Robert J Geller

List of Publications by Year
in descending order

115 papers	4,603 citations	126907 33 h-index	106344 65 g-index
117 all docs	117 docs citations	117 times ranked	2673 citing authors

#	Article	IF	Citations
1	Earthquakes Cannot Be Predicted. Science, 1997, 275, 1616-1616.	12.6	626
2	Earthquake prediction: a critical review. Geophysical Journal International, 1997, 131, 425-450.	2.4	427
3	Four similar earthquakes in central California. Geophysical Research Letters, 1980, 7, 821-824.	4.0	252
4	Did a submarine landslide contribute to the 2011 Tohoku tsunami?. Marine Geology, 2014, 357, 344-361.	2.1	223
5	Why earthquake hazard maps often fail and what to do about it. Tectonophysics, 2012, 562-563, 1-25.	2.2	212
6	Shake-up time for Japanese seismology. Nature, 2011, 472, 407-409.	27.8	174
7	Computation of synthetic seismograms and their partial derivatives for heterogeneous media with arbitrary natural boundary conditions using the Direct Solution Method. Geophysical Journal International, 1994, 116, 421-446.	2.4	152
8	Magnitudes of great shallow earthquakes from 1904 to 1952. Bulletin of the Seismological Society of America, 1977, 67, 587-598.	2.3	137
9	Earthquakes along the passive margin of eastern Canada. Geophysical Research Letters, 1979, 6, 537-540.	4.0	130
10	Why is Probabilistic Seismic Hazard Analysis (PSHA) still used?. Physics of the Earth and Planetary Interiors, 2017, 264, 63-75.	1.9	121
11	Body force equivalents for stress-drop seismic sources. Bulletin of the Seismological Society of America, 1976, 66, 1801-1804.	2.3	120
12	Complete synthetic seismograms up to 2 Hz for transversely isotropic spherically symmetric media. Geophysical Journal International, 2006, 164, 411-424.	2.4	100
13	A new method for computing highly accurate DSM synthetic seismograms. Geophysical Journal International, 1995, 123, 449-470.	2.4	94
14	Optimally accurate second order time-domain finite difference scheme for computing synthetic seismograms in 2-D and 3-D media. Physics of the Earth and Planetary Interiors, 2000, 119, 99-131.	1.9	90
15	Bad Assumptions or Bad Luck: Why Earthquake Hazard Maps Need Objective Testing. Seismological Research Letters, 2011, 82, 623-626.	1.9	83
16	Characteristic Earthquake Model, 1884-2011, R.I.P.. Seismological Research Letters, 2012, 83, 951-953.	1.9	81
17	Two efficient algorithms for iterative linearized inversion of seismic waveform data. Geophysical Journal International, 1993, 115, 699-710.	2.4	78
18	Fukushima: The myth of safety, the reality of geoscience. Bulletin of the Atomic Scientists, 2011, 67, 37-46.	0.6	77

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19	Debate on evaluation of the VAN Method: Editor's introduction. Geophysical Research Letters, 1996, 23, 1291-1293.	4.0	76
20	Optimally accurate second-order time-domain finite difference scheme for the elastic equation of motion: one-dimensional case. Geophysical Journal International, 1998, 135, 48-62.	2.4	75
21	Highly accurate P-SV complete synthetic seismograms using modified DSM operators. Geophysical Research Letters, 1996, 23, 1175-1178.	4.0	56
22	Computation of complete synthetic seismograms for laterally heterogeneous models using the Direct Solution Method. Geophysical Journal International, 1997, 130, 1-16.	2.4	55
23	Complete synthetic seismograms for 3-D heterogeneous Earth models computed using modified DSM operators and their applicability to inversion for Earth structure. Physics of the Earth and Planetary Interiors, 2000, 119, 25-36.	1.9	48
24	On the observability of isotropic seismic sources: The July 31, 1970 Colombian earthquake. Physics of the Earth and Planetary Interiors, 1979, 18, 176-196.	1.9	46
25	DSM complete synthetic seismograms: SH, spherically symmetric, case. Geophysical Research Letters, 1994, 21, 533-536.	4.0	41
26	Inversion for laterally heterogeneous upper mantle S-wave velocity structure using iterative waveform inversion. Geophysical Journal International, 1993, 115, 667-698.	2.4	40
27	DSM complete synthetic seismograms: P-SV, spherically symmetric, case. Geophysical Research Letters, 1994, 21, 1663-1666.	4.0	38
28	The COSY Project: verification of global seismic modeling algorithms. Physics of the Earth and Planetary Interiors, 2000, 119, 3-23.	1.9	38
29	Shake-up for earthquake prediction. Nature, 1991, 352, 275-276.	27.8	36
30	Geophysical aspects of very long baseline neutrino experiments. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 503, 187-191.	1.6	36
31	MORB in the lowermost mantle beneath the western Pacific: Evidence from waveform inversion. Earth and Planetary Science Letters, 2009, 278, 219-225.	4.4	36
32	Possible evidence for a double crossing phase transition in Dâ€³ beneath Central America from inversion of seismic waveforms. Geophysical Research Letters, 2007, 34, .	4.0	35
33	Waveform inversion for localized seismic structure and an application to Dâ€³ structure beneath the Pacific. Journal of Geophysical Research, 2010, 115, .	3.3	33
34	Inversion for laterally heterogeneous earth structure using a laterally heterogeneous starting model: preliminary results. Geophysical Journal International, 2007, 104, 523-540.	2.4	32
35	Comparison of Accuracy and Efficiency of Time-domain Schemes for Calculating Synthetic Seismograms. Physics of the Earth and Planetary Interiors, 2000, 119, 75-97.	1.9	27
36	An intraplate thrust earthquake in the South China Sea. Journal of Geophysical Research, 1979, 84, 5627-5631.	3.3	25

