Eric M Dunham

List of Publications by Year
in descending order

82	3,662	109137	138251
papers	citations	35 h-index	58 g-index

97	97	97	2018
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The SCEC/USGS Dynamic Earthquake Rupture Code Verification Exercise. Seismological Research Letters, 2009, 80, 119-126.	0.8	210
2	Earthquake ruptures with thermal weakening and the operation of major faults at low overall stress levels. Journal of Geophysical Research, 2009, 114, .	3.3	205
3	Earthquake Ruptures with Strongly Rate-Weakening Friction and Off-Fault Plasticity, Part 2: Nonplanar Faults. Bulletin of the Seismological Society of America, 2011, 101, 2308-2322.	1.1	198
4	Conditions governing the occurrence of supershear ruptures under slipâ€weakening friction. Journal of Geophysical Research, 2007, 112, .	3.3	153
5	A Suite of Exercises for Verifying Dynamic Earthquake Rupture Codes. Seismological Research Letters, 2018, 89, 1146-1162.	0.8	142
6	Earthquake Ruptures with Strongly Rate-Weakening Friction and Off-Fault Plasticity, Part 1: Planar Faults. Bulletin of the Seismological Society of America, 2011, 101, 2296-2307.	1.1	135
7	Rupture to the Trench: Dynamic Rupture Simulations of the 11 March 2011 Tohoku Earthquake. Bulletin of the Seismological Society of America, 2013, 103, 1275-1289.	1.1	132
8	A Supershear Transition Mechanism for Cracks. Science, 2003, 299, 1557-1559.	6.0	127
9	Additional shear resistance from fault roughness and stress levels on geometrically complex faults. Journal of Geophysical Research: Solid Earth, 2013, 118, 3642-3654.	1.4	107
10	Strong Ground Motion Prediction Using Virtual Earthquakes. Science, 2014, 343, 399-403.	6.0	96
11	Attenuation of radiated ground motion and stresses from threeâ€dimensional supershear ruptures. Journal of Geophysical Research, 2008, 113, .	3.3	84
12	Rupture complexity and the supershear transition on rough faults. Journal of Geophysical Research: Solid Earth, 2016, 121, 210-224.	1.4	80
13	Simulation of Dynamic Earthquake Ruptures in Complex Geometries Using High-Order Finite Difference Methods. Journal of Scientific Computing, 2013, 55, 92-124.	1.1	77
14	Near-source ground motion from steady state dynamic rupture pulses. Geophysical Research Letters, 2005, 32, .	1.5	67
15	Forecasting the Eruption of an Openâ€Vent Volcano Using Resonant Infrasound Tones. Geophysical Research Letters, 2018, 45, 2213-2220.	1.5	67
16	Verifying a Computational Method for Predicting Extreme Ground Motion. Seismological Research Letters, 2011, 82, 638-644.	0.8	66
17	Earthquake cycle simulations with rate-and-state friction and power-law viscoelasticity. Tectonophysics, 2018, 733, 232-256.	0.9	62
18	Vibrational modes of hydraulic fractures: Inference of fracture geometry from resonant frequencies and attenuation. Journal of Geophysical Research: Solid Earth, 2015, 120, 1080-1107.	1.4	61

