Mark Simons

List of Publications by Year
in descending order

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129 papers	11,898 citations	22099 59 h-index	27345 106 g-index
136 all docs	136 docs citations	136 times ranked	6892 citing authors

#	Article	IF	Citations
1	Deep Learning-Based Damage Mapping With InSAR Coherence Time Series. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-17.	2.7	13
2	Using InSAR Time Series to Monitor Surface Fractures and Fissures in the Al-Yutamah Valley, Western Arabia. Remote Sensing, 2022, 14, 1769.	1.8	2
3	On Closure Phase and Systematic Bias in Multilooked SAR Interferometry. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-11.	2.7	15
4	Range Geolocation Accuracy of C-/L-Band SAR and its Implications for Operational Stack Coregistration. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-19.	2.7	18
5	A Stochastic View of the 2020 ElazÄ±ÄŸ M w 6.8 Earthquake (Turkey). Geophysical Research Letters, 2021, 48, e2020GL090704.	1.5	12
6	An EPIC Tikhonov Regularization: Application to Quasiâ€Static Fault Slip Inversion. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021141.	1.4	10
7	Imaging Complex Fault Slip of Large Earthquakes with Sentinel-1 and ALOS-2 SAR Analysis and Other Geodetic and Seismic Data. , 2021, , .		0
8	Accounting for uncertain 3-D elastic structure in fault slip estimates. Geophysical Journal International, 2020, 224, 1404-1421.	1.0	8
9	Surface Deformation Related to the 2019 MwÂ7.1 and 6.4 Ridgecrest Earthquakes in California from GPS, SAR Interferometry, and SAR Pixel Offsets. Seismological Research Letters, 2020, 91, 2035-2046.	0.8	37
10	A comparison of predicted and observed ocean tidal loading in Alaska. Geophysical Journal International, 2020, 223, 454-470.	1.0	9
11	Interseismic Loading of Subduction Megathrust Drives Longâ€Term Uplift in Northern Chile. Geophysical Research Letters, 2020, 47, e2019GL085377.	1.5	33
12	Hierarchical interlocked orthogonal faulting in the 2019 Ridgecrest earthquake sequence. Science, 2019, 366, 346-351.	6.0	284
13	LoadDef: A Pythonâ€Based Toolkit to Model Elastic Deformation Caused by Surface Mass Loading on Spherically Symmetric Bodies. Earth and Space Science, 2019, 6, 311-323.	1.1	30
14	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.	2.7	67
15	Accounting for uncertain fault geometry in earthquake source inversions â€“ II: application to the Mw 6.2 Amatrice earthquake, central Italy. Geophysical Journal International, 2019, 218, 689-707.	1.0	21
16	A Multipixel Time Series Analysis Method Accounting for Ground Motion, Atmospheric Noise, and Orbital Errors. Geophysical Research Letters, 2018, 45, 1814-1824.	1.5	7
17	Revisiting the 1992 Landers earthquake: a Bayesian exploration of co-seismic slip and off-fault damage. Geophysical Journal International, 2018, 212, 839-852.	1.0	26
18	The Chilean GNSS Network: Current Status and Progress toward Early Warning Applications. Seismological Research Letters, 2018, 89, 1546-1554.	0.8	40