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37	Seismic strain release along the Middle America Trench, Mexico. Geophysical Research Letters, 1982, 9, 182-185.	4.0	25
38	The vertical flow in the lowermost mantle beneath the Pacific from inversion of seismic waveforms for anisotropic structure. Earth and Planetary Science Letters, 2010, 297, 190-198.	4.4	25
39	A methodology for inversion of broadband seismic waveforms for elastic and anelastic structure and its application to the mantle transition zone beneath the Northwestern Pacific. Physics of the Earth and Planetary Interiors, 2010, 180, 118-137.	1.9	24
40	Variational free oscillation computations for three laterally heterogeneous Earth models. Physics of the Earth and Planetary Interiors, 1987, 47, 288-318.	1.9	22
41	Dâ€³ beneath the Arctic from inversion of shear waveforms. Geophysical Research Letters, 2007, 34, .	4.0	20
42	Reply to comment by Arthur Frankel on â€œWhy Earthquake Hazard Maps Often Fail and What to do About Itâ€• Tectonophysics, 2013, 592, 207-209.	2.2	19
43	Comment on â€œthe use of the minimum-dissipation principle in tectonophysicsâ€•by P. Bird and D.A. Yuen. Earth and Planetary Science Letters, 1979, 45, 218-220.	4.4	18
44	Communicating uncertainties in natural hazard forecasts. Eos, 2012, 93, 361-362.	0.1	18
45	Imaging paleoslabs in the Dâ€³ layer beneath Central America and the Caribbean using seismic waveform inversion. Science Advances, 2017, 3, e1602700.	10.3	18
46	VAN: A CRITICAL EVALUATION. , 1996, , 155-238.		18
47	Partial derivatives of the eigenfrequencies of a laterally heterogeneous Earth model. Geophysical Research Letters, 1985, 12, 817-820.	4.0	17
48	Coupling between the multiplets of laterally heterogeneous earth models. Geophysical Journal International, 1989, 96, 371-379.	2.4	17
49	Finite-frequency structural sensitivities of short-period compressional body waves. Geophysical Journal International, 2012, 190, 522-540.	2.4	17
50	Methods for inversion of body-wave waveforms for localized three-dimensional seismic structure and an application to Dâ€²â€² structure beneath Central America. Geophysical Journal International, 2014, 197, 495-524.	2.4	17
51	Comment on â€œSignature of pending earthquake from electromagnetic anomaliesâ€•by K. Eftaxias et al.. Geophysical Research Letters, 2002, 29, 18-1-18-2.	4.0	16
52	Waveform inversion for localized three-dimensional seismic velocity structure in the lowermost mantle beneath the Western Pacific. Geophysical Journal International, 2014, 199, 1245-1267.	2.4	16
53	A direct measurement of the distance between a hypocenter in a Benioffâ€Wadati Zone and the Slabâ€Asthenosphere contact. Journal of Geophysical Research, 1982, 87, 323-328.	3.3	15
54	Finite frequency effects on apparent<i>S</i>-wave splitting in the Dâ€³ layer: comparison between ray theory and full-wave synthetics. Geophysical Journal International, 2016, 207, 12-28.	2.4	15

