Dave A May

List of Publications by Year
in descending order

51 papers	2,915 citations	236912 25 h-index	214788 47 g-index
75 all docs	75 docs citations	75 times ranked	2509 citing authors

#	Article	IF	Citations
1	Rate and State Friction as a Spatially Regularized Transient Viscous Flow Law. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	6
2	An efficient partial-differential-equation-based method to compute pressure boundary conditions in regional geodynamic models. Solid Earth, 2022, 13, 1107-1125.	2.8	2
3	Seismic Source Tracking With Six Degreeâ€ofâ€Freedom Ground Motion Observations. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021112.	3.4	7
4	The Global Range of Temperatures on Convergent Plate Interfaces. Geochemistry, Geophysics, Geosystems, 2021, 22, e2021GC009849.	2.5	5
5	Rotation, narrowing, and preferential reactivation of brittle structures during oblique rifting. Earth and Planetary Science Letters, 2020, 531, 115952.	4.4	36
6	Mantle plume dynamics at the rear of a retreating slab. Geophysical Journal International, 2020, 222, 1146-1163.	2.4	2
7	Pragmatic solvers for 3D Stokes and elasticity problems with heterogeneous coefficients: evaluating modern incomplete LDL^{<i>T</i>} preconditioners. Solid Earth, 2020, 11, 2031-2045.	2.8	1
8	Devolatilization of Subducting Slabs, Part II: Volatile Fluxes and Storage. Geochemistry, Geophysics, Geosystems, 2019, 20, 6199-6222.	2.5	17
9	Modular and flexible spectral-element waveform modelling in two and three dimensions. Geophysical Journal International, 2019, 216, 1675-1692.	2.4	100
10	Continental break-up of the South China Sea stalled by far-field compression. Nature Geoscience, 2018, 11, 605-609.	12.9	52
11	Benchmark of three-dimensional numerical models of subduction against a laboratory experiment. Physics of the Earth and Planetary Interiors, 2018, 283, 110-121.	1.9	5
12	A genetic link between transform and hyper-extended margins. Earth and Planetary Science Letters, 2017, 465, 184-192.	4.4	43
13	Subduction Initiation With Vertical Lithospheric Heterogeneities and New Fault Formation. Geophysical Research Letters, 2017, 44, 11,349.	4.0	21
14	On the solvability of incompressible Stokes with viscoplastic rheologies in geodynamics. Geochemistry, Geophysics, Geosystems, 2016, 17, 2213-2238.	2.5	60
15	Benchmarking numerical models of brittle thrust wedges. Journal of Structural Geology, 2016, 92, 140-177.	2.3	81
16	A free surface capturing discretization for the staggered grid finite difference scheme. Geophysical Journal International, 2016, 204, 1518-1530.	2.4	27
17	Extreme-Scale Multigrid Components within PETSc. , 2016, , .		17
18	Pipelined, Flexible Krylov Subspace Methods. SIAM Journal of Scientific Computing, 2016, 38, C441-C470.	2.8	11

