Raul Madariaga

List of Publications by Year
in descending order

109 papers	7,657 citations	66315 42 h-index	54882 84 g-index
118 all docs	118 docs citations	118 times ranked	3938 citing authors

#	Article	IF	Citations
1	Dynamics of an expanding circular fault. Bulletin of the Seismological Society of America, 1976, 66, 639-666.	1.1	1,384
2	Three-Dimensional Dynamic Simulation of the 1992 Landers Earthquake. Science, 1997, 278, 834-838.	6.0	374
3	The 2010 <i>M</i> _w 8.8 Maule Megathrust Earthquake of Central Chile, Monitored by GPS. Science, 2011, 332, 1417-1421.	6.0	345
4	Intense foreshocks and a slow slip event preceded the 2014 Iquique <i>M</i> _w 8.1 earthquake. Science, 2014, 345, 1165-1169.	6.0	328
5	High-frequency radiation from crack (stress drop) models of earthquake faulting. Geophysical Journal International, 1977, 51, 625-651.	1.0	297
6	On the relation between seismic moment and stress drop in the presence of stress and strength heterogeneity. Journal of Geophysical Research, 1979, 84, 2243-2250.	3.3	216
7	Interseismic strain accumulation measured by GPS in the seismic gap between ConstituciÃ³n and ConcepciÃ³n in Chile. Physics of the Earth and Planetary Interiors, 2009, 175, 78-85.	0.7	196
8	A new asymptotic method for the modeling of near-field accelerograms. Bulletin of the Seismological Society of America, 1984, 74, 539-557.	1.1	168
9	Iterative asymptotic inversion in the acoustic approximation. Geophysics, 1992, 57, 1138-1154.	1.4	156
10	Historical and recent large megathrust earthquakes in Chile. Tectonophysics, 2018, 733, 37-56.	0.9	153
11	Modeling dynamic rupture in a 3D earthquake fault model. Bulletin of the Seismological Society of America, 1998, 88, 1182-1197.	1.1	153
12	Dynamic modeling of the 1992 Landers earthquake. Journal of Geophysical Research, 2001, 106, 26467-26482.	3.3	149
13	Two-dimensional asymptotic iterative elastic inversion. Geophysical Journal International, 1992, 108, 575-588.	1.0	146
14	Virulence Characterization of International Collections of the Wheat Stripe Rust Pathogen, <i>Puccinia striiformis</i> f. sp. <i>tritici</i>. Plant Disease, 2013, 97, 379-386.	0.7	134
15	Non-Linear Reflection Tomography. Geophysical Journal International, 1988, 95, 135-147.	1.0	128
16	Dynamic faulting studied by a finite difference method. Bulletin of the Seismological Society of America, 1982, 72, 345-369.	1.1	123
17	Characterization of nucleation during laboratory earthquakes. Geophysical Research Letters, 2013, 40, 5064-5069.	1.5	113
18	From Sub-Rayleigh to Supershear Ruptures During Stick-Slip Experiments on Crustal Rocks. Science, 2013, 340, 1208-1211.	6.0	113

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19	Criticality of Rupture Dynamics in 3-D. , 2000, 157, 1981-2001.		105
20	Central Chile Finally Breaks. Science, 2010, 328, 181-182.	6.0	92
21	Upper plate deformation measured by GPS in the Coquimbo Gap, Chile. Physics of the Earth and Planetary Interiors, 2009, 175, 86-95.	0.7	90
22	Dynamic rupture processes inferred from laboratory microearthquakes. Journal of Geophysical Research: Solid Earth, 2016, 121, 4343-4365.	1.4	88
23	A seismological study of the 1835 seismic gap in south-central Chile. Physics of the Earth and Planetary Interiors, 2002, 132, 177-195.	0.7	87
24	Fast and Slow Slip Events Emerge Due to Fault Geometrical Complexity. Geophysical Research Letters, 2018, 45, 4809-4819.	1.5	85
25	Numerical study of continental collision: influence of buoyancy forces and an initial stiff inclusion. Geophysical Journal International, 1986, 84, 279-310.	1.0	84
26	The Seismic Sequence of the 16 September 2015<i>M</i>_wÂ8.3 Illapel, Chile, Earthquake. Seismological Research Letters, 2016, 87, 789-799.	0.8	71
27	Background velocity inversion with a genetic algorithm. Geophysical Research Letters, 1993, 20, 93-96.	1.5	70
28	Nucleation Phase and Dynamic Inversion of the <i>M_w</i> 6.9 ValparaÃso 2017 Earthquake in Central Chile. Geophysical Research Letters, 2017, 44, 10,290.	1.5	65
29	The role of a heterogeneous inclusion during continental collision. Physics of the Earth and Planetary Interiors, 1984, 36, 236-259.	0.7	62
30	Kinematic rupture process of the 2007 Tocopilla earthquake and its main aftershocks from teleseismic and strong-motion data. Geophysical Journal International, 2010, 182, 1411-1430.	1.0	62
31	The Large Chilean Historical Earthquakes of 1647, 1657, 1730, and 1751 from Contemporary Documents. Bulletin of the Seismological Society of America, 2012, 102, 1639-1653.	1.1	59
32	Thrust and extensional faulting under the Chilean coast: 1965, 1971 Aconcagua earthquakes. Geophysical Journal International, 1981, 66, 313-331.	1.0	58
33	Nonlinear velocity inversion by a twoâ€step Monte Carlo method.. Geophysics, 1994, 59, 577-590.	1.4	58
34	Complex distribution of large thrust and normal fault earthquakes in the Chilean subduction zone. Geophysical Journal International, 1983, 73, 489-505.	1.0	57
35	Modelling of dynamical crack propagation using time-domain boundary integral equations. Wave Motion, 1992, 16, 339-366.	1.0	57
36	Effect of normal stress during rupture propagation along nonplanar faults. Journal of Geophysical Research, 2002, 107, ESE 5-1.	3.3	54