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55	Waveform inversion for Dâ€³ structure beneath northern Asia using Hiâ€net tiltmeter data. Geophysical Research Letters, 2009, 36, .	4.0	14
56	Waveform inversion for 3-D S-velocity structure of Dâ€²â€² beneath the Northern Pacific: possible evidence for a remnant slab and a passive plume. Earth, Planets and Space, 2016, 68, .	2.5	14
57	Fukushima--Two Years Later. Seismological Research Letters, 2013, 84, 1-3.	1.9	13
58	Toroidal modes of a simple laterally heterogeneous sphere. Bulletin of the Seismological Society of America, 1982, 72, 1155-1166.	2.3	13
59	Use of a bubble tiltmeter as a horizontal seismometer. Geophysical Journal International, 1978, 54, 661-668.	2.4	12
60	Linear moment tensor inversion for shallow thrust earthquakes combining firstâ€motion and surface wave data. Journal of Geophysical Research, 1984, 89, 1889-1897.	3.3	12
61	Earthquakes: Thinking about the unpredictable. Eos, 1997, 78, 63.	0.1	12
62	Elastodynamics in a laterally heterogeneous, self-gravitating body. Geophysical Journal International, 1988, 94, 271-283.	2.4	11
63	On the Equivalence of Two Methods For Computing Partial Derivatives of Seismic Waveforms. Geophysical Journal International, 1990, 100, 153-156.	2.4	11
64	Metastable phases confirmed. Nature, 1990, 347, 620-621.	27.8	11
65	Accurate numerical methods for solving the elastic equation of motion for arbitrary source locations. Geophysical Journal International, 2003, 154, 852-866.	2.4	11
66	Evidence of precursive compression for two deep earthquakes. Nature, 1974, 252, 28-29.	27.8	10
67	Qâˆ'1 models from data space inversion of fundamental spheroidal mode attenuation measurements. Geodynamic Series, 1981, , 39-53.	0.1	9
68	Partial derivatives of synthetic seismograms for a laterally heterogeneous Earth model. Geophysical Research Letters, 1987, 14, 832-835.	4.0	9
69	Threeâ€Dimensional S Velocity Structure of the Mantle Transition Zone Beneath Central America and the Gulf of Mexico Inferred Using Waveform Inversion. Journal of Geophysical Research: Solid Earth, 2019, 124, 9664-9681.	3.4	9
70	DSM synthetic seismograms using analytic trial functions: planelayered, isotropic, case. Geophysical Journal International, 1995, 120, 163-172.	2.4	8
71	Simultaneous waveform inversion for three-dimensional Earth structure and earthquake source parameters considering a wide range of modal coupling. Geophysical Journal International, 2000, 142, 539-550.	2.4	8
72	On the equivalence of two methods for computing partial derivatives of seismic waveforms-II. Laterally homogeneous initial model. Geophysical Journal International, 1990, 102, 499-502.	2.4	7

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73	Representation Theorems for an Infinite Shear Fault. Geophysical Journal International, 1974, 39, 123-131.	2.4	6
74	A new iterative method for finding the normal modes of a laterally heterogeneous body. Geophysical Research Letters, 1981, 8, 1195-1197.	4.0	6
75	Normal mode solutions for absorbing boundary conditions. Geophysical Research Letters, 1985, 12, 145-148.	4.0	6
76	Unpredictable earthquakes. Nature, 1991, 353, 612-612.	27.8	6
77	The geological origin of long wavelength lateral heterogeneity at depths of 300-400km. Geophysical Research Letters, 1994, 21, 907-910.	4.0	6
78	Toward global standardization of conducting fair investigations of allegations of research misconduct. Accountability in Research, 2020, 27, 327-346.	2.4	6
79	Geoethics, Risk-Communication, and Scientific Issues in Earthquake Science. , 2015, , 263-272.		6
80	Earthquake prediction: is this debate necessary?. Nature, 1999, , .	27.8	5
81	Scientific principles and public policy. Earth-Science Reviews, 2018, 176, 214-221.	9.1	5
82	High-resolution 3-D S-velocity structure in the Dâ€³ region at the western margin of the Pacific LLSVP: Evidence for small-scale plumes and paleoslabs. Physics of the Earth and Planetary Interiors, 2020, 307, 106544.	1.9	5
83	Imaging paleoslabs and inferring the Clapeyron slope in Dâ€³ beneath the northern Pacific based on high-resolution inversion of seismic waveforms for 3-D transversely isotropic structure. Physics of the Earth and Planetary Interiors, 2021, 321, 106751.	1.9	5
84	Dynamic finite element modeling of dislocations in a laterally heterogeneous crust.. Journal of Physics of the Earth, 1979, 27, 395-407.	1.4	5
85	On the derivation of the elastic equation of motion.. Journal of Physics of the Earth, 1988, 36, 201-228.	1.4	4
86	Predictable publicity. Astronomy and Geophysics, 1997, 38, 16-18.	0.2	4
87	Inversion of seismic waveforms for shear wave velocity structure in the lowermost mantle beneath the Hawaiian hotspot. Physics of the Earth and Planetary Interiors, 2010, 183, 136-142.	1.9	4
88	Waveform inversion of broad-band body wave data for the S-velocity structure in the lowermost mantle beneath the Indian subcontinent and Tibetan Plateau. Geophysical Journal International, 2012, 191, 305-316.	2.4	4
89	Existence of a second island of stability of predictor-corrector schemes for calculating synthetic seismograms. Geophysical Journal International, 2012, 188, 253-262.	2.4	4
90	Growing Understanding of Subduction Dynamics Indicates Need to Rethink Seismic Hazards. Eos, 2013, 94, 125-126.	0.1	4

