

# Mark Simons

## List of Publications by Year in descending order

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129  
papers

11,898  
citations

20817

60  
h-index

27406

106  
g-index

136  
all docs

136  
docs citations

136  
times ranked

6892  
citing authors

#	ARTICLE	IF	CITATIONS
1	The 2011 Magnitude 9.0 Tohoku-Oki Earthquake: Mosaicking the Megathrust from Seconds to Centuries. <i>Science</i> , 2011, 332, 1421-1425.	12.6	648
2	Updated repeat orbit interferometry package released. <i>Eos</i> , 2004, 85, 47-47.	0.1	505
3	The complete (3-D) surface displacement field in the epicentral area of the 1999Mw7.1 Hector Mine Earthquake, California, from space geodetic observations. <i>Geophysical Research Letters</i> , 2001, 28, 3063-3066.	4.0	458
4	Frictional Afterslip Following the 2005 Nias-Simeulue Earthquake, Sumatra. <i>Science</i> , 2006, 312, 1921-1926.	12.6	440
5	Three-dimensional deformation caused by the Bam, Iran, earthquake and the origin of shallow slip deficit. <i>Nature</i> , 2005, 435, 295-299.	27.8	403
6	Coseismic Deformation from the 1999 Mw 7.1 Hector Mine, California, Earthquake as Inferred from InSAR and GPS Observations. <i>Bulletin of the Seismological Society of America</i> , 2002, 92, 1390-1402.	2.3	384
7	Some thoughts on the use of InSAR data to constrain models of surface deformation: Noise structure and data downsampling. <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	2.5	332
8	Deformation and Slip Along the Sunda Megathrust in the Great 2005 Nias-Simeulue Earthquake. <i>Science</i> , 2006, 311, 1897-1901.	12.6	284
9	Hierarchical interlocked orthogonal faulting in the 2019 Ridgecrest earthquake sequence. <i>Science</i> , 2019, 366, 346-351.	12.6	284
10	Deformation due to a pressurized horizontal circular crack in an elastic half-space, with applications to volcano geodesy. <i>Geophysical Journal International</i> , 2001, 146, 181-190.	2.4	272
11	A satellite geodetic survey of large-scale deformation of volcanic centres in the central Andes. <i>Nature</i> , 2002, 418, 167-171.	27.8	250
12	Large Trench-Parallel Gravity Variations Predict Seismogenic Behavior in Subduction Zones. <i>Science</i> , 2003, 301, 630-633.	12.6	247
13	Localized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolution. <i>Journal of Geophysical Research</i> , 2002, 107, 19-1-19-25.	3.3	243
14	Superficial simplicity of the 2010 El Mayorâ€“Cucapah earthquake of Baja California in Mexico. <i>Nature Geoscience</i> , 2011, 4, 615-618.	12.9	225
15	Improving InSAR geodesy using Global Atmospheric Models. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 2324-2341.	3.4	220
16	Bayesian inversion for finite fault earthquake source models lâ€“theory and algorithm. <i>Geophysical Journal International</i> , 2013, 194, 1701-1726.	2.4	206
17	Localization of gravity and topography: constraints on the tectonics and mantle dynamics of Venus. <i>Geophysical Journal International</i> , 1997, 131, 24-44.	2.4	192
18	Deformation on Nearby Faults Induced by the 1999 Hector Mine Earthquake. <i>Science</i> , 2002, 297, 1858-1862.	12.6	171