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37	Integral equation method for plane crack with arbitrary shape in 3D elastic medium. Bulletin of the Seismological Society of America, 1995, 85, 614-628.	1.1	54
38	The El Salvador earthquakes of January and February 2001: context, characteristics and implications for seismic risk. Soil Dynamics and Earthquake Engineering, 2002, 22, 389-418.	1.9	53
39	Potential slab deformation and plunge prior to the Tohoku, Iquique and Maule earthquakes. Nature Geoscience, 2016, 9, 380-383.	5.4	52
40	Experimental evidence that thrust earthquake ruptures might open faults. Nature, 2017, 545, 336-339.	13.7	51
41	Ray perturbation theory for interfaces. Geophysical Journal International, 1989, 99, 377-390.	1.0	49
42	Eocene seismicity in the Pyrenees from megaturbidites of the South Pyrenean Basin (Spain). Marine Geology, 1984, 55, 117-131.	0.9	47
43	Non-hypersingular boundary integral equations for 3-D non-planar crack dynamics. Computational Mechanics, 2000, 25, 613-626.	2.2	44
44	Gaussian beam synthetic seismograms in a vertically varying medium. Geophysical Journal International, 1984, 79, 589-612.	1.0	43
45	Spectral scaling of the aftershocks of the Tocopilla 2007 earthquake in northern Chile. Geophysical Journal International, 2012, 189, 469-480.	1.0	42
46	Dynamic Propagation and Interaction of a Rupture Front on a Planar Fault. , 2000, 157, 1959-1979.		41
47	Dynamic inversion of the 2000 Tottori earthquake based on elliptical subfault approximations. Journal of Geophysical Research, 2010, 115, .	3.3	35
48	Earthquake dynamics on circular faults: a review 1970â€“2015. Journal of Seismology, 2016, 20, 1235-1252.	0.6	35
49	Source parameter analysis from strong motion records of the Friuli, Italy, earthquake sequence (1976-1977). Bulletin of the Seismological Society of America, 1987, 77, 1127-1146.	1.1	35
50	Spectral splitting of toroidal-free oscillations due to lateral heterogeneity of the Earth's structure. Journal of Geophysical Research, 1972, 77, 4421-4431.	3.3	34
51	Dynamic modelling of the flat 2-D crack by a semi-analytic BIEM scheme. International Journal for Numerical Methods in Engineering, 2001, 50, 227-251.	1.5	34
52	Constraint of fault parameters inferred from nonplanar fault modeling. Geochemistry, Geophysics, Geosystems, 2003, 4, .	1.0	34
53	Faulting process of the 1990 June 20 Iran earthquake from broadband records. Geophysical Journal International, 1994, 118, 31-46.	1.0	33
54	Diversity of the 2014 Iquiqueâ€™s foreshocks and aftershocks: clues about the complex rupture process of a Mw 8.1 earthquake. Journal of Seismology, 2016, 20, 1059-1073.	0.6	33