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19	Numerical investigation of thermal spallation drilling using an uncoupled quasi-static thermoelastic finite element formulation. Journal of Thermal Stresses, 2016, 39, 1138-1151.	2.0	21
20	Fluidâ€assisted deformation of the subduction interface: Coupled and decoupled regimes from 2â€Ð hydromechanical modeling. Journal of Geophysical Research: Solid Earth, 2016, 121, 6132-6149.	3.4	12
21	Simulating faults and plate boundaries with a transversely isotropic plasticity model. Physics of the Earth and Planetary Interiors, 2016, 252, 77-90.	1.9	9
22	Implicit solution of the material transport in Stokes flow simulation: Toward thermal convection simulation surrounded by free surface. Computer Physics Communications, 2015, 192, 1-11.	7.5	8
23	A scalable, matrix-free multigrid preconditioner for finite element discretizations of heterogeneous Stokes flow. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 496-523.	6.6	104
24	A linear inversion method to infer exhumation rates in space and time from thermochronometric data. Earth Surface Dynamics, 2014, 2, 47-65.	2.4	50
25	Threeâ€dimensional simulations of the southern polar giant impact hypothesis for the origin of the Martian dichotomy. Geophysical Research Letters, 2014, 41, 8736-8743.	4.0	71
26	pTatin3D: High-Performance Methods for Long-Term Lithospheric Dynamics. , 2014, , .		61
27	Quantifying the impact of mechanical layering and underthrusting on the dynamics of the modern Indiaâ€Asia collisional system with 3â€Ð numerical models. Journal of Geophysical Research: Solid Earth, 2014, 119, 616-644.	3.4	18
28	Influences of surface processes on fold growth during 3â€Ð detachment folding. Geochemistry, Geophysics, Geosystems, 2014, 15, 3281-3303.	2.5	20
29	Subduction initiates at straight passive margins. Geology, 2014, 42, 331-334.	4.4	32
30	Inversion of fluvial channels for paleorock uplift rates in Taiwan. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1853-1875.	2.8	90
31	Overview of adaptive finite element analysis in computational geodynamics. Journal of Geodynamics, 2013, 70, 1-20.	1.6	37
32	Numerical modelling of magma dynamics coupled to tectonic deformation of lithosphere and crust. Geophysical Journal International, 2013, 195, 1406-1442.	2.4	152
33	An adaptive staggered grid finite difference method for modeling geodynamic Stokes flows with strongly variable viscosity. Geochemistry, Geophysics, Geosystems, 2013, 14, 1200-1225.	2.5	43
34	Kinematic interpretation of the 3D shapes of metamorphic core complexes. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	61
35	A comparison of numerical surface topography calculations in geodynamic modelling: an evaluation of the â€˜sticky airâ€™ method. Geophysical Journal International, 2012, 189, 38-54.	2.4	301
36	On the rise of strongly tilted mantle plume tails. Physics of the Earth and Planetary Interiors, 2011, 184, 63-79.	1.9	6

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37	Comparing thin-sheet models with 3-D multilayer models for continental collision. Geophysical Journal International, 2011, 187, 10-33.	2.4	33
38	Optimal, scalable forward models for computing gravity anomalies. Geophysical Journal International, 2011, 187, 161-177.	2.4	19
39	Numerical modelling of spontaneous slab breakoff and subsequent topographic response. Tectonophysics, 2011, 502, 244-256.	2.2	291
40	Development of a Stokes flow solver robust to large viscosity jumps using a Schur complement approach with mixed precision arithmetic. Journal of Computational Physics, 2011, 230, 8835-8851.	3.8	62
41	A stabilization algorithm for geodynamic numerical simulations with a free surface. Physics of the Earth and Planetary Interiors, 2010, 181, 12-20.	1.9	140
42	Interactions of 3D mantle flow and continental lithosphere near passive margins. Tectonophysics, 2010, 483, 20-28.	2.2	39
43	Origin of ice diapirism, true polar wander, subsurface ocean, and tiger stripes of Enceladus driven by compositional convection. Icarus, 2009, 202, 669-680.	2.5	21
44	Preconditioned iterative methods for Stokes flow problems arising in computational geodynamics. Physics of the Earth and Planetary Interiors, 2008, 171, 33-47.	1.9	128
45	A model comparison study of large-scale mantleâ€“lithosphere dynamics driven by subduction. Physics of the Earth and Planetary Interiors, 2008, 171, 224-234.	1.9	43
46	Incompressible viscous formulations for deformation and yielding of the lithosphere. Geological Society Special Publication, 2007, 282, 457-472.	1.3	7
47	Evolution and diversity of subduction zones controlled by slab width. Nature, 2007, 446, 308-311.	27.8	494
48	Thermal convection with a water ice I rheology: Implications for icy satellite evolution. Icarus, 2006, 180, 251-264.	2.5	14
49	Can a single bubble sink a ship?. American Journal of Physics, 2003, 71, 842-849.	0.7	24
50	The impact of vent geometry on the growth of lava domes. Geophysical Journal International, 0, , .	2.4	5
51	Contrasting transform and passive margin subsidence history and heat flow evolution: insights from 3D thermo-mechanical modelling. Geological Society Special Publication, 0, , SP524-2021-94.	1.3	2