Matthias Holschneider

List of Publications by Year
in descending order

148	4,201	126858	133188
papers	citations	33 h-index	59 g-index

153	153	153	2947
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	International Geomagnetic Reference Field: the thirteenth generation. Earth, Planets and Space, 2021, 73, .	0.9	319
2	Wavelet Transform of Multifractals. Physical Review Letters, 1988, 61, 2281-2284.	2.9	271
3	On the wavelet transformation of fractal objects. Journal of Statistical Physics, 1988, 50, 963-993.	0.5	155
4	Nonstationary Gaussian processes in wavelet domain: Synthesis, estimation, and significance testing. Physical Review E, 2007, 75, 016707.	0.8	152
5	Wavelet analysis of potential fields. Inverse Problems, 1997, 13, 165-178.	1.0	149
6	Wavelet frames: an alternative to spherical harmonic representation of potential fields. Geophysical Journal International, 2005, 163, 875-899.	1.0	119
7	From global to regional analysis of the magnetic field on the sphere using wavelet frames. Physics of the Earth and Planetary Interiors, 2003, 135, 107-124.	0.7	112
8	Continuous wavelet transforms on the sphere. Journal of Mathematical Physics, 1996, 37, 4156-4165.	0.5	110
9	What drives high flow events in the Swiss Alps? Recent developments in wavelet spectral analysis and their application to hydrology. Advances in Water Resources, 2007, 30, 2511-2525.	1.7	106
10	Coseismic and post-seismic signatures of the Sumatra 2004 December and 2005 March earthquakes in GRACE satellite gravity. Geophysical Journal International, 2007, 171, 177-190.	1.0	103
11	Identification of sources of potential fields with the continuous wavelet transform: Basic theory. Journal of Geophysical Research, 1999, 104, 5003-5013.	3.3	101
12	Pointwise analysis of Riemann's ?nondifferentiable? function. Inventiones Mathematicae, 1991, 105, 157-175.	1.3	86
13	Temporal limits of the power law aftershock decay rate. Journal of Geophysical Research, 2002, 107, ESE 12-1-ESE 12-14.	3.3	72
14	Inverse Radon transforms through inverse wavelet transforms. Inverse Problems, 1991, 7, 853-861.	1.0	68
15	Estimation of the Maximum Possible Magnitude in the Framework of a Doubly Truncated Gutenberg-Richter Model. Bulletin of the Seismological Society of America, 2011, 101, 1649-1659.	1.1	62
16	Improved daily GRACE gravity field solutions using a Kalman smoother. Journal of Geodynamics, 2012, 59-60, 39-48.	0.7	62
17	Polarization analysis in the wavelet domain based on the adaptive covariance method. Geophysical Journal International, 2007, 170, 667-678.	1.0	56
18	Wavelet analysis of the Chandler wobble. Journal of Geophysical Research, 1998, 103, 27069-27089.	3.3	54

#	Article	IF	Citations
19	Poisson Wavelets on the Sphere. Journal of Fourier Analysis and Applications, 2007, 13, 405-419.	0.5	52
20	Characterization of dispersive surface waves using continuous wavelet transforms. Geophysical Journal International, 2005, 163, 463-478.	1.0	50
21	Modeling of Wave Dispersion Using Continuous Wavelet Transforms. Pure and Applied Geophysics, 2005, 162, 843-855.	0.8	50
22	Characterization of polarization attributes of seismic waves using continuous wavelet transforms. Geophysics, 2006, 71, V67-V77.	1.4	50
23	Bayesian analysis of the modified Omori law. Journal of Geophysical Research, 2012, 117, .	3.3	48
24	Quantifying focal mechanism heterogeneity for fault zones in central and southern California. Geophysical Journal International, 2010, 183, 433-450.	1.0	45
25	Combining earthquake forecasts using differential probability gains. Earth, Planets and Space, 2014, 66, .	0.9	43
26	The Role of Heterogeneities as a Tuning Parameter of Earthquake Dynamics. Pure and Applied Geophysics, 2005, 162, 1027-1049.	0.8	39
27	The Maximum Earthquake Magnitude in a Time Horizon: Theory and Case Studies. Bulletin of the Seismological Society of America, 2013, 103, 860-875.	1.1	39
28	Influence of multiple scattering on the resolution of an imaging system: a CramÃ©r-Rao analysis. Optics Express, 2007, 15, 1340.	1.7	37
29	Wavelets on Discrete Fields. Applied and Computational Harmonic Analysis, 1994, 1, 137-146.	1.1	35
30	Aftershocks resulting from creeping sections in a heterogeneous fault. Geophysical Research Letters, 2005, 32, .	1.5	35
31	The Maximum Possible and the Maximum Expected Earthquake Magnitude for Productionâ€Induced Earthquakes at the Gas Field in Groningen, The Netherlands. Bulletin of the Seismological Society of America, 2016, 106, 2917-2921.	1.1	35
32	Instantaneous polarization attributes based on an adaptive approximate covariance method. Geophysics, 2006, 71, V99-V104.	1.4	34
33	Earthquake activity related to seismic cycles in a model for a heterogeneous strike-slip fault. Tectonophysics, 2006, 423, 137-145.	0.9	33
34	Modeling and Predicting the Shortâ€Term Evolution of the Geomagnetic Field. Journal of Geophysical Research: Solid Earth, 2018, 123, 4539-4560.	1.4	33
35	Evaluation of candidate models for the 13th generation International Geomagnetic Reference Field. Earth, Planets and Space, 2021, 73, .	0.9	33
36	New insights on intraplate volcanism in French Polynesia from wavelet analysis of GRACE, CHAMP, and sea surface data. Journal of Geophysical Research, 2006, 111, .	3.3	32