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55	Determination of the friction law parameters of the Mw 6.7 Michilla earthquake in northern Chile by dynamic inversion. Geophysical Research Letters, 2011, 38, .	1.5	32
56	High-resolution relocation and mechanism of aftershocks of the 2007 Tocopilla (Chile) earthquake. Geophysical Journal International, 2013, 194, 1216-1228.	1.0	32
57	Short-Period Rupture Process of the 2010 M_w8.8 Maule Earthquake in Chile. Earthquake Spectra, 2012, 28, 1-18.	1.6	31
58	Interseismic strain accumulation in south central Chile from GPS measurements, 1996â€“1999. Geophysical Research Letters, 2002, 29, 12-1.	1.5	30
59	Reawakening of large earthquakes in south central Chile: The 2016 <i>M</i>_{<i>w</i>} 7.6 ChiloÃ© event. Geophysical Research Letters, 2017, 44, 6633-6640.	1.5	30
60	Evidence for earthquake interaction in central Chile: the July 1997-September 1998 Sequence. Geophysical Research Letters, 2001, 28, 2743-2746.	1.5	29
61	Slab-pull and slab-push earthquakes in the Mexican, Chilean and Peruvian subduction zones. Physics of the Earth and Planetary Interiors, 2002, 132, 157-175.	0.7	29
62	Origin of Highâ€Frequency Radiation During Laboratory Earthquakes. Geophysical Research Letters, 2019, 46, 3755-3763.	1.5	29
63	Seismic radiation from simple models of earthquakes. Geophysical Monograph Series, 2006, , 223-236.	0.1	28
64	Kinematic and Dynamic Inversion of the 2008 Northern Iwate Earthquake. Bulletin of the Seismological Society of America, 2013, 103, 694-708.	1.1	28
65	3-D seismic reflection tomography on top of the GOCAD depth modeler. Geophysics, 1996, 61, 1499-1510.	1.4	27
66	Which Dynamic Rupture Parameters Can Be Estimated from Strong Ground Motion and Geodetic Data?. Pure and Applied Geophysics, 2004, 161, 2155.	0.8	25
67	Magnitude Scaling of Early-Warning Parameters for the Mw 7.8 Tocopilla, Chile, Earthquake and Its Aftershocks. Bulletin of the Seismological Society of America, 2011, 101, 447-463.	1.1	25
68	A New Digital Accelerograph Network for El Salvador. Seismological Research Letters, 1997, 68, 426-437.	0.8	24
69	An approximate elastic two-dimensional Greenâ€™s function for a constant-gradient medium. Geophysical Journal International, 2001, 146, 237-248.	1.0	24
70	Seismic Radiation from a Kink on an Antiplane Fault. Bulletin of the Seismological Society of America, 2008, 98, 2291-2302.	1.1	24
71	Identification of High Frequency Pulses from Earthquake Asperities Along Chilean Subduction Zone Using Strong Motion. Pure and Applied Geophysics, 2011, 168, 125-139.	0.8	24
72	High-frequency seismic radiation from a buried circular fault. Geophysical Journal International, 1984, 78, 1-17.	1.0	23

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73	Dynamic friction and the origin of the complexity of earthquake sources.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 3819-3824.	3.3	22
74	Rupture process of the 19 August 1992 Susamyr, Kyrgyzstan, earthquake. Journal of Seismology, 1997, 1, 219-235.	0.6	22
75	Can Precursory Moment Release Scale With Earthquake Magnitude? A View From the Laboratory. Geophysical Research Letters, 2019, 46, 12927-12937.	1.5	22
76	Monochromatic body waves excited by great subduction zone earthquakes. Geophysical Research Letters, 1996, 23, 2999-3002.	1.5	21
77	Seismic wave synthesis by Gaussian beam summation: A comparison with finite differences. Geophysics, 1987, 52, 1065-1073.	1.4	20
78	A deep earthquake under South Spain, 8 March 1990. Bulletin of the Seismological Society of America, 1991, 81, 1403-1407.	1.1	20
79	Inversion for the physical parameters that control the source dynamics of the 2004 Parkfield earthquake. Journal of Geophysical Research: Solid Earth, 2014, 119, 7010-7027.	1.4	18
80	Near-Field Spectra of Large Earthquakes. Pure and Applied Geophysics, 2019, 176, 983-1001.	0.8	18
81	A study of the Barisakho, Georgia, earthquake of 1992 October 23 from broad-band surface and body waves. Geophysical Journal International, 1997, 129, 613-623.	1.0	17
82	12 Earthquake dynamics. International Geophysics, 2002, 81, 175-III.	0.6	17
83	Radiation from a Finite Reverse Fault in a Half Space. Pure and Applied Geophysics, 2003, 160, 555-577.	0.8	17
84	<i>P</i>â€Wave Attenuation with Implications for Earthquake Early Warning. Bulletin of the Seismological Society of America, 2016, 106, 13-22.	1.1	17
85	Dynamic inversion of the 2015 Jujuy earthquake and similarity with other intraslab events. Geophysical Journal International, 2017, 209, 866-875.	1.0	17
86	Modelling the tsunami free oscillations in the Marquesas (French Polynesia). Geophysical Journal International, 2013, 193, 1447-1459.	1.0	16
87	Robust features of the source process for the 2004 Parkfield, California, earthquake from strong-motion seismograms. Geophysical Journal International, 2012, , no-no.	1.0	15
88	Low-Frequency 3D Wave Propagation Modeling of the 12 May 2008 Mw 7.9 Wenchuan Earthquake. Bulletin of the Seismological Society of America, 2010, 100, 2561-2573.	1.1	14
89	Could a 1755-Like Tsunami Reach the French Atlantic Coastline? Constraints from Twentieth Century Observations and Numerical Modeling. Pure and Applied Geophysics, 2013, 170, 1415-1431.	0.8	12
90	How Fast Can We Reliably Estimate the Magnitude of Subduction Earthquakes?. Geophysical Research Letters, 2018, 45, 9633-9641.	1.5	12

