, 117037.	1.8	13
10	MCMC inversion of the transient and steady-state creep flow law parameters of dunite under dry and wet conditions. <i>Earth, Planets and Space</i> , 2021, 73, .	0.9	7
11	Outlier-insensitive Bayesian inference for linear inverse problems (OutlBI) with applications to space geodetic data. <i>Geophysical Journal International</i> , 2020, 221, 334-350.	1.0	9
12	Static Source Properties of Slow and Fast Earthquakes. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB019028.	1.4	5
13	Excitation of San Andreas tremors by thermal instabilities below the seismogenic zone. <i>Science Advances</i> , 2020, 6, .	4.7	18
14	Bifurcations at the Stability Transition of Earthquake Faulting. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087985.	1.5	17
15	Heterogeneous Power-Law Flow With Transient Creep in Southern California Following the 2010 El Mayor-Cucapah Earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB019740.	1.4	10
16	Mantle flow distribution beneath the California margin. <i>Nature Communications</i> , 2020, 11, 4456.	5.8	15
17	Slip Complementarity and Triggering between the Foreshock, Mainshock, and Afterslip of the 2019 Ridgecrest Rupture Sequence. <i>Bulletin of the Seismological Society of America</i> , 2020, 110, 1701-1715.	1.1	19
18	The Community Code Verification Exercise for Simulating Sequences of Earthquakes and Aseismic Slip (SEAS). <i>Seismological Research Letters</i> , 2020, 91, 874-890.	0.8	43

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19	Earthquake Cycles in Fault-Bend Folds. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018557.	1.4	25
20	Frictional and structural controls of seismic super-cycles at the Japan trench. <i>Earth, Planets and Space</i> , 2020, 72, .	0.9	37
21	Structural control and system-level behavior of the seismic cycle at the Nankai Trough. <i>Earth, Planets and Space</i> , 2020, 72, .	0.9	33
22	Quasi-static Simulation Method of Earthquake Cycles Based on Viscoelastic Finite Element Modeling. <i>Mathematics for Industry</i> , 2020, , 159-169.	0.4	0
23	Slow-slip, slow earthquakes, period-two cycles, full and partial ruptures, and deterministic chaos in a single asperity fault. <i>Tectonophysics</i> , 2019, 768, 228171.	0.9	95
24	Fast, accurate solutions for 3D strain volumes in a heterogeneous half space. <i>Computers and Geosciences</i> , 2019, 125, 109-114.	2.0	4
25	Physics of Megathrust Earthquakes: Introduction. <i>Pure and Applied Geophysics</i> , 2019, 176, 3813-3814.	0.8	0
26	Coupled afterslip and transient mantle flow after the 2011 Tohoku earthquake. <i>Science Advances</i> , 2019, 5, eaaw1164.	4.7	48
27	Modulation of fault strength during the seismic cycle by grain-size evolution around contact junctions. <i>Tectonophysics</i> , 2019, 765, 129-145.	0.9	41
28	Rapid mantle flow with power-law creep explains deformation after the 2011 Tohoku mega-quake. <i>Nature Communications</i> , 2019, 10, 1385.	5.8	62
29	Lower-crustal rheology and thermal gradient in the Taiwan orogenic belt illuminated by the 1999 Chi-Chi earthquake. <i>Science Advances</i> , 2019, 5, eaav3287.	4.7	34
30	Anisotropic high-temperature creep in hydrous olivine single crystals and its geodynamic implications. <i>Physics of the Earth and Planetary Interiors</i> , 2019, 290, 1-9.	0.7	20
31	Physics-Based Scenario of Earthquake Cycles on the Ventura Thrust System, California: The Effect of Variable Friction and Fault Geometry. <i>Pure and Applied Geophysics</i> , 2019, 176, 3993-4007.	0.8	16
32	Illuminating subduction zone rheological properties in the wake of a giant earthquake. <i>Science Advances</i> , 2019, 5, eaax6720.	4.7	47
33	Transient rheology of the Sumatran mantle wedge revealed by a decade of great earthquakes. <i>Nature Communications</i> , 2018, 9, 995.	5.8	69