#	Article	IF	Citations
37	Crossover Effect in thef(Î±)Spectrum for Quasiperiodic Trajectories at the Onset of Chaos. Physical Review Letters, 1987, 58, 2007-2010.	2.9	29
38	Estimating recurrence times and seismic hazard of large earthquakes on an individual fault. Geophysical Journal International, 2007, 170, 1300-1310.	1.0	29
39	Discovery of starspots on Vega. Astronomy and Astrophysics, 2015, 577, A64.	2.1	29
40	Wavelet analysis on the circle. Journal of Mathematical Physics, 1990, 31, 39-44.	0.5	28
41	Instantaneous polarization attributes in the time-frequency domain and wavefield separation. Geophysical Prospecting, 2005, 53, 723-731.	1.0	28
42	Sequential modelling of the Earthâ€™s core magnetic field. Earth, Planets and Space, 2020, 72, .	0.9	28
43	The Kalmag model as a candidate for IGRF-13. Earth, Planets and Space, 2020, 72, .	0.9	28
44	On the frequency spectra of the core magnetic field Gauss coefficients. Physics of the Earth and Planetary Interiors, 2018, 276, 145-158.	0.7	27
45	Emergence of a band-limited power law in the aftershock decay rate of a slider-block model. Geophysical Research Letters, 2003, 30, .	1.5	26
46	Wavelet modelling of the gravity field by domain decomposition methods: an example over Japan. Geophysical Journal International, 2011, 184, 203-219.	1.0	26
47	Wavelet-based multiscale analysis of geomagnetic disturbance. Earth, Planets and Space, 2013, 65, 1525-1540.	0.9	25
48	Quasi-static and Quasi-dynamic Modeling of Earthquake Failure at Intermediate Scales. Pure and Applied Geophysics, 2004, 161, 2103.	0.8	24
49	Correlationâ€based modeling and separation of geomagnetic field components. Journal of Geophysical Research: Solid Earth, 2016, 121, 3142-3160.	1.4	24
50	Geophysical wavelet library: Applications of the continuous wavelet transform to the polarization and dispersion analysis of signals. Computers and Geosciences, 2008, 34, 1732-1752.	2.0	23
51	Bayesian estimation of self-similarity exponent. Physical Review E, 2011, 84, 021109.	0.8	23
52	Short-Term Earthquake Forecasting Using Early Aftershock Statistics. Bulletin of the Seismological Society of America, 2011, 101, 297-312.	1.1	23
53	Interpretation of Two-Dimensional Turbulence Energy Spectrum in Terms of Quasi-Singularity in Some Vortex Cores. Europhysics Letters, 1991, 15, 737-743.	0.7	21
54	Scattering on fractal measures. Journal of Physics A, 1996, 29, 7651-7667.	1.6	21