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19	Tremor during ice-stream stick slip. Cryosphere, 2016, 10, 385-399.	1.5	58
20	Fault valving and pore pressure evolution in simulations of earthquake sequences and aseismic slip. Nature Communications, 2020, 11, 4833.	5.8	56
21	Ground motion prediction of realistic earthquake sources using the ambient seismic field. Journal of Geophysical Research: Solid Earth, 2013, 118, 2102-2118.	1.4	55
22	Earthquake slip between dissimilar poroelastic materials. Journal of Geophysical Research, 2008, 113, .	3.3	54
23	Frictional-faulting model for harmonic tremor before Redoubt Volcano eruptions. Nature Geoscience, 2013, 6, 652-656.	5.4	54
24	Predicting fault damage zones by modeling dynamic rupture propagation and comparison with field observations. Journal of Geophysical Research: Solid Earth, 2014, 119, 1251-1272.	1.4	54
25	Coherence of Mach fronts during heterogeneous supershear earthquake rupture propagation: Simulations and comparison with observations. Journal of Geophysical Research, 2010, 115, .	3.3	53
26	Interaction of Waves with Frictional Interfaces Using Summation-by-Parts Difference Operators: Weak Enforcement of Nonlinear Boundary Conditions. Journal of Scientific Computing, 2012, 50, 341-367.	1.1	49
27	The State of Stress on the Fault Before, During, and After a Major Earthquake. Annual Review of Earth and Planetary Sciences, 2020, 48, 49-74.	4.6	49
28	A finite difference method for off-fault plasticity throughout the earthquake cycle. Journal of the Mechanics and Physics of Solids, 2017, 109, 50-77.	2.3	48
29	Dynamic earthquake rupture simulations on nonplanar faults embedded in 3D geometrically complex, heterogeneous elastic solids. Journal of Computational Physics, 2016, 305, 185-207.	1.9	47
30	The Community Code Verification Exercise for Simulating Sequences of Earthquakes and Aseismic Slip (SEAS). Seismological Research Letters, 2020, 91, 874-890.	0.8	43
31	An efficient numerical method for earthquake cycles in heterogeneous media: Alternating subbasin and surfaceâ€rupturing events on faults crossing a sedimentary basin. Journal of Geophysical Research: Solid Earth, 2014, 119, 3290-3316.	1.4	42
32	Constraining shallow slip and tsunami excitation in megathrust ruptures using seismic and ocean acoustic waves recorded on ocean-bottom sensor networks. Earth and Planetary Science Letters, 2014, 396, 56-65.	1.8	40
33	Observation of farâ€field Mach waves generated by the 2001 Kokoxili supershear earthquake. Geophysical Research Letters, 2012, 39, .	1.5	39
34	The effect of compliant prisms on subduction zone earthquakes and tsunamis. Earth and Planetary Science Letters, 2017, 458, 213-222.	1.8	39
35	Slowâ€slip events on the Whillans Ice Plain, Antarctica, described using rateâ€andâ€state friction as an ice stream sliding law. Journal of Geophysical Research F: Earth Surface, 2017, 122, 973-1003.	1.0	38
36	Finite difference modelling of rupture propagation with strong velocity-weakening friction. Geophysical Journal International, 2009, 179, 1831-1858.	1.0	37

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37	Hydraulic fracture diagnostics from Krauklis-wave resonance and tube-wave reflections. Geophysics, 2017, 82, D171-D186.	1.4	37
38	Fully Coupled Simulations of Megathrust Earthquakes and Tsunamis in the Japan Trench, Nankai Trough, and Cascadia Subduction Zone. Pure and Applied Geophysics, 2019, 176, 4009-4041.	0.8	34
39	Accounting for Fault Roughness in Pseudo-Dynamic Ground-Motion Simulations. Pure and Applied Geophysics, 2017, 174, 3419-3450.	0.8	31
40	A 2D Pseudodynamic Rupture Model Generator for Earthquakes on Geometrically Complex Faults. Bulletin of the Seismological Society of America, 2014, 104, 95-112.	1.1	30
41	Energy stable and high-order-accurate finite difference methods on staggered grids. Journal of Computational Physics, 2017, 346, 572-589.	1.9	30
42	Solving the Surface-Wave Eigenproblem with Chebyshev Spectral Collocation. Bulletin of the Seismological Society of America, 2012, 102, 1214-1223.	1.1	28
43	High-order finite difference modeling of tsunami generation in a compressible ocean from offshore earthquakes. Computational Geosciences, 2015, 19, 327-340.	1.2	28
44	Should tsunami simulations include a nonzero initial horizontal velocity?. Earth, Planets and Space, 2017, 69, .	0.9	28
45	Poroelastic effects destabilize mildly rate-strengthening friction to generate stable slow slip pulses. Journal of the Mechanics and Physics of Solids, 2019, 130, 262-279.	2.3	27
46	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
47	Distinguishing barriers and asperities in near-source ground motion. Journal of Geophysical Research, 2005, 110, .	3.3	26
48	Influence of fault roughness on surface displacement: from numerical simulations to coseismic slip distributions. Geophysical Journal International, 2020, 220, 1857-1877.	1.0	26
49	Effect of Porosity and Permeability Evolution on Injectionâ€Induced Aseismic Slip. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021258.	1.4	25
50	Guided Waves Along Fluid-Filled Cracks in Elastic Solids and Instability at High Flow Rates. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	20
51	Rupture dynamics and ground motions from earthquakes in 2â€D heterogeneous media. Geophysical Research Letters, 2015, 42, 1701-1709.	1.5	20
52	Simulation and inversion of harmonic infrasound from open-vent volcanoes using an efficient quasi-1D crater model. Journal of Volcanology and Geothermal Research, 2019, 380, 64-79.	0.8	20
53	Dissipative interface waves and the transient response of a three-dimensional sliding interface with Coulomb friction. Journal of the Mechanics and Physics of Solids, 2005, 53, 327-357.	2.3	19
54	What controls the initial peak of an air-gun source signature?. Geophysics, 2019, 84, P27-P45.	1.4	18

