Nadia Lapusta

List of Publications by Year
in descending order

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66 papers	5,044 citations	136740 32 h-index	102304 66 g-index
74 all docs	74 docs citations	74 times ranked	2258 citing authors

#	Article	IF	Citations
1	Fault rock heterogeneity can produce fault weakness and reduce fault stability. Nature Communications, 2022, 13, 326.	5.8	41
2	A unified perspective of seismicity and fault coupling along the San Andreas Fault. Science Advances, 2022, 8, eabk1167.	4.7	19
3	Dynamics and Nearâ€Field Surface Motions of Transitioned Supershear Laboratory Earthquakes in Thrust Faults. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	3
4	Communityâ€Driven Code Comparisons for Threeâ€Dimensional Dynamic Modeling of Sequences of Earthquakes and Aseismic Slip. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	27
5	Subduction earthquake sequences in a non-linear visco-elasto-plastic megathrust. Geophysical Journal International, 2022, 229, 1098-1121.	1.0	10
6	Intermittent lab earthquakes in dynamically weakening fault gouge. Nature, 2022, 606, 922-929.	13.7	18
7	Evolution of dynamic shear strength of frictional interfaces during rapid normal stress variations. EPJ Web of Conferences, 2021, 250, 01016.	0.1	0
8	Propagation of large earthquakes as self-healing pulses or mild cracks. Nature, 2021, 591, 252-258.	13.7	39
9	Constraining Fault Friction and Stability With Fluidâ€Injection Field Experiments. Geophysical Research Letters, 2021, 48, e2020GL091188.	1.5	25
10	Dilatancy and Compaction of a Rateâ€andâ€State Fault in a Poroelastic Medium: Linearized Stability Analysis. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022071.	1.4	11
11	Scale Dependence of Earthquake Rupture Prestress in Models With Enhanced Weakening: Implications for Event Statistics and Inferences of Fault Stress. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021886.	1.4	9
12	Resolving Simulated Sequences of Earthquakes and Fault Interactions: Implications for Physicsâ€Based Seismic Hazard Assessment. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022193.	1.4	9
13	Dynamic rupture initiation and propagation in a fluid-injection laboratory setup with diagnostics across multiple temporal scales. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	12
14	Illuminating the physics of dynamic friction through laboratory earthquakes on thrust faults. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21095-21100.	3.3	15
15	Unraveling Scaling Properties of Slowâ€Slip Events. Geophysical Research Letters, 2020, 47, e2020GL087477.	1.5	35
16	The Community Code Verification Exercise for Simulating Sequences of Earthquakes and Aseismic Slip (SEAS). Seismological Research Letters, 2020, 91, 874-890.	0.8	43
17	Nearly Magnitudeâ€Invariant Stress Drops in Simulated Crackâ€Like Earthquake Sequences on Rateâ€andâ€State Faults with Thermal Pressurization of Pore Fluids. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018597.	1.4	20
18	Spatiotemporal Properties of Subâ€Rayleigh and Supershear Ruptures Inferred From Fullâ€Field Dynamic Imaging of Laboratory Experiments. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018922.	1.4	18

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19	Recent Milestones in Unraveling the Full-Field Structure of Dynamic Shear Cracks and Fault Ruptures in Real-Time: From Photoelasticity to Ultrahigh-Speed Digital Image Correlation. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	21
20	Rupture-dependent breakdown energy in fault models with thermo-hydro-mechanical processes. Solid Earth, 2020, 11, 2283-2302.	1.2	11
21	On behaviour and scaling of small repeating earthquakes in rate and state fault models. Geophysical Journal International, 2019, 218, 2001-2018.	1.0	10
22	Full-field Ultrahigh-speed Quantification of Dynamic Shear Ruptures Using Digital Image Correlation. Experimental Mechanics, 2019, 59, 551-582.	1.1	36
23	Enhanced Digital Image Correlation Analysis of Ruptures with Enforced Traction Continuity Conditions Across Interfaces. Applied Sciences (Switzerland), 2019, 9, 1625.	1.3	13
24	Microseismicity on Patches of Higher Compression During Largerâ€Scale Earthquake Nucleation in a Rateâ€andâ€State Fault Model. Journal of Geophysical Research: Solid Earth, 2019, 124, 1962-1990.	1.4	16
25	Static and sliding contact of rough surfaces: Effect of asperity-scale properties and long-range elastic interactions. Journal of the Mechanics and Physics of Solids, 2018, 116, 217-238.	2.3	13
26	Finite-fault source inversion using adjoint methods in 3-D heterogeneous media. Geophysical Journal International, 2018, 214, 402-420.	1.0	10
27	Modeling High Stress Drops, Scaling, Interaction, and Irregularity of Repeating Earthquake Sequences Near Parkfield. Journal of Geophysical Research: Solid Earth, 2018, 123, 10,854.	1.4	10
28	Pressure shock fronts formed by ultra-fast shear cracks in viscoelastic materials. Nature Communications, 2018, 9, 4754.	5.8	23
29	Microseismicity Simulated on Asperityâ€Like Fault Patches: On Scaling of Seismic Moment With Duration and Seismological Estimates of Stress Drops. Geophysical Research Letters, 2018, 45, 8145-8155.	1.5	24
30	The relation between a microscopic threshold-force model and macroscopic models of adhesion. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 508-515.	1.5	2
31	Rateâ€andâ€state friction properties of the Longitudinal Valley Fault from kinematic and dynamic modeling of seismic and aseismic slip. Journal of Geophysical Research: Solid Earth, 2017, 122, 3115-3137.	1.4	33
32	Connecting depth limits of interseismic locking, microseismicity, and large earthquakes in models of longâ€term fault slip. Journal of Geophysical Research: Solid Earth, 2017, 122, 6491-6523.	1.4	30
33	Understanding dynamic friction through spontaneously evolving laboratory earthquakes. Nature Communications, 2017, 8, 15991.	5.8	79
34	Pulseâ€like partial ruptures and highâ€frequency radiation at creepingâ€locked transition during megathrust earthquakes. Geophysical Research Letters, 2017, 44, 8345-8351.	1.5	45
35	Repeating microearthquake sequences interact predominantly through postseismic slip. Nature Communications, 2016, 7, 13020.	5.8	33
36	Deeper penetration of large earthquakes on seismically quiescent faults. Science, 2016, 352, 1293-1297.	6.0	103