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19	An InSAR-based survey of volcanic deformation in the central Andes. <i>Geochemistry, Geophysics, Geosystems</i> , 2004, 5, n/a-n/a.	2.5	167
20	Neutral atmospheric delay in interferometric synthetic aperture radar applications: Statistical description and mitigation. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	163
21	Complex rupture during the 12 January 2010 Haiti earthquake. <i>Nature Geoscience</i> , 2010, 3, 800-805.	12.9	157
22	Correction to "Localized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolution". <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	151
23	A Network-Based Enhanced Spectral Diversity Approach for TOPS Time-Series Analysis. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 777-786.	6.3	141
24	Multiscale dynamics of the Tonga-Kermadec subduction zone. <i>Geophysical Journal International</i> , 2003, 153, 359-388.	2.4	139
25	Andean structural control on interseismic coupling in the North Chile subduction zone. <i>Nature Geoscience</i> , 2013, 6, 462-467.	12.9	138
26	Coseismic and postseismic slip associated with the 2010 Maule Earthquake, Chile: Characterizing the Arauco Peninsula barrier effect. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 3142-3159.	3.4	134
27	Interseismic crustal deformation in the Taiwan plate boundary zone revealed by GPS observations, seismicity, and earthquake focal mechanisms. <i>Tectonophysics</i> , 2009, 479, 4-18.	2.2	132
28	Accounting for prediction uncertainty when inferring subsurface fault slip. <i>Geophysical Journal International</i> , 2014, 197, 464-482.	2.4	128
29	Aseismic slip and seismogenic coupling along the central San Andreas Fault. <i>Geophysical Research Letters</i> , 2015, 42, 297-306.	4.0	123
30	Localization of the gravity field and the signature of glacial rebound. <i>Nature</i> , 1997, 390, 500-504.	27.8	121
31	Deformation and seismicity in the Coso geothermal area, Inyo County, California: Observations and modeling using satellite radar interferometry. <i>Journal of Geophysical Research</i> , 2000, 105, 21781-21793.	3.3	119
32	A multiscale approach to estimating topographically correlated propagation delays in radar interferograms. <i>Geochemistry, Geophysics, Geosystems</i> , 2010, 11, .	2.5	119
33	Co-seismic slip from the 1995 July 30 Mw= 8.1 Antofagasta, Chile, earthquake as constrained by InSAR and GPS observations. <i>Geophysical Journal International</i> , 2002, 150, 362-376.	2.4	111
34	Multiscale InSAR Time Series (MInTS) analysis of surface deformation. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	108
35	Rapid Damage Mapping for the 2015 Mw= 7.8 Gorkha Earthquake Using Synthetic Aperture Radar Data from COSMO-SkyMed and ALOS-2 Satellites. <i>Seismological Research Letters</i> , 2015, 86, 1549-1556.	1.9	108
36	An aseismic slip pulse in northern Chile and along-strike variations in seismogenic behavior. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	107

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37	New Radar Interferometric Time Series Analysis Toolbox Released. <i>Eos</i> , 2013, 94, 69-70.	0.1	106
38	A two-dimensional dislocation model for interseismic deformation of the Taiwan mountain belt. <i>Earth and Planetary Science Letters</i> , 2003, 211, 287-294.	4.4	98
39	A noise model for InSAR time series. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 2752-2771.	3.4	96
40	Preliminary Report on the 16 October 1999 M 7.1 Hector Mine, California, Earthquake. <i>Seismological Research Letters</i> , 2000, 71, 11-23.	1.9	91
41	The Iquique earthquake sequence of April 2014: Bayesian modeling accounting for prediction uncertainty. <i>Geophysical Research Letters</i> , 2015, 42, 7949-7957.	4.0	91
42	Source model of the 2007 Mw 8.0 Pisco, Peru earthquake: Implications for seismogenic behavior of subduction megathrusts. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	88
43	Bayesian inversion for finite fault earthquake source models II: the 2011 great Tohoku-oki, Japan earthquake. <i>Geophysical Journal International</i> , 2014, 198, 922-940.	2.4	86
44	InSAR Time-Series Estimation of the Ionospheric Phase Delay: An Extension of the Split Range-Spectrum Technique. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 5984-5996.	6.3	81
45	Tidally induced variations in vertical and horizontal motion on Rutford Ice Stream, West Antarctica, inferred from remotely sensed observations. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017, 122, 167-190.	2.8	80
46	Locations of selected small earthquakes in the Zagros mountains. <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	2.5	78
47	Finite source modelling of magmatic unrest in Socorro, New Mexico, and Long Valley, California. <i>Geophysical Journal International</i> , 2001, 146, 191-200.	2.4	77
48	The 2013 Mw 7.7 Balochistan Earthquake: Seismic Potential of an Accretionary Wedge. <i>Bulletin of the Seismological Society of America</i> , 2014, 104, 1020-1030.	2.3	77
49	An aseismic slip transient on the North Anatolian Fault. <i>Geophysical Research Letters</i> , 2016, 43, 3254-3262.	4.0	74
50	Asperities and barriers on the seismogenic zone in North Chile: state-of-the-art after the 2007 Mw 7.7 Tocopilla earthquake inferred by GPS and InSAR data. <i>Geophysical Journal International</i> , 2010, 183, 390-406.	2.4	73
51	Global Variations in the Geoid/Topography Admittance of Venus. <i>Science</i> , 1994, 264, 798-803.	12.6	70
52	Geodetic, teleseismic, and strong motion constraints on slip from recent southern Peru subduction zone earthquakes. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	69
53	Post-seismic and interseismic fault creep II: transient creep and interseismic stress shadows on megathrusts. <i>Geophysical Journal International</i> , 2010, 181, 99-112.	2.4	69
54	Evidence for on-going inflation of the Socorro Magma Body, New Mexico, from interferometric synthetic aperture radar imaging. <i>Geophysical Research Letters</i> , 2001, 28, 3549-3552.	4.0	67