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91	Effects of redetermination of source time functions on the 3-D velocity structure inferred by waveform inversion. Physics of the Earth and Planetary Interiors, 2018, 282, 117-143.	1.9	4
92	Laterally Heterogeneous Upper Mantle S-wave Velocity Structure Obtained by Iterative Linearized Waveform Inversion.. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 1992, 68, 155-160.	3.8	3
93	Waveform inversion for Sâ€wave structure in the lowermost mantle beneath the Arctic: Implications for mineralogy and chemical composition. Geophysical Research Letters, 2010, 37, .	4.0	3
94	Earthquake prediction and public policy. , 2003, , 284-329.		2
95	Problems of tenure in Japan. Nature, 1990, 345, 380-380.	27.8	1
96	Comment on â€˜The gravito-elastodynamics of a pre-stressed elastic earthâ€™ by L. L. A. Vermeersen and N. J. Vlaar. Geophysical Journal International, 1991, 106, 499-503.	2.4	1
97	The role of seismology. Nature, 1995, 373, 554-554.	27.8	1
98	Dim prospects for earthquake prediction. Eos, 1998, 79, 497-497.	0.1	1
99	Earthquake Prediction: What should we be debating?. Nature, 1999, , .	27.8	1
100	Without progress no funding. Nature, 1999, , .	27.8	1
101	Reply: U.N. should have sought expert advice. Eos, 1999, 80, 231.	0.1	1
102	Seismology: Japan must admit it can't predict quakes. Nature, 2017, 545, 289-289.	27.8	1
103	Comment on “Is the Number of independent elastic constants of a Hookean elastic material 21 or 36?” by Y. Suzuki. Zisin (Journal of the Seismological Society of Japan 2nd Ser), 1990, 43, 133-135.	0.2	0
104	Waveform Inversion for Earth Structure.. Journal of Geography (Chigaku Zasshi), 1995, 104, 972-983.	0.3	0
105	Determining 3-D Earth Structure Using the Direct Solution Method. Zisin (Journal of the) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	0.2	0
106	Modeling earthquakes. , 2003, , 1-19.		0
107	The classical view of earthquakes. , 2003, , 20-101.		0
108	Dispersion analysis of an optimally accurate 3-D finite difference scheme for the elastic case. , 2013, , .		0

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109	Japan's nuclear dilemma. New Scientist, 2014, 224, 28-29.	0.0	0
110	An error analysis of higher-order finite-element methods: effect of degenerate coupling on simulation of elastic wave propagation. Geophysical Journal International, 2016, 205, 1532-1547.	2.4	0
111	Reply to comments by Console et al.. Physics of the Earth and Planetary Interiors, 2018, 274, 216-217.	1.9	0
112	ANISOtime: Traveltime Computation Software for Laterally Homogeneous, Transversely Isotropic, Spherical Media. Seismological Research Letters, 2021, 92, 3811-3820.	1.9	0
113	Methods for Computing Synthetic Seismograms and Estimating Their Computational Error. , 2003, , 754-758.		0
114	Calculating synthetic seismograms for vertically heterogeneous elastic media using the method of weighted residuals. , 1989, , .		0
115	Reply to Comment by Y. Suzuki. Journal of Physics of the Earth, 1990, 38, 187-188.	1.4	0