34	Slow-slip events in semi-brittle serpentinite fault zones. <i>Scientific Reports</i> , 2018, 8, 6181.	1.6	37
35	Constraints on Transient Viscoelastic Rheology of the Asthenosphere From Seasonal Deformation. <i>Geophysical Research Letters</i> , 2018, 45, 2328-2338.	1.5	24
36	The 2016 KaikÅura earthquake: Simultaneous rupture of the subduction interface and overlying faults. <i>Earth and Planetary Science Letters</i> , 2018, 482, 44-51.	1.8	107

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37	Deformation of a Half-Space from Anelastic Strain Confined in a Tetrahedral Volume. <i>Bulletin of the Seismological Society of America</i> , 2018, 108, 2687-2712.	1.1	22
38	Asthenosphere Flow Modulated by Megathrust Earthquake Cycles. <i>Geophysical Research Letters</i> , 2018, 45, 6018-6031.	1.5	49
39	Interseismic Strain Accumulation on Faults Beneath Los Angeles, California. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 7126.	1.4	11
40	The rise, collapse, and compaction of Mt. Mantap from the 3 September 2017 North Korean nuclear test. <i>Science</i> , 2018, 361, 166-170.	6.0	62
41	Dynamics of fault motion and the origin of contrasting tectonic style between Earth and Venus. <i>Scientific Reports</i> , 2018, 8, 11884.	1.6	25
42	Source characteristics of the 2015 MW 7.8 Gorkha (Nepal) earthquake and its MW 7.2 aftershock from space geodesy. <i>Tectonophysics</i> , 2017, 712-713, 747-758.	0.9	43
43	The discovery of a conjugate system of faults in the Wharton Basin intraplate deformation zone. <i>Science Advances</i> , 2017, 3, e1601689.	4.7	34
44	Imaging the distribution of transient viscosity after the 2016 <i>M</i> _w 7.1 Kumamoto earthquake. <i>Science</i> , 2017, 356, 163-167.	6.0	72
45	Displacement and Stress Associated with Distributed Anelastic Deformation in a Half-Space. <i>Bulletin of the Seismological Society of America</i> , 2017, 107, 821-855.	1.1	49
46	Piecemeal Rupture of the Mentawai Patch, Sumatra: The 2008 <i>M</i> _w 7.2 North Pagai Earthquake Sequence. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 9404-9419.	1.4	18
47	Extending Resolution of Fault Slip With Geodetic Networks Through Optimal Network Design. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 10,538.	1.4	11
48	Along-strike variations of the partitioning of convergence across the Haiyuan fault system detected by InSAR. <i>Geophysical Journal International</i> , 2016, 205, 536-547.	1.0	61
49	The Parkfield tremors reveal slow and fast ruptures on the same asperity. <i>Nature</i> , 2016, 532, 361-365.	13.7	72
50	Contribution of viscoelastic flow in earthquake cycles within the lithosphere-asthenosphere system. <i>Geophysical Research Letters</i> , 2016, 43, 10,142.	1.5	54
51	Upper-mantle water stratification inferred from observations of the 2012 Indian Ocean earthquake. <i>Nature</i> , 2016, 538, 373-377.	13.7	69
52	The mechanism of partial rupture of a locked megathrust: The role of fault morphology. <i>Geology</i> , 2016, 44, 875-878.	2.0	83
53	Afterslip following the 2007 <i>M</i> _w 8.4 Bengkulu earthquake in Sumatra loaded the 2010 <i>M</i> _w 7.8 Mentawai tsunami earthquake rupture zone. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 9034-9049.	1.4	45
54	Footprints of past earthquakes revealed in the afterslip of the 2010 <i>M</i> _w 7.8 Mentawai tsunami earthquake. <i>Geophysical Research Letters</i> , 2016, 43, 9518-9526.	1.5	15

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55	Constraining the kinematics of metropolitan Los Angeles faults with a slip-partitioning model. <i>Geophysical Research Letters</i> , 2016, 43, 11192-11201.	1.5	29