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55	Fault-zone controls on the spatial distribution of slow-moving landslides. Bulletin of the Geological Society of America, 2013, 125, 473-489.	3.3	67
56	Ionospheric Correction of InSAR Time Series Analysis of C-band Sentinel-1 TOPS Data. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 6755-6773.	6.3	67
57	Accounting for uncertain fault geometry in earthquake source inversions – I: theory and simplified application. Geophysical Journal International, 2018, 214, 1174-1190.	2.4	65
58	Plains tectonism on Venus: The deformation belts of Lavinia Planitia. Journal of Geophysical Research, 1992, 97, 13579-13599.	3.3	64
59	Temporal clustering of major earthquakes along individual faults due to post-seismic reloading. Geophysical Journal International, 2004, 160, 179-194.	2.4	64
60	Interferometric Synthetic Aperture Radar Geodesy. , 2007, , 391-446.		64
61	Multiscale estimation of GPS velocity fields. Geophysical Journal International, 2009, 179, 945-971.	2.4	63
62	Processes controlling the downstream evolution of ice rheology in glacier shear margins: case study on Rutford Ice Stream, West Antarctica. Journal of Glaciology, 2018, 64, 583-594.	2.2	63
63	BARGEN continuous GPS data across the eastern Basin and Range province, and implications for fault system dynamics. Geophysical Journal International, 2004, 159, 842-862.	2.4	62
64	An InSAR-based survey of volcanic deformation in the southern Andes. Geophysical Research Letters, 2004, 31, .	4.0	60
65	Isolating along-strike variations in the depth extent of shallow creep and fault locking on the northern Great Sumatran Fault. Journal of Geophysical Research, 2012, 117, .	3.3	60
66	Interferometric Synthetic Aperture Radar Geodesy. , 2007, , 391-446.		56
67	Location and mechanism of the Little Skull Mountain earthquake as constrained by satellite radar interferometry and seismic waveform modeling. Journal of Geophysical Research, 2002, 107, ETG 7-1.	3.3	54
68	Distribution of slip from 11Mw > 6 earthquakes in the northern Chile subduction zone. Journal of Geophysical Research, 2006, 111, .	3.3	54
69	A reappraisal of postglacial decay times from Richmond Gulf and James Bay, Canada. Geophysical Journal International, 2000, 142, 783-800.	2.4	53
70	The collapse of Bárðunga caldera, Iceland. Geophysical Journal International, 2015, 202, 446-453.	2.4	51
71	On the Synergistic Use of SAR Constellations – Data Exploitation for Earth Science and Natural Hazard Response. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 1095-1100.	4.9	47
72	Plastic bed beneath Hofsjökull Ice Cap, central Iceland, and the sensitivity of ice flow to surface meltwater flux. Journal of Glaciology, 2016, 62, 147-158.	2.2	46

