Matthias Holschneider

List of Publications by Year in descending order

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148 papers 4,201 citations

126858 33 h-index 59 g-index

153 all docs

153 does citations

153 times ranked 2947 citing authors

#	Article	IF	CITATIONS
1	Bayesian inference about Plio-Pleistocene climate transitions in Africa. Quaternary Science Reviews, 2022, 277, 107287.	1.4	4
2	ArchKalmag14k: A Kalmanâ€Filter Based Global Geomagnetic Model for the Holocene. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	12
3	GP-ETAS: semiparametric Bayesian inference for the spatio-temporal epidemic type aftershock sequence model. Statistics and Computing, 2022, 32, 1.	0.8	7
4	Evaluation of candidate models for the 13th generation International Geomagnetic Reference Field. Earth, Planets and Space, 2021, 73, .	0.9	33
5	International Geomagnetic Reference Field: the thirteenth generation. Earth, Planets and Space, 2021, 73, .	0.9	319
6	Correlation Based Time Evolution of the Archeomagnetic Field. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021548.	1.4	2
7	Analysis of protrusion dynamics in amoeboid cell motility by means of regularized contour flows. PLoS Computational Biology, 2021, 17, e1009268.	1.5	6
8	Correlation based snapshot models of the archeomagnetic field. Geophysical Journal International, 2020, 223, 648-665.	1.0	7
9	Is Coulomb Stress the Best Choice for Aftershock Forecasting?. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019553.	1.4	10
10	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
11	Sequential modelling of the Earth's core magnetic field. Earth, Planets and Space, 2020, 72, .	0.9	28
12	The Kalmag model as a candidate for IGRF-13. Earth, Planets and Space, 2020, 72, .	0.9	28
13	Sequential assimilation of geomagnetic observations: perspectives for the reconstruction and prediction of core dynamics. Geophysical Journal International, 2019, 217, 1434-1450.	1.0	13
14	Modeling of the Ionospheric Current System and Calculating Its Contribution to the Earth's Magnetic Field. Astrophysics and Space Science Library, 2018, , 263-292.	1.0	2
15	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
16	Multiple Changeâ€Point Detection in Spatiotemporal Seismicity Data. Bulletin of the Seismological Society of America, 2018, 108, 1147-1159.	1.1	9
17	Modeling and Predicting the Shortâ€Term Evolution of the Geomagnetic Field. Journal of Geophysical Research: Solid Earth, 2018, 123, 4539-4560.	1.4	33
18	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

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19	Interpolation in reproducing kernel Hilbert spaces based on random subdivision schemes. Journal of Computational and Applied Mathematics, 2017, 311, 342-353.	1.1	1
20	Correlationâ€based modeling and separation of geomagnetic field components. Journal of Geophysical Research: Solid Earth, 2016, 121, 3142-3160.	1.4	24
21	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
22	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
23	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
24	The Earthquake History in a Fault Zone Tells Us Almost Nothing aboutmmax. Seismological Research Letters, 2016, 87, 132-137.	0.8	15
25	Discovery of starspots on Vega. Astronomy and Astrophysics, 2015, 577, A64.	2.1	29
26	Smoothing Spline ANOVA Decomposition of Arbitrary Splines: An Application to Eye Movements in Reading. PLoS ONE, 2015, 10, e0119165.	1.1	6
27	Synchronization of muscular oscillations between two subjects during isometric interaction. European Journal of Translational Myology, 2014, 24, .	0.8	11
28	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
29	The Largest Expected Earthquake Magnitudes in Japan: The Statistical Perspective. Bulletin of the Seismological Society of America, 2014, 104, 769-779.	1.1	16
30	Can we test for the maximum possible earthquake magnitude?. Journal of Geophysical Research: Solid Earth, 2014, 119, 2019-2028.	1.4	18
31	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
32	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
33	Combining earthquake forecasts using differential probability gains. Earth, Planets and Space, 2014, 66,	0.9	43
34	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
35	Synchronization of muscular oscillations between two subjects during isometric interaction. European Journal of Translational Myology, 2014, 24, 2237.	0.8	17
36	Fractal dynamics of geomagnetic storms. Arabian Journal of Geosciences, 2013, 6, 1693-1702.	0.6	7