#	Article	IF	Citations
55	Adaptive metrics in the nearest neighbours method. Physica D: Nonlinear Phenomena, 2008, 237, 283-291.	1.3	21
56	Wavelet Transform Analysis of Invariant Measures of Some Dynamical Systems. Inverse Problems and Theoretical Imaging, 1989, , 182-196.	0.2	21
57	Wavelet Analysis over Abelian Groups. Applied and Computational Harmonic Analysis, 1995, 2, 52-60.	1.1	20
58	Local regularity analysis of strata heterogeneities from sonic logs. Nonlinear Processes in Geophysics, 2010, 17, 455-466.	0.6	20
59	Stressâ€•and aftershockâ€constrained joint inversions for coseismic and postseismic slip applied to the 2004 M6.0 Parkfield earthquake. Journal of Geophysical Research, 2012, 117, .	3.3	20
60	Direct simulations of the stress redistribution in the scaling organization of fracture tectonics (SOFT) model. Geophysical Journal International, 2000, 141, 115-135.	1.0	19
61	Onset of power law aftershock decay rates in southern California. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	19
62	Quantifying the degree of persistence in random amoeboid motion based on the Hurst exponent of fractional Brownian motion. Physical Review E, 2014, 90, 042703.	0.8	19
63	The flow at the Earth's coreâ€•mantle boundary under weak prior constraints. Journal of Geophysical Research: Solid Earth, 2016, 121, 1343-1364.	1.4	19
64	Approximation of nonessential spectrum of transfer operators. Nonlinearity, 1999, 12, 525-538.	0.6	18
65	From Alarm-Based to Rate-Based Earthquake Forecast Models. Bulletin of the Seismological Society of America, 2012, 102, 64-72.	1.1	18
66	Can we test for the maximum possible earthquake magnitude?. Journal of Geophysical Research: Solid Earth, 2014, 119, 2019-2028.	1.4	18
67	Rate Matrices for Analyzing Large Families of Protein Sequences. Journal of Computational Biology, 2001, 8, 381-399.	0.8	17
68	Modeling cell crawling strategies with a bistable model: From amoeboid to fan-shaped cell motion. Physica D: Nonlinear Phenomena, 2020, 412, 132591.	1.3	17
69	Synchronization of muscular oscillations between two subjects during isometric interaction. European Journal of Translational Myology, 2014, 24, 2237.	0.8	17
70	Localization properties of wavelet transforms. Journal of Mathematical Physics, 1993, 34, 3227-3244.	0.5	16
71	Loading rates in California inferred from aftershocks. Nonlinear Processes in Geophysics, 2008, 15, 245-263.	0.6	16
72	The Largest Expected Earthquake Magnitudes in Japan: The Statistical Perspective. Bulletin of the Seismological Society of America, 2014, 104, 769-779.	1.1	16

#	Article	IF	Citations
73	Fractal dimensions and homeomorphic conjugacies. Journal of Statistical Physics, 1988, 50, 995-1020.	0.5	15
74	The Earthquake History in a Fault Zone Tells Us Almost Nothing aboutmmax. Seismological Research Letters, 2016, 87, 132-137.	0.8	15
75	On equivalent definitions of the correlation dimension for a probability measure. Journal of Statistical Physics, 1997, 86, 707-720.	0.5	14
76	Dissipation at the core-mantle boundary on a small-scale topography. Journal of Geophysical Research, 2006, 111, .	3.3	13
77	Recurrent Large Earthquakes in a Fault Region: What Can Be Inferred from Small and Intermediate Events?. Bulletin of the Seismological Society of America, 2008, 98, 2641-2651.	1.1	13
78	Bayesian inversion for the filtered flow at the Earth's coreâ€mantle boundary. Journal of Geophysical Research: Solid Earth, 2014, 119, 2695-2720.	1.4	13
79	Sequential assimilation of geomagnetic observations: perspectives for the reconstruction and prediction of core dynamics. Geophysical Journal International, 2019, 217, 1434-1450.	1.0	13
80	Modeling of Wave Dispersion Using Continuous Wavelet Transforms II: Wavelet-based Frequency-velocity Analysis. Pure and Applied Geophysics, 2008, 165, 255-270.	0.8	12
81	Frames of Poisson wavelets on the sphere. Applied and Computational Harmonic Analysis, 2010, 28, 227-248.	1.1	12
82	An Interpolation Family between Gabor and Wavelet Transformations. , 2003, , 363-394.		12
83	ArchKalmag14k: A Kalmanâ€Filter Based Global Geomagnetic Model for the Holocene. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	12
84	Two-Channel Perfect Reconstruction FIR Filter Banks over Commutative Rings. Applied and Computational Harmonic Analysis, 2000, 8, 113-121.	1.1	11
85	Detection of trend changes in time series using Bayesian inference. Physical Review E, 2011, 84, 021120.	0.8	11
86	Synchronization of muscular oscillations between two subjects during isometric interaction. European Journal of Translational Myology, 2014, 24, .	0.8	11
87	Wavelet Analysis of Ellipticity, Dispersion, and Dissipation Properties of Rayleigh Waves. Acoustical Physics, 2005, 51, 425.	0.2	10
88	Wavelet-based directional analysis of the gravity field: evidence for large-scale undulations. Geophysical Journal International, 2012, 189, 1430-1456.	1.0	10
89	Is Coulomb Stress the Best Choice for Aftershock Forecasting?. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019553.	1.4	10
90	Directional spherical multipole wavelets. Journal of Mathematical Physics, 2009, 50, .	0.5	9