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73	Quantifying Ground Deformation in the Los Angeles and Santa Ana Coastal Basins Due to Groundwater Withdrawal. <i>Water Resources Research</i> , 2018, 54, 3557-3582.	4.2	46
74	Three-dimensional FEM derived elastic Green's functions for the coseismic deformation of the 2005 M <sub>w</sub> 8.7 Nias-Simeulue, Sumatra earthquake. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	42
75	Surveying Volcanic Arcs with Satellite Radar Interferometry: The Central Andes, Kamchatka, and Beyond. <i>GSA Today</i> , 2004, 14, 4.	2.0	41
76	Probing Asthenospheric Density, Temperature, and Elastic Moduli Below the Western United States. <i>Science</i> , 2011, 332, 947-951.	12.6	41
77	The potential for a great earthquake along the southernmost Ryukyu subduction zone. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	41
78	Depth varying rupture properties during the 2015 Mw 7.8 Gorkha (Nepal) earthquake. <i>Tectonophysics</i> , 2017, 714-715, 44-54.	2.2	40
79	The Chilean GNSS Network: Current Status and Progress toward Early Warning Applications. <i>Seismological Research Letters</i> , 2018, 89, 1546-1554.	1.9	40
80	Anomalous steep dips of earthquakes in the 2011 Tohoku-Oki source region and possible explanations. <i>Earth and Planetary Science Letters</i> , 2012, 353-354, 121-133.	4.4	39
81	Detecting transient signals in geodetic time series using sparse estimation techniques. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 5140-5160.	3.4	37
82	Observations of ocean tidal load response in South America from subdaily GPS positions. <i>Geophysical Journal International</i> , 2016, 205, 1637-1664.	2.4	37
83	Surface Deformation Related to the 2019 Mw 7.1 and 6.4 Ridgecrest Earthquakes in California from GPS, SAR Interferometry, and SAR Pixel Offsets. <i>Seismological Research Letters</i> , 2020, 91, 2035-2046.	1.9	37
84	Importance of ocean tidal load corrections for differential InSAR. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	36
85	Post-seismic reloading and temporal clustering on a single fault. <i>Geophysical Journal International</i> , 2008, 172, 581-592.	2.4	33
86	Interseismic Loading of Subduction Megathrust Drives Long-Term Uplift in Northern Chile. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085377.	4.0	33
87	An elastic plate model for interseismic deformation in subduction zones. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	31
88	LoadDef: A Python-Based Toolkit to Model Elastic Deformation Caused by Surface Mass Loading on Spherically Symmetric Bodies. <i>Earth and Space Science</i> , 2019, 6, 311-323.	2.6	30
89	Interferometric Synthetic Aperture Radar Geodesy. , 2015, , 339-385.		29
90	Post-seismic and interseismic fault creep I: model description. <i>Geophysical Journal International</i> , 2010, 181, 81-98.	2.4	28

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91	A Bayesian source model for the 2004 great Sumatra-Andaman earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 5116-5135.	3.4	28
92	Modeling the elastic transmission of tidal stresses to great distances inland in channelized ice streams. <i>Cryosphere</i> , 2014, 8, 2007-2029.	3.9	27
93	The 2010 Mw 8.8 Maule, Chile earthquake: Nucleation and rupture propagation controlled by a subducted topographic high. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	26
94	Revisiting the 1992 Landers earthquake: a Bayesian exploration of co-seismic slip and off-fault damage. <i>Geophysical Journal International</i> , 2018, 212, 839-852.	2.4	26
95	Tidal modulation of ice shelf buttressing stresses. <i>Annals of Glaciology</i> , 2017, 58, 12-20.	1.4	25
96	Shallow Rupture of the 2011 Tarlay Earthquake (Mw 6.8), Eastern Myanmar. <i>Bulletin of the Seismological Society of America</i> , 2014, 104, 2904-2914.	2.3	24
97	High interseismic coupling in the Eastern Makran (Pakistan) subduction zone. <i>Earth and Planetary Science Letters</i> , 2015, 420, 116-126.	4.4	24
98	The sensitivity of surface mass loading displacement response to perturbations in the elastic structure of the crust and mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 3911-3938.	3.4	24
99	The InSAR Scientific Computing Environment 3.0: A Flexible Framework for NISAR Operational and User-Led Science Processing. , 2018, , .		23
100	The Information Content of Pore Fluid $\delta^{18}O$ and $[Cl^-]$ . <i>Journal of Physical Oceanography</i> , 2015, 45, 2070-2094.	1.7	22
101	Strain budget of the Ecuador-Colombia subduction zone: A stochastic view. <i>Earth and Planetary Science Letters</i> , 2018, 498, 288-299.	4.4	22
102	Estimates of aseismic slip associated with small earthquakes near San Juan Bautista, CA. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 8254-8275.	3.4	21
103	Accounting for uncertain fault geometry in earthquake source inversions - II: application to the Mw 6.2 Amatrice earthquake, central Italy. <i>Geophysical Journal International</i> , 2019, 218, 689-707.	2.4	21
104	Estimation of interplate coupling in the Nankai trough, Japan using GPS data from 1996 to 2006. <i>Geophysical Journal International</i> , 2010, , .	2.4	20
105	Early melt season velocity fields of Langjökull and Hofsjökull, central Iceland. <i>Journal of Glaciology</i> , 2015, 61, 253-266.	2.2	20
106	A survey of volcanic deformation on Java using ALOS PALSAR interferometric time series. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	19
107	Range Geolocation Accuracy of C-/L-Band SAR and its Implications for Operational Stack Coregistration. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-19.	6.3	18
108	On Closure Phase and Systematic Bias in Multilooked SAR Interferometry. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-11.	6.3	15