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91	Dynamic source inversion of the <i>M</i>6.5 intermediateâ€depth Zumpango earthquake in central Mexico: A parallel genetic algorithm. Journal of Geophysical Research: Solid Earth, 2014, 119, 7768-7785.	1.4	11
92	Kinematics of the 2012 Aharâ€“Varzaghan complex earthquake doublet (Mw6.5 and Mw6.3). Geophysical Journal International, 2019, 217, 2097-2124.	1.0	10
93	Interplay of seismic and a-seismic deformation during the 2020 sequence of Atacama, Chile. Earth and Planetary Science Letters, 2021, 570, 117081.	1.8	10
94	Analysis and modelling of tsunami-induced tilt for the 2007, MÂ= 7.6, Tocopilla and the 2010, MÂ= 8.8 Maule earthquakes, Chile, from long-base tiltmeter and broadband seismometer records. Geophysical Journal International, 2013, 194, 269-288.	1.0	9
95	The deep Peru 2015 doublet earthquakes. Earth and Planetary Science Letters, 2017, 478, 102-109.	1.8	9
96	The effect of thermal pressurization on dynamic fault branching. Geophysical Journal International, 2014, 196, 1237-1246.	1.0	6
97	The January 2019 (MwÂ6.7) Coquimbo Earthquake: Insights from a Seismic Sequence within the Nazca Plate. Seismological Research Letters, 2019, , .	0.8	6
98	Seismic rate variations prior to the 2010 Maule, Chile MW 8.8 giant megathrust earthquake. Scientific Reports, 2021, 11, 2705.	1.6	6
99	The earthquake sequence of November 1987 and March 1988 in the Gulf of Alaska: A new insight. Geophysical Research Letters, 1995, 22, 1029-1032.	1.5	5
100	Singular Elasto-Static Field Near a Fault Kink. Pure and Applied Geophysics, 2011, 168, 2167-2179.	0.8	5
101	GEOPHYSICS: Slippery When Hot. Science, 2007, 316, 842-843.	6.0	4
102	Focal Mechanism, Magnitude, and Finiteâ€Fault Rapid Estimation Using the Elliptical Patch Method in Chile. Seismological Research Letters, 2018, 89, 503-511.	0.8	4
103	Dynamic rupture of subduction earthquakes located near the trench. Earth and Planetary Science Letters, 2021, 562, 116842.	1.8	4
104	Discussion of paper by M. Kumazawa, â€˜The elastic constant of polycrystalline rocks and nonelastic behavior inherent to themâ€™. Journal of Geophysical Research, 1970, 75, 2787-2789.	3.3	3
105	La dynamique des tremblements de terre vue Ã travers le sÃ©isme de Landers du 28 juin 1992. Comptes Rendus - Mecanique, 2002, 330, 235-248.	2.1	2
106	Engineering Implications of Source Parameters and 3D Wave Propagation Modeling for the 2004 Parkfield, California, Earthquake. Bulletin of the Seismological Society of America, 2015, 105, 1739-1755.	1.1	2
107	Reply to the comment on â€œHistorical and recent large megathrust earthquakes in Chileâ€ Tectonophysics, 2018, 745, 457-458.	0.9	2
108	Preface to the special issue â€œImaging Earthquakesâ€ Journal of Seismology, 2016, 20, 1057-1057.	0.6	0

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109	Spectrum of strong-motion records for large magnitude Chilean earthquakes. Geophysical Journal International, 2021, 226, 1045-1057.	1.0	0