#	Article	IF	Citations
91	Variability patterns differ between standing stock and process rates. Oikos, 2011, 120, 17-25.	1.2	9
92	Multiple Changeâ€Point Detection in Spatiotemporal Seismicity Data. Bulletin of the Seismological Society of America, 2018, 108, 1147-1159.	1.1	9
93	General inversion formulas for wavelet transforms. Journal of Mathematical Physics, 1993, 34, 4190-4198.	0.5	8
94	Robust detection and verification of linear relationships to generate metabolic networks using estimates of technical errors. BMC Bioinformatics, 2007, 8, 162.	1.2	8
95	Recurrence of Large Earthquakes: Bayesian Inference from Catalogs in the Presence of Magnitude Uncertainties. Pure and Applied Geophysics, 2010, 167, 845-853.	0.8	8
96	Bayesian Selection of Markov Models for Symbol Sequences: Application to Microsaccadic Eye Movements. PLoS ONE, 2012, 7, e43388.	1.1	8
97	Error distribution in regional inversion of potential field data. Geophysical Journal International, 2010, , no-no.	1.0	7
98	Fractal dynamics of geomagnetic storms. Arabian Journal of Geosciences, 2013, 6, 1693-1702.	0.6	7
99	Correlation based snapshot models of the archeomagnetic field. Geophysical Journal International, 2020, 223, 648-665.	1.0	7
100	GP-ETAS: semiparametric Bayesian inference for the spatio-temporal epidemic type aftershock sequence model. Statistics and Computing, 2022, 32, 1.	0.8	7
101	Time-dependent scattering on fractal measures. Journal of Mathematical Physics, 1998, 39, 4165-4194.	0.5	6
102	Bayesian estimation of the self-similarity exponent of the Nile River fluctuation. Nonlinear Processes in Geophysics, 2011, 18, 441-446.	0.6	6
103	Numerical modeling of solar wind influences on the dynamics of the high-latitude upper atmosphere. Advances in Radio Science, 0, 10, 299-312.	0.7	6
104	Estimation of the Hurst exponent from noisy data: a Bayesian approach. European Physical Journal B, 2012, 85, 1.	0.6	6
105	Smoothing Spline ANOVA Decomposition of Arbitrary Splines: An Application to Eye Movements in Reading. PLoS ONE, 2015, 10, e0119165.	1.1	6
106	Analysis of protrusion dynamics in amoeboid cell motility by means of regularized contour flows. PLoS Computational Biology, 2021, 17, e1009268.	1.5	6
107	The Earthâ€™s Magnetic Field at the CHAMP Satellite Epoch. Advanced Technologies in Earth Sciences, 2010, , 475-526.	0.9	6
108	Polarization analysis of a Pi2 pulsation using continuous wavelet transform. Earth, Planets and Space, 2007, 59, 961-970.	0.9	5

#	Article	IF	Citations
109	Analytical and numerical analysis of imaging mechanism of dynamic scanning electron microscopy. Nanotechnology, 2012, 23, 435501.	1.3	5
110	Error distribution in regional modelling of the geomagnetic field. Geophysical Journal International, 0, , .	1.0	5
111	Using MFACE as input in the UAM to specify the MIT dynamics. Journal of Geophysical Research: Space Physics, 2014, 119, 6704-6714.	0.8	5
112	Calculation of Confidence Intervals for the Maximum Magnitude of Earthquakes in Different Seismotectonic Zones of Iran. Pure and Applied Geophysics, 2017, 174, 763-777.	0.8	5
113	Large-Scale Renormalisation of Fourier Transforms of Self-Similar Measures and Self-Similarity of Riesz Measures. Journal of Mathematical Analysis and Applications, 1996, 200, 307-314.	0.5	4
114	ØªØ·Ø¨ÙŠÙ, ØªØÙ„ÙŠÙ„ Ø§Ù„Ø§Ù†ØªØ¸Ø§Ù… Ø¹Ù„Ù‰ Ø¨ÙŠØ§Ù†Ø§Øª ØµÙˆØªÙŠØ© Ù…Ø³Ø¬Ù„Ø© ÙÙŠ Ø¯Ø¦Ø±: Ø¯Ø±Ø§Ø³Ø	0.6	4
115	Bayesian inference about Plio-Pleistocene climate transitions in Africa. Quaternary Science Reviews, 2022, 277, 107287.	1.4	4
116	On the Relevance of the Spatial Distribution of Events for Seismic Hazard Evaluation. Natural Hazards, 2004, 31, 1-19.	1.6	3
117	Local multi-polar expansions in potential field modeling. Earth, Planets and Space, 2009, 61, 1127-1141.	0.9	3
118	Induced Seismicity: What is the Size of the Largest Expected Earthquake?. Bulletin of the Seismological Society of America, 2014, 104, 3153-3158.	1.1	3
119	Functional calculus using wavelet transforms. Journal of Mathematical Physics, 1994, 35, 3745-3752.	0.5	2
120	<title>Unified view on filter banks</title>. , 1998, , .		2
121	Introduction to continuous wavelet analysis. , 2000, , 1-71.		2
122	Deconvolution from instrumental devices and source effect in acoustic experiments. IEEE Transactions on Instrumentation and Measurement, 2002, 51, 268-276.	2.4	2
123	Bayesian estimation of the scaling parameter of fixational eye movements. Europhysics Letters, 2012, 100, 40003.	0.7	2
124	Phase and amplitude patterns in DySEM mappings of vibrating microstructures. Nanotechnology, 2013, 24, 215701.	1.3	2
125	Partial parameterization of orthogonal wavelet matrix filters. Journal of Computational and Applied Mathematics, 2013, 243, 113-125.	1.1	2
126	Modeling of the Ionospheric Current System and Calculating Its Contribution to the Earthâ€™s Magnetic Field. Astrophysics and Space Science Library, 2018, , 263-292.	1.0	2