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55	Nucleation and dynamic rupture on weakly stressed faults sustained by thermal pressurization. Journal of Geophysical Research: Solid Earth, 2015, 120, 7606-7640.	1.4	17
56	Excitation and resonance of acoustic-gravity waves in a column of stratified, bubbly magma. Journal of Fluid Mechanics, 2016, 797, 431-470.	1.4	17
57	A finite difference method for earthquake sequences in poroelastic solids. Computational Geosciences, 2018, 22, 1351-1370.	1.2	17
58	Tsunami Wavefield Reconstruction and Forecasting Using the Ensemble Kalman Filter. Geophysical Research Letters, 2019, 46, 853-860.	1.5	17
59	Simulation of Earthquake Rupture Dynamics in Complex Geometries Using Coupled Finite Difference and Finite Volume Methods. Communications in Computational Physics, 2015, 17, 337-370.	0.7	15
60	3D acoustic-elastic coupling with gravity. , 2021, , .		14
61	Non-stiff boundary and interface penalties for narrow-stencil finite difference approximations of the Laplacian on curvilinear multiblock grids. Journal of Computational Physics, 2020, 408, 109294.	1.9	12
62	Simulation of Wave Propagation Along Fluid-Filled Cracks Using High-Order Summation-by-Parts Operators and Implicit-Explicit Time Stepping. SIAM Journal of Scientific Computing, 2017, 39, B675-B702.	1.3	11
63	Mach wave properties in the presence of source and medium heterogeneity. Geophysical Journal International, 2018, 214, 2035-2052.	1.0	11
64	Dynamic rupture and earthquake sequence simulations using the wave equation in second-order form. Geophysical Journal International, 2019, 219, 796-815.	1.0	11
65	Elastic wave propagation in anisotropic solids using energy-stable finite differences with weakly enforced boundary and interface conditions. Journal of Computational Physics, 2021, 424, 109842.	1.9	11
66	Infrasound Radiation From Impulsive Volcanic Eruptions: Nonlinear Aeroacoustic 2D Simulations. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021940.	1.4	11
67	Combining Dynamic Rupture Simulations with Groundâ€Motion Data to Characterize Seismic Hazard from MwÃ3 to 5.8 Earthquakes in Oklahoma and Kansas. Bulletin of the Seismological Society of America, 2019, 109, 652-671.	1.1	10
68	Role of Fluid Injection on Earthquake Size in Dynamic Rupture Simulations on Rough Faults. Geophysical Research Letters, 2020, 47, e2020GL088377.	1.5	10
69	Treatment of the polar coordinate singularity in axisymmetric wave propagation using high-order summation-by-parts operators on a staggered grid. Computers and Fluids, 2017, 149, 138-149.	1.3	9
70	Magma Oscillations in a Conduitâ€Reservoir System, Application to Very Long Period (VLP) Seismicity at Basaltic Volcanoes: 1. Theory. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB017437.	1.4	8
71	Magma Oscillations in a Conduitâ€Reservoir System, Application to Very Long Period (VLP) Seismicity at Basaltic Volcanoes: 2. Data Inversion and Interpretation at KÄ«lauea Volcano. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB017456.	1.4	8
72	Lava lake sloshing modes during the 2018 KÄ«lauea Volcano eruption probe magma reservoir storativity. Earth and Planetary Science Letters, 2020, 535, 116110.	1.8	8

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73	Influence of Shear Heating and Thermomechanical Coupling on Earthquake Sequences and the Brittleâ€Ductile Transition. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021394.	1.4	8
74	Hydraulic fracture conductivity inferred from tube wave reflections. , 2017, , .		7
75	Simulation of acoustic and flexural-gravity waves in ice-covered oceans. Journal of Computational Physics, 2018, 373, 230-252.	1.9	7
76	Physicsâ€Based Model Reconciles Caldera Collapse Induced Static and Dynamic Ground Motion: Application to KÄ«lauea 2018. Geophysical Research Letters, 2022, 49, .	1.5	6
77	Using Simulated Ground Motions to Constrain Nearâ€Source Groundâ€Motion Prediction Equations in Areas Experiencing Induced Seismicity. Bulletin of the Seismological Society of America, 2017, 107, 2078-2093.	1.1	5
78	Ultra and Very Long Period Seismic Signatures of Unsteady Eruptions Predicted From Conduit Flow Models. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	3
79	Models of Injectionâ€Induced Aseismic Slip on Heightâ€Bounded Faults in the Delaware Basin Constrain Faultâ€Zone Pore Pressure Changes and Permeability. Geophysical Research Letters, 2022, 49, .	1.5	3
80	Acoustic-elastic waveform modeling and inversion using energy-stable summation-by-parts finite-difference operators. , 2021, , .		2
81	Special Issue Honoring Professor James R. Rice. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	1
82	Earthquake Sequence Dynamics at the Interface Between an Elastic Layer and Underlying Halfâ€Space in Antiplane Shear. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020007.	1.4	0