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19	The InSAR Scientific Computing Environment 3.0: A Flexible Framework for NISAR Operational and User-Led Science Processing. , 2018, , .		23
20	Quantifying Ground Deformation in the Los Angeles and Santa Ana Coastal Basins Due to Groundwater Withdrawal. Water Resources Research, 2018, 54, 3557-3582.	1.7	46
21	Accounting for uncertain fault geometry in earthquake source inversions â€“ I: theory and simplified application. Geophysical Journal International, 2018, 214, 1174-1190.	1.0	65
22	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.	1.1	63
23	Strain budget of the Ecuadorâ€“Colombia subduction zone: A stochastic view. Earth and Planetary Science Letters, 2018, 498, 288-299.	1.8	22
24	A Method for Calibration of the Local Magnitude Scale Based on Relative Spectral Amplitudes, and Application to the San Juan Bautista, California, Area. Bulletin of the Seismological Society of America, 2017, 107, 85-96.	1.1	6
25	Tidally induced variations in vertical and horizontal motion on Rutford Ice Stream, West Antarctica, inferred from remotely sensed observations. Journal of Geophysical Research F: Earth Surface, 2017, 122, 167-190.	1.0	80
26	InSAR Time-Series Estimation of the Ionospheric Phase Delay: An Extension of the Split Range-Spectrum Technique. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 5984-5996.	2.7	81
27	Geodetic Imaging of Time-Dependent Three-Component Surface Deformation: Application to Tidal-Timescale Ice Flow of Rutford Ice Stream, West Antarctica. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 5515-5524.	2.7	11
28	A Network-Based Enhanced Spectral Diversity Approach for TOPS Time-Series Analysis. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 777-786.	2.7	141
29	Depth varying rupture properties during the 2015 Mw 7.8 Gorkha (Nepal) earthquake. Tectonophysics, 2017, 714-715, 44-54.	0.9	40
30	Tidal modulation of ice shelf buttressing stresses. Annals of Glaciology, 2017, 58, 12-20.	2.8	25
31	Probabilistic imaging of tsunamigenic seafloor deformation during the 2011 Tohokuâ€oki Earthquake. Journal of Geophysical Research: Solid Earth, 2016, 121, 9050-9076.	1.4	11
32	Plastic bed beneath HofsjÃ¶kull Ice Cap, central Iceland, and the sensitivity of ice flow to surface meltwater flux. Journal of Glaciology, 2016, 62, 147-158.	1.1	46
33	Observations of ocean tidal load response in South America from subdaily GPS positions. Geophysical Journal International, 2016, 205, 1637-1664.	1.0	37
34	A Bayesian source model for the 2004 great Sumatraâ€Andaman earthquake. Journal of Geophysical Research: Solid Earth, 2016, 121, 5116-5135.	1.4	28
35	Recent rapid disaster response products derived from COSMO-Skymed synthetic aperture radar data. , 2016, , .		0
36	Estimates of aseismic slip associated with small earthquakes near San Juan Bautista, CA. Journal of Geophysical Research: Solid Earth, 2016, 121, 8254-8275.	1.4	21

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37	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
38	The sensitivity of surface mass loading displacement response to perturbations in the elastic structure of the crust and mantle. Journal of Geophysical Research: Solid Earth, 2016, 121, 3911-3938.	1.4	24
39	An aseismic slip transient on the North Anatolian Fault. Geophysical Research Letters, 2016, 43, 3254-3262.	1.5	74
40	On the Synergistic Use of SAR Constellationsâ€™ 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.	2.3	47
41	Multiple glacier surges observed with airborne and spaceborne interferometric synthetic aperture radar. , 2015, , .		2
42	Aseismic slip and seismogenic coupling along the central San Andreas Fault. Geophysical Research Letters, 2015, 42, 297-306.	1.5	123
43	Early melt season velocity fields of LangjÃ¶kull and HofsjÃ¶kull, central Iceland. Journal of Glaciology, 2015, 61, 253-266.	1.1	20
44	The Information Content of Pore Fluid Î´18O and [Clâ¯]. Journal of Physical Oceanography, 2015, 45, 2070-2094.	0.7	22
45	The Iquique earthquake sequence of April 2014: Bayesian modeling accounting for prediction uncertainty. Geophysical Research Letters, 2015, 42, 7949-7957.	1.5	91
46	The collapse of BÃ¡rÃ°arbunga caldera, Iceland. Geophysical Journal International, 2015, 202, 446-453.	1.0	51
47	A noise model for InSAR time series. Journal of Geophysical Research: Solid Earth, 2015, 120, 2752-2771.	1.4	96
48	Interferometric Synthetic Aperture Radar Geodesy. , 2015, , 339-385.		29
49	High interseismic coupling in the Eastern Makran (Pakistan) subduction zone. Earth and Planetary Science Letters, 2015, 420, 116-126.	1.8	24
50	Rapid Damage Mapping for the 2015M_wÂ7.8 Gorkha Earthquake Using Synthetic Aperture Radar Data from COSMOâ€“SkyMed and ALOS-2 Satellites. Seismological Research Letters, 2015, 86, 1549-1556.	0.8	108
51	Modeling the elastic transmission of tidal stresses to great distances inland in channelized ice streams. Cryosphere, 2014, 8, 2007-2029.	1.5	27
52	The 2013 Mw 7.7 Balochistan Earthquake: Seismic Potential of an Accretionary Wedge. Bulletin of the Seismological Society of America, 2014, 104, 1020-1030.	1.1	77
53	Bayesian inversion for finite fault earthquake source models â€“ II: the 2011 great Tohoku-oki, Japan earthquake. Geophysical Journal International, 2014, 198, 922-940.	1.0	86
54	Shallow Rupture of the 2011 Tarlay Earthquake (Mw 6.8), Eastern Myanmar. Bulletin of the Seismological Society of America, 2014, 104, 2904-2914.	1.1	24