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109	Integration of transient strain events with models of plate coupling and areas of great earthquakes in southwest Japan. <i>Geophysical Journal International</i> , 2010, , .	2.4	14
110	Introduction to the Special Issue on the 2011 Tohoku Earthquake and Tsunami. <i>Bulletin of the Seismological Society of America</i> , 2013, 103, 1165-1170.	2.3	14
111	Deep Learning-Based Damage Mapping With InSAR Coherence Time Series. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-17.	6.3	13
112	Observation of Core Phase ScS from the Mw 9.0 Tohoku-Oki Earthquake with High-Rate GPS. <i>Seismological Research Letters</i> , 2013, 84, 594-599.	1.9	12
113	A Stochastic View of the 2020 Elazığ Mw 6.8 Earthquake (Turkey). <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090704.	4.0	12
114	Practical implications of the geometrical sensitivity of elastic dislocation models for field geologic surveys. <i>Tectonophysics</i> , 2012, 560-561, 94-104.	2.2	11
115	Probabilistic imaging of tsunamigenic seafloor deformation during the 2011 Tohoku Earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 9050-9076.	3.4	11
116	Geodetic Imaging of Time-Dependent Three-Component Surface Deformation: Application to Tidal-Timescale Ice Flow of Rutford Ice Stream, West Antarctica. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 5515-5524.	6.3	11
117	An EPIC Tikhonov Regularization: Application to Quasi-Static Fault Slip Inversion. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB021141.	3.4	10
118	An asperity model for fault creep and interseismic deformation in northeastern Japan. <i>Geophysical Journal International</i> , 2013, 192, 38-57.	2.4	9
119	Rapid Imaging of Earthquake Ruptures with Combined Geodetic and Seismic Analysis. <i>Procedia Technology</i> , 2014, 16, 876-885.	1.1	9
120	A comparison of predicted and observed ocean tidal loading in Alaska. <i>Geophysical Journal International</i> , 2020, 223, 454-470.	2.4	9
121	Accounting for uncertain 3-D elastic structure in fault slip estimates. <i>Geophysical Journal International</i> , 2020, 224, 1404-1421.	2.4	8
122	Plan for living on a restless planet sets NASA's solid Earth agenda. <i>Eos</i> , 2003, 84, 485.	0.1	7
123	A Multipixel Time Series Analysis Method Accounting for Ground Motion, Atmospheric Noise, and Orbital Errors. <i>Geophysical Research Letters</i> , 2018, 45, 1814-1824.	4.0	7
124	A Method for Calibration of the Local Magnitude Scale Based on Relative Spectral Amplitudes, and Application to the San Juan Bautista, California, Area. <i>Bulletin of the Seismological Society of America</i> , 2017, 107, 85-96.	2.3	6
125	Multiple glacier surges observed with airborne and spaceborne interferometric synthetic aperture radar. , 2015, , .		2
126	Using InSAR Time Series to Monitor Surface Fractures and Fissures in the Al-Yutamah Valley, Western Arabia. <i>Remote Sensing</i> , 2022, 14, 1769.	4.0	2



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127	Recent rapid disaster response products derived from COSMO-SkyMed synthetic aperture radar data. , 2016, , .		0
128	3D velocity field time series using synthetic aperture radar: application to tidal-timescale ice-flow variability in Rutford Ice Stream, West Antarctica. Proceedings of SPIE, 2016, , .	0.8	0
129	Imaging Complex Fault Slip of Large Earthquakes with Sentinel-1 and ALOS-2 SAR Analysis and Other Geodetic and Seismic Data. , 2021, , .		0