Nadia Lapusta

List of Publications by Year in descending order

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ΝλοιλΙλομιστλ

#	Article	IF	CITATIONS
1	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.	4.8	521
2	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
3	Stable creeping fault segments can become destructive as a result of dynamic weakening. Nature, 2013, 493, 518-521.	27.8	400
4	Nucleation and early seismic propagation of small and large events in a crustal earthquake model. Journal of Geophysical Research, 2003, 108, .	3.3	300
5	Towards inferring earthquake patterns from geodetic observations of interseismic coupling. Nature Geoscience, 2010, 3, 363-369.	12.9	294
6	Comparison of finite difference and boundary integral solutions to three-dimensional spontaneous rupture. Journal of Geophysical Research, 2005, 110, .	3.3	284
7	Threeâ€dimensional boundary integral modeling of spontaneous earthquake sequences and aseismic slip. Journal of Geophysical Research, 2009, 114, .	3.3	217
8	Under the Hood of the Earthquake Machine: Toward Predictive Modeling of the Seismic Cycle. Science, 2012, 336, 707-710.	12.6	212
9	The SCEC/USGS Dynamic Earthquake Rupture Code Verification Exercise. Seismological Research Letters, 2009, 80, 119-126.	1.9	210
10	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
11	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
12	Comparison of average stress drop measures for ruptures with heterogeneous stress change and implications for earthquake physics. Geophysical Journal International, 2013, 193, 1691-1712.	2.4	133
13	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
14	Deeper penetration of large earthquakes on seismically quiescent faults. Science, 2016, 352, 1293-1297.	12.6	103
15	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.	4.8	87
16	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.	3.4	80
17	Understanding dynamic friction through spontaneously evolving laboratory earthquakes. Nature Communications, 2017, 8, 15991.	12.8	79
18	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

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19	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.	7.1	71
20	Postseismic variations in seismic moment and recurrence interval of repeating earthquakes. Earth and Planetary Science Letters, 2010, 299, 118-125.	4.4	61
21	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
22	Pulseâ€like partial ruptures and highâ€frequency radiation at creepingâ€locked transition during megathrust earthquakes. Geophysical Research Letters, 2017, 44, 8345-8351.	4.0	45
23	Response of rate-and-state seismogenic faults to harmonic shear-stress perturbations. Geophysical Journal International, 2014, 198, 385-413.	2.4	43
24	The Community Code Verification Exercise for Simulating Sequences of Earthquakes and Aseismic Slip (SEAS). Seismological Research Letters, 2020, 91, 874-890.	1.9	43
25	Fault rock heterogeneity can produce fault weakness and reduce fault stability. Nature Communications, 2022, 13, 326.	12.8	41
26	Propagation of large earthquakes as self-healing pulses or mild cracks. Nature, 2021, 591, 252-258.	27.8	39
27	Analysis of supershear transition regimes in rupture experiments: the effect of nucleation conditions and friction parameters. Geophysical Journal International, 2009, 177, 717-732.	2.4	36
28	Full-field Ultrahigh-speed Quantification of Dynamic Shear Ruptures Using Digital Image Correlation. Experimental Mechanics, 2019, 59, 551-582.	2.0	36
29	Unraveling Scaling Properties of Slowâ€Slip Events. Geophysical Research Letters, 2020, 47, e2020GL087477.	4.0	35
30	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.	2.2	34
31	Repeating microearthquake sequences interact predominantly through postseismic slip. Nature Communications, 2016, 7, 13020.	12.8	33
32	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.	3.4	33
33	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.	4.4	31
34	Connecting depth limits of interseismic locking, microseismicity, and large earthquakes in models of longâ€ŧerm fault slip. Journal of Geophysical Research: Solid Earth, 2017, 122, 6491-6523.	3.4	30
35	Rupture modes in laboratory earthquakes: Effect of fault prestress and nucleation conditions. Journal of Geophysical Research, 2010, 115, .	3.3	28
36	Communityâ€Driven Code Comparisons for Threeâ€Dimensional Dynamic Modeling of Sequences of Earthquakes and Aseismic Slip. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	27

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37	Static Laboratory Earthquake Measurements with the Digital Image Correlation Method. Experimental Mechanics, 2015, 55, 77-94.	2.0	25
38	Constraining Fault Friction and Stability With Fluidâ€Injection Field Experiments. Geophysical Research Letters, 2021, 48, e2020GL091188.	4.0	25
39	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.	4.0	24
40	Pressure shock fronts formed by ultra-fast shear cracks in viscoelastic materials. Nature Communications, 2018, 9, 4754.	12.8	23
41	Evidence for non-self-similarity of microearthquakes recorded at a Taiwan borehole seismometer array. Geophysical Journal International, 2016, 206, 757-773.	2.4	22
42	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, .	2.2	21
43	Nearly Magnitudeâ€Invariant Stress Drops in Simulated Crackâ€Like Earthquake Sequences on Rateâ€∎ndâ€State Faults with Thermal Pressurization of Pore Fluids. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018597.	3.4	20
44	A unified perspective of seismicity and fault coupling along the San Andreas Fault. Science Advances, 2022, 8, eabk1167.	10.3	19
45	Experimental investigation of strong ground motion due to thrust fault earthquakes. Journal of Geophysical Research: Solid Earth, 2014, 119, 1316-1336.	3.4	18
46	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.	3.4	18
47	Intermittent lab earthquakes in dynamically weakening fault gouge. Nature, 2022, 606, 922-929.	27.8	18
48	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.	3.4	16
49	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.	7.1	15
50	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.	4.8	13
51	Enhanced Digital Image Correlation Analysis of Ruptures with Enforced Traction Continuity Conditions Across Interfaces. Applied Sciences (Switzerland), 2019, 9, 1625.	2.5	13
52	The roller coaster of fault friction. Nature Geoscience, 2009, 2, 676-677.	12.9	12
53	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, .	7.1	12
54	On Averaging Interface Response During Dynamic Rupture and Energy Partitioning Diagrams for Earthquakes. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	2.2	11

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55	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.	3.4	11
56	Rupture-dependent breakdown energy in fault models with thermo-hydro-mechanical processes. Solid Earth, 2020, 11, 2283-2302.	2.8	11
57	Finite-fault source inversion using adjoint methods in 3-D heterogeneous media. Geophysical Journal International, 2018, 214, 402-420.	2.4	10
58	Modeling High Stress Drops, Scaling, Interaction, and Irregularity of Repeating Earthquake Sequences Near Parkfield. Journal of Geophysical Research: Solid Earth, 2018, 123, 10,854.	3.4	10
59	On behaviour and scaling of small repeating earthquakes in rate and state fault models. Geophysical Journal International, 2019, 218, 2001-2018.	2.4	10
60	Subduction earthquake sequences in a non-linear visco-elasto-plastic megathrust. Geophysical Journal International, 2022, 229, 1098-1121.	2.4	10
61	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.	3.4	9
62	Resolving Simulated Sequences of Earthquakes and Fault Interactions: Implications for Physicsâ€Based Seismic Hazard Assessment. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022193.	3.4	9
63	Dynamics and Nearâ€Field Surface Motions of Transitioned Supershear Laboratory Earthquakes in Thrust Faults. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	3
64	The relation between a microscopic threshold-force model and macroscopic models of adhesion. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 508-515.	3.4	2
65	Special Issue Honoring Professor James R. Rice. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	2.2	1
66	Evolution of dynamic shear strength of frictional interfaces during rapid normal stress variations. EPJ Web of Conferences, 2021, 250, 01016.	0.3	0