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55	Accounting for prediction uncertainty when inferring subsurface fault slip. Geophysical Journal International, 2014, 197, 464-482.	1.0	128
56	Improving InSAR geodesy using Global Atmospheric Models. Journal of Geophysical Research: Solid Earth, 2014, 119, 2324-2341.	1.4	220
57	Detecting transient signals in geodetic time series using sparse estimation techniques. Journal of Geophysical Research: Solid Earth, 2014, 119, 5140-5160.	1.4	37
58	Rapid Imaging of Earthquake Ruptures with Combined Geodetic and Seismic Analysis. Procedia Technology, 2014, 16, 876-885.	1.1	9
59	Observation of Core Phase ScS from the Mw 9.0 Tohoku-Oki Earthquake with High-Rate GPS. Seismological Research Letters, 2013, 84, 594-599.	0.8	12
60	Bayesian inversion for finite fault earthquake source models Iâ€”theory and algorithm. Geophysical Journal International, 2013, 194, 1701-1726.	1.0	206
61	New Radar Interferometric Time Series Analysis Toolbox Released. Eos, 2013, 94, 69-70.	0.1	106
62	Andean structural control on interseismic coupling in the North Chile subduction zone. Nature Geoscience, 2013, 6, 462-467.	5.4	138
63	Fault-zone controls on the spatial distribution of slow-moving landslides. Bulletin of the Geological Society of America, 2013, 125, 473-489.	1.6	67
64	Introduction to the Special Issue on the 2011 Tohoku Earthquake and Tsunami. Bulletin of the Seismological Society of America, 2013, 103, 1165-1170.	1.1	14
65	Coseismic and postseismic slip associated with the 2010 Maule Earthquake, Chile: Characterizing the Arauco Peninsula barrier effect. Journal of Geophysical Research: Solid Earth, 2013, 118, 3142-3159.	1.4	134
66	An asperity model for fault creep and interseismic deformation in northeastern Japan. Geophysical Journal International, 2013, 192, 38-57.	1.0	9
67	Practical implications of the geometrical sensitivity of elastic dislocation models for field geologic surveys. Tectonophysics, 2012, 560-561, 94-104.	0.9	11
68	The 2010 M_w 8.8 Maule, Chile earthquake: Nucleation and rupture propagation controlled by a subducted topographic high. Geophysical Research Letters, 2012, 39, .	1.5	26
69	Multiscale InSAR Time Series (MInTS) analysis of surface deformation. Journal of Geophysical Research, 2012, 117, .	3.3	108
70	Isolating alongâ€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
71	Anomalously steep dips of earthquakes in the 2011 Tohoku-Oki source region and possible explanations. Earth and Planetary Science Letters, 2012, 353-354, 121-133.	1.8	39
72	The potential for a great earthquake along the southernmost Ryukyu subduction zone. Geophysical Research Letters, 2012, 39, .	1.5	41