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37	Evidence for non-self-similarity of microearthquakes recorded at a Taiwan borehole seismometer array. Geophysical Journal International, 2016, 206, 757-773.	1.0	22
38	Numerical modeling of long-term earthquake sequences on the NE Japan megathrust: Comparison with observations and implications for fault friction. Earth and Planetary Science Letters, 2015, 419, 187-198.	1.8	31
39	Static Laboratory Earthquake Measurements with the Digital Image Correlation Method. Experimental Mechanics, 2015, 55, 77-94.	1.1	25
40	Quasiâ€dynamic versus fully dynamic simulations of earthquakes and aseismic slip with and without enhanced coseismic weakening. Journal of Geophysical Research: Solid Earth, 2014, 119, 1986-2004.	1.4	80
41	Response of rate-and-state seismogenic faults to harmonic shear-stress perturbations. Geophysical Journal International, 2014, 198, 385-413.	1.0	43
42	Experimental investigation of strong ground motion due to thrust fault earthquakes. Journal of Geophysical Research: Solid Earth, 2014, 119, 1316-1336.	1.4	18
43	Stable creeping fault segments can become destructive as a result of dynamic weakening. Nature, 2013, 493, 518-521.	13.7	400
44	Comparison of average stress drop measures for ruptures with heterogeneous stress change and implications for earthquake physics. Geophysical Journal International, 2013, 193, 1691-1712.	1.0	133
45	On Averaging Interface Response During Dynamic Rupture and Energy Partitioning Diagrams for Earthquakes. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	11
46	Under the Hood of the Earthquake Machine: Toward Predictive Modeling of the Seismic Cycle. Science, 2012, 336, 707-710.	6.0	212
47	Special Issue Honoring Professor James R. Rice. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	1
48	Spectral-element simulations of long-term fault slip: Effect of low-rigidity layers on earthquake-cycle dynamics. Journal of Geophysical Research, 2011, 116, .	3.3	60
49	Pulse-like and crack-like dynamic shear ruptures on frictional interfaces: experimental evidence, numerical modeling, and implications. International Journal of Fracture, 2010, 163, 27-39.	1.1	34
50	Towards inferring earthquake patterns from geodetic observations of interseismic coupling. Nature Geoscience, 2010, 3, 363-369.	5.4	294
51	Rupture modes in laboratory earthquakes: Effect of fault prestress and nucleation conditions. Journal of Geophysical Research, 2010, 115, .	3.3	28
52	Threeâ€dimensional earthquake sequence simulations with evolving temperature and pore pressure due to shear heating: Effect of heterogeneous hydraulic diffusivity. Journal of Geophysical Research, 2010, 115, .	3.3	121
53	Postseismic variations in seismic moment and recurrence interval of repeating earthquakes. Earth and Planetary Science Letters, 2010, 299, 118-125.	1.8	61
54	The SCEC/USGS Dynamic Earthquake Rupture Code Verification Exercise. Seismological Research Letters, 2009, 80, 119-126.	0.8	210

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55	Analysis of supershear transition regimes in rupture experiments: the effect of nucleation conditions and friction parameters. Geophysical Journal International, 2009, 177, 717-732.	1.0	36
56	The roller coaster of fault friction. Nature Geoscience, 2009, 2, 676-677.	5.4	12
57	Scaling of small repeating earthquakes explained by interaction of seismic and aseismic slip in a rate and state fault model. Journal of Geophysical Research, 2009, 114, .	3.3	156
58	Threeâ€dimensional boundary integral modeling of spontaneous earthquake sequences and aseismic slip. Journal of Geophysical Research, 2009, 114, .	3.3	217
59	Transition of mode II cracks from sub-Rayleigh to intersonic speeds in the presence of favorable heterogeneity. Journal of the Mechanics and Physics of Solids, 2008, 56, 25-50.	2.3	87
60	Variability of earthquake nucleation in continuum models of rateâ€andâ€state faults and implications for aftershock rates. Journal of Geophysical Research, 2008, 113, .	3.3	74
61	Spectral element modeling of spontaneous earthquake rupture on rate and state faults: Effect of velocityâ€strengthening friction at shallow depths. Journal of Geophysical Research, 2008, 113, .	3.3	152
62	Pulse-like and crack-like ruptures in experiments mimicking crustal earthquakes. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18931-18936.	3.3	71
63	Comparison of finite difference and boundary integral solutions to three-dimensional spontaneous rupture. Journal of Geophysical Research, 2005, 110, .	3.3	284
64	Nucleation and early seismic propagation of small and large events in a crustal earthquake model. Journal of Geophysical Research, 2003, 108, .	3.3	300
65	Rate and state dependent friction and the stability of sliding between elastically deformable solids. Journal of the Mechanics and Physics of Solids, 2001, 49, 1865-1898.	2.3	521
66	Elastodynamic analysis for slow tectonic loading with spontaneous rupture episodes on faults with rate- and state-dependent friction. Journal of Geophysical Research, 2000, 105, 23765-23789.	3.3	482