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37	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
38	Phase and amplitude patterns in DySEM mappings of vibrating microstructures. Nanotechnology, 2013, 24, 215701.	1.3	2
39	Partial parameterization of orthogonal wavelet matrix filters. Journal of Computational and Applied Mathematics, 2013, 243, 113-125.	1.1	2
40	Wavelet-based multiscale analysis of geomagnetic disturbance. Earth, Planets and Space, 2013, 65, 1525-1540.	0.9	25
41	IRREGULAR GABOR FRAMES. Kyushu Journal of Mathematics, 2013, 67, 237-247.	0.2	2
42	Bayesian estimation of the scaling parameter of fixational eye movements. Europhysics Letters, 2012, 100, 40003.	0.7	2
43	Analytical and numerical analysis of imaging mechanism of dynamic scanning electron microscopy. Nanotechnology, 2012, 23, 435501.	1.3	5
44	From Alarm-Based to Rate-Based Earthquake Forecast Models. Bulletin of the Seismological Society of America, 2012, 102, 64-72.	1.1	18
45	Improved daily GRACE gravity field solutions using a Kalman smoother. Journal of Geodynamics, 2012, 59-60, 39-48.	0.7	62
46	Estimation of the Hurst exponent from noisy data: a Bayesian approach. European Physical Journal B, $2012, 85, 1$.	0.6	6
47	Stressâ $ullet$ -and aftershockâ $ullet$ 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
48	Bayesian analysis of the modified Omori law. Journal of Geophysical Research, 2012, 117, .	3.3	48
49	Wavelet-based directional analysis of the gravity field: evidence for large-scale undulations. Geophysical Journal International, 2012, 189, 1430-1456.	1.0	10
50	Flexible Dataset Combination and Modelling by Domain Decomposition Approaches. International Association of Geodesy Symposia, 2012, , 67-73.	0.2	1
51	Bayesian Selection of Markov Models for Symbol Sequences: Application to Microsaccadic Eye Movements. PLoS ONE, 2012, 7, e43388.	1.1	8
52	Bayesian estimation of self-similarity exponent. Physical Review E, 2011, 84, 021109.	0.8	23
53	Bayesian estimation of the self-similarity exponent of the Nile River fluctuation. Nonlinear Processes in Geophysics, 2011, 18, 441-446.	0.6	6
54	Short-Term Earthquake Forecasting Using Early Aftershock Statistics. Bulletin of the Seismological Society of America, 2011, 101, 297-312.	1.1	23

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55	Wavelet modelling of the gravity field by domain decomposition methods: an example over Japan. Geophysical Journal International, 2011, 184, 203-219.	1.0	26
56	Variability patterns differ between standing stock and process rates. Oikos, 2011, 120, 17-25.	1.2	9
57	A multigrid solver for modeling complex interseismic stress fields. Computers and Geosciences, 2011, 37, 1075-1082.	2.0	1
58	تØ∙ذيÙ, تØÙ"يل الانتظام على ذيانات صÙ^تية مسجلة ÙÙ	ŠØïØdر	: ؾراسØ
59	Detection of trend changes in time series using Bayesian inference. Physical Review E, 2011, 84, 021120.	0.8	11
60	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
61	Seismicity, Critical States of: From Models to Practical Seismic Hazard Estimates Space. , 2011, , 805-824.		1
62	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
63	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
64	Frames of Poisson wavelets on the sphere. Applied and Computational Harmonic Analysis, 2010, 28, 227-248.	1.1	12
65	Error distribution in regional inversion of potential field data. Geophysical Journal International, 2010, , no-no.	1.0	7
66	Quantifying focal mechanism heterogeneity for fault zones in central and southern California. Geophysical Journal International, 2010, 183, 433-450.	1.0	45
67	Local regularity analysis of strata heterogeneities from sonic logs. Nonlinear Processes in Geophysics, 2010, 17, 455-466.	0.6	20
68	The Earth's Magnetic Field at the CHAMP Satellite Epoch. Advanced Technologies in Earth Sciences, 2010, , 475-526.	0.9	6
69	Local multi-polar expansions in potential field modeling. Earth, Planets and Space, 2009, 61, 1127-1141.	0.9	3
70	Directional spherical multipole wavelets. Journal of Mathematical Physics, 2009, 50, .	0.5	9
71	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
72	Adaptive metrics in the nearest neighbours method. Physica D: Nonlinear Phenomena, 2008, 237, 283-291.	1.3	21

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7 3	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
74	Inverse Problems and Parameter Identification in Image Processing. , 2008, , 111-151.		1
75	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
76	Loading rates in California inferred from aftershocks. Nonlinear Processes in Geophysics, 2008, 15, 245-263.	0.6	16
77	Nonstationary Gaussian processes in wavelet domain: Synthesis, estimation, and significance testing. Physical Review E, 2007, 75, 016707.	0.8	152
78	Poisson wavelets on the sphere. Proceedings of SPIE, 2007, , .	0.8	0
79	Influence of multiple scattering on the resolution of an imaging system: a Cramér-Rao analysis. Optics Express, 2007, 15, 1340.	1.7	37
80	Polarization analysis of a Pi2 pulsation using continuous wavelet transform. Earth, Planets and Space, 2007, 59, 961-970.	0.9	5
81	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
82	Estimating recurrence times and seismic hazard of large earthquakes on an individual fault. Geophysical Journal International, 2007, 170, 1300-1310.	1.0	29
83	Polarization analysis in the wavelet domain based on the adaptive covariance method. Geophysical Journal International, 2007, 170, 667-678.	1.0	56
84	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
85	Robust detection and verification of linear relationships to generate metabolic networks using estimates of technical errors. BMC Bioinformatics, 2007, 8, 162.	1.2	8
86	Poisson Wavelets on the Sphere. Journal of Fourier