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73	Three-dimensional FEM derived elastic Green's functions for the coseismic deformation of the 2005M_w8.7 Nias-Simeulue, Sumatra earthquake. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	1.0	42
74	A survey of volcanic deformation on Java using ALOS PALSAR interferometric time series. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	1.0	19
75	The 2011 Magnitude 9.0 Tohoku-Oki Earthquake: Mosaicking the Megathrust from Seconds to Centuries. Science, 2011, 332, 1421-1425.	6.0	648
76	Probing Asthenospheric Density, Temperature, and Elastic Moduli Below the Western United States. Science, 2011, 332, 947-951.	6.0	41
77	Superficial simplicity of the 2010 El Mayorâ€“Cucapah earthquake of Baja California in Mexico. Nature Geoscience, 2011, 4, 615-618.	5.4	225
78	Post-seismic and interseismic fault creep II: transient creep and interseismic stress shadows on megathrusts. Geophysical Journal International, 2010, 181, 99-112.	1.0	69
79	Post-seismic and interseismic fault creep I: model description. Geophysical Journal International, 2010, 181, 81-98.	1.0	28
80	Integration of transient strain events with models of plate coupling and areas of great earthquakes in southwest Japan. Geophysical Journal International, 2010, , .	1.0	14
81	Estimation of interplate coupling in the Nankai trough, Japan using GPS data from 1996 to 2006. Geophysical Journal International, 2010, , .	1.0	20
82	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. Geophysical Journal International, 2010, 183, 390-406.	1.0	73
83	Complex rupture during the 12 January 2010 HaitiÂearthquake. Nature Geoscience, 2010, 3, 800-805.	5.4	157
84	Source model of the 2007 M_w 8.0 Pisco, Peru earthquake: Implications for seismogenic behavior of subduction megathrusts. Journal of Geophysical Research, 2010, 115, .	3.3	88
85	An elastic plate model for interseismic deformation in subduction zones. Journal of Geophysical Research, 2010, 115, .	3.3	31
86	A multiscale approach to estimating topographically correlated propagation delays in radar interferograms. Geochemistry, Geophysics, Geosystems, 2010, 11, .	1.0	119
87	Multiscale estimation of GPS velocity fields. Geophysical Journal International, 2009, 179, 945-971.	1.0	63
88	Interseismic crustal deformation in the Taiwan plate boundary zone revealed by GPS observations, seismicity, and earthquake focal mechanisms. Tectonophysics, 2009, 479, 4-18.	0.9	132
89	Post-seismic reloading and temporal clustering on a single fault. Geophysical Journal International, 2008, 172, 581-592.	1.0	33
90	Importance of ocean tidal load corrections for differential InSAR. Geophysical Research Letters, 2008, 35, .	1.5	36

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91	Geodetic, teleseismic, and strong motion constraints on slip from recent southern Peru subduction zone earthquakes. Journal of Geophysical Research, 2007, 112, .	3.3	69
92	Interferometric Synthetic Aperture Radar Geodesy. , 2007, , 391-446.		64
93	Interferometric Synthetic Aperture Radar Geodesy. , 2007, , 391-446.		56
94	Distribution of slip from 11Mw> 6 earthquakes in the northern Chile subduction zone. Journal of Geophysical Research, 2006, 111, .	3.3	54
95	An aseismic slip pulse in northern Chile and along-strike variations in seismogenic behavior. Journal of Geophysical Research, 2006, 111, .	3.3	107
96	Frictional Afterslip Following the 2005 Nias-Simeulue Earthquake, Sumatra. Science, 2006, 312, 1921-1926.	6.0	440
97	Deformation and Slip Along the Sunda Megathrust in the Great 2005 Nias-Simeulue Earthquake. Science, 2006, 311, 1897-1901.	6.0	284
98	Three-dimensional deformation caused by the Bam, Iran, earthquake and the origin of shallow slip deficit. Nature, 2005, 435, 295-299.	13.7	403
99	Some thoughts on the use of InSAR data to constrain models of surface deformation: Noise structure and data downsampling. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	1.0	332
100	Locations of selected small earthquakes in the Zagros mountains. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	1.0	78
101	BARGEN continuous GPS data across the eastern Basin and Range province, and implications for fault system dynamics. Geophysical Journal International, 2004, 159, 842-862.	1.0	62
102	Temporal clustering of major earthquakes along individual faults due to post-seismic reloading. Geophysical Journal International, 2004, 160, 179-194.	1.0	64
103	An InSAR-based survey of volcanic deformation in the central Andes. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	1.0	167
104	Updated repeat orbit interferometry package released. Eos, 2004, 85, 47-47.	0.1	505
105	An InSAR-based survey of volcanic deformation in the southern Andes. Geophysical Research Letters, 2004, 31, .	1.5	60
106	Correction to â€œLocalized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolutionâ€• Journal of Geophysical Research, 2004, 109, .	3.3	151
107	Surveying Volcanic Arcs with Satellite Radar Interferometry: The Central Andes, Kamchatka, and Beyond. GSA Today, 2004, 14, 4.	1.1	41
108	Multiscale dynamics of the Tonga-Kermadec subduction zone. Geophysical Journal International, 2003, 153, 359-388.	1.0	139