56	Gamra: Simple meshing for complex earthquakes. <i>Computers and Geosciences</i> , 2016, 90, 49-63.	2.0	5
57	Limits of FPCA acceleration of 3D Green's Function computation for geophysical applications. , 2015, , .		0
58	The 2012 M_w 8.6 Wharton Basin sequence: A cascade of great earthquakes generated by near-orthogonal, young, oceanic mantle faults. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 3723-3747.	1.4	85
59	The 2014 Mw 6.1 South Napa Earthquake: A Unilateral Rupture with Shallow Asperity and Rapid Afterslip. <i>Seismological Research Letters</i> , 2015, 86, 344-354.	0.8	78
60	Postseismic Deformation Following the 2010 $M = 7.2$ El Mayor-Cucapah Earthquake: Observations, Kinematic Inversions, and Dynamic Models. <i>Pure and Applied Geophysics</i> , 2015, 172, 1305-1358.	0.8	40
61	Coseismic slip on shallow décollement megathrusts: implications for seismic and tsunami hazard. <i>Earth-Science Reviews</i> , 2015, 141, 45-55.	4.0	64
62	Relax-Miracle: GPU parallelization of semi-analytic fourier-domain solvers for earthquake modeling. , 2014, , .		1
63	Interseismic Strain Localization in the San Jacinto Fault Zone. <i>Pure and Applied Geophysics</i> , 2014, 171, 2937-2954.	0.8	54
64	Spatially variable fault friction derived from dynamic modeling of aseismic afterslip due to the 2004 Parkfield earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 3431-3447.	1.4	15
65	Change of apparent segmentation of the San Andreas fault around Parkfield from space geodetic observations across multiple periods. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 6311-6327.	1.4	26
66	Under the Hood of the Earthquake Machine: Toward Predictive Modeling of the Seismic Cycle. <i>Science</i> , 2012, 336, 707-710.	6.0	212
67	Postseismic deformation following the 1999 Chi-Chi earthquake, Taiwan: Implication for lower-crust rheology. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	56
68	Evidence for postseismic deformation of the lower crust following the 2004 Mw6.0 Parkfield earthquake. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	76
69	A unified continuum representation of post-seismic relaxation mechanisms: semi-analytic models of afterslip, poroelastic rebound and viscoelastic flow. <i>Geophysical Journal International</i> , 2010, 182, 1124-1140.	1.0	159
70	Seismic and geodetic evidence for extensive, long-lived fault damage zones. <i>Geology</i> , 2009, 37, 315-318.	2.0	222
71	Three-dimensional models of elastostatic deformation in heterogeneous media, with applications to the Eastern California Shear Zone. <i>Geophysical Journal International</i> , 2009, 179, 500-520.	1.0	50
72	Postseismic deformation due to the M_w 6.0 2004 Parkfield earthquake: Stress-driven creep on a fault with spatially variable rate and state friction parameters. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	178

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73	Space geodetic investigation of the coseismic and postseismic deformation due to the 2003 Mw7.2 Altai earthquake: Implications for the local lithospheric rheology. Journal of Geophysical Research, 2008, 113, .	3.3	81
74	Effect of a compliant fault zone on the inferred earthquake slip distribution. Journal of Geophysical Research, 2008, 113, .	3.3	44
75	Automatic and Precise Orthorectification, Coregistration, and Subpixel Correlation of Satellite Images, Application to Ground Deformation Measurements. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1529-1558.	2.7	717
76	Phase unwrapping for DEM generation as an inverse problem. , 0, , .		0
77	Fourier-domain Green's function for an elastic semi-infinite solid under gravity, with applications to earthquake and volcano deformation. Geophysical Journal International, 0, 182, 568-582.	1.0	71