#	Article	IF	Citations
127	Correlation Based Time Evolution of the Archeomagnetic Field. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021548.	1.4	2
128	Estimating polarization attributes with an adaptive covariance method in the wavelet domain. , 2005, , .		2
129	IRREGULAR GABOR FRAMES. Kyushu Journal of Mathematics, 2013, 67, 237-247.	0.2	2
130	Diffusion through time-dependent media. Geophysical Journal International, 2000, 141, 299-306.	1.0	1
131	Correlation dimension of self-similar surfaces and application to Kirchhoff integrals. Journal of Physics A, 2003, 36, 9067-9079.	1.6	1
132	Inverse Problems and Parameter Identification in Image Processing. , 2008, , 111-151.		1
133	Steady-state solutions of rupture propagation in an earthquake simulator governed by rate and state dependent friction. European Physical Journal: Special Topics, 2010, 191, 105-115.	1.2	1
134	A multigrid solver for modeling complex interseismic stress fields. Computers and Geosciences, 2011, 37, 1075-1082.	2.0	1
135	Enhanced DySEM imaging of cantilever motion using artificial structures patterned by focused ion beam techniques. Journal of Micromechanics and Microengineering, 2016, 26, 035010.	1.5	1
136	Interpolation in reproducing kernel Hilbert spaces based on random subdivision schemes. Journal of Computational and Applied Mathematics, 2017, 311, 342-353.	1.1	1
137	Flexible Dataset Combination and Modelling by Domain Decomposition Approaches. International Association of Geodesy Symposia, 2012, , 67-73.	0.2	1
138	Seismicity, Critical States of: From Models to Practical Seismic Hazard Estimates Space. , 2011, , 805-824.		1
139	Some Directional Elliptic Regularity for Domains with Cusps. Wavelet Analysis and Its Applications, 1997, 6, 541-565.	0.2	0
140	Existence and computation of optimally localized coherent states. Journal of Mathematical Physics, 2006, 47, 123503.	0.5	0
141	Poisson wavelets on the sphere. Proceedings of SPIE, 2007, , .	0.8	0
142	Continuous wavelet spectral analysis of climate dynamics. World Scientific Lecture Notes in Complex Systems, 2007, , 325-346.	0.1	0
143	Critical states of seismicity â€“ Implications from a physical model for the seismic cycle. World Scientific Lecture Notes in Complex Systems, 2007, , 371-396.	0.1	0
144	Numerical resolution of the burgers equation using the wavelet transform. Lecture Notes in Physics, 1990, , 369-370.	0.3	0

#	Article	IF	Citations
145	Wavelet Transform Analysis of Invariant Measures of Some Dynamical Systems. Inverse Problems and Theoretical Imaging, 1990, , 182-196.	0.2	0
146	Fractal Wavelet Dimensions and Time Evolution. Wavelet Analysis and Its Applications, 1994, 5, 363-381.	0.2	0
147	Potential Scattering on Fractals in One Dimension. , 1997, , 266-279.		0
148	A Weyl-Berry formula for the scattering operator associated to self-similar potentials on the line. , 1999, , 267-274.		0