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109	Neutral atmospheric delay in interferometric synthetic aperture radar applications: Statistical description and mitigation. Journal of Geophysical Research, 2003, 108, .	3.3	163
110	Plan for living on a restless planet sets NASA's solid Earth agenda. Eos, 2003, 84, 485.	0.1	7
111	A two-dimensional dislocation model for interseismic deformation of the Taiwan mountain belt. Earth and Planetary Science Letters, 2003, 211, 287-294.	1.8	98
112	Large Trench-Parallel Gravity Variations Predict Seismogenic Behavior in Subduction Zones. Science, 2003, 301, 630-633.	6.0	247
113	Deformation on Nearby Faults Induced by the 1999 Hector Mine Earthquake. Science, 2002, 297, 1858-1862.	6.0	171
114	Coseismic Deformation from the 1999 Mw 7.1 Hector Mine, California, Earthquake as Inferred from InSAR and GPS Observations. Bulletin of the Seismological Society of America, 2002, 92, 1390-1402.	1.1	384
115	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
116	Localized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolution. Journal of Geophysical Research, 2002, 107, 19-1-19-25.	3.3	243
117	Co-seismic slip from the 1995 July 30Mw= 8.1 Antofagasta, Chile, earthquake as constrained by InSAR and GPS observations. Geophysical Journal International, 2002, 150, 362-376.	1.0	111
118	A satellite geodetic survey of large-scale deformation of volcanic centres in the central Andes. Nature, 2002, 418, 167-171.	13.7	250
119	The complete (3-D) surface displacement field in the epicentral area of the 1999MW7.1 Hector Mine Earthquake, California, from space geodetic observations. Geophysical Research Letters, 2001, 28, 3063-3066.	1.5	458
120	Evidence for on-going inflation of the Socorro Magma Body, New Mexico, from interferometric synthetic aperture radar imaging. Geophysical Research Letters, 2001, 28, 3549-3552.	1.5	67
121	Deformation due to a pressurized horizontal circular crack in an elastic half-space, with applications to volcano geodesy. Geophysical Journal International, 2001, 146, 181-190.	1.0	272
122	Finite source modelling of magmatic unrest in Socorro, NewÂMexico, and Long Valley, California. Geophysical Journal International, 2001, 146, 191-200.	1.0	77
123	A reappraisal of postglacial decay times from Richmond Gulf and James Bay, Canada. Geophysical Journal International, 2000, 142, 783-800.	1.0	53
124	Preliminary Report on the 16 October 1999 M 7.1 Hector Mine, California, Earthquake. Seismological Research Letters, 2000, 71, 11-23.	0.8	91
125	Deformation and seismicity in the Coso geothermal area, Inyo County, California: Observations and modeling using satellite radar interferometry. Journal of Geophysical Research, 2000, 105, 21781-21793.	3.3	119
126	Localization of gravity and topography: constraints on the tectonics and mantle dynamics of Venus. Geophysical Journal International, 1997, 131, 24-44.	1.0	192

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127	Localization of the gravity field and the signature of glacial rebound. Nature, 1997, 390, 500-504.	13.7	121
128	Global Variations in the Geoid/Topography Admittance of Venus. Science, 1994, 264, 798-803.	6.0	70
129	Plains tectonism on Venus: The deformation belts of Lavinia Planitia. Journal of Geophysical Research, 1992, 97, 13579-13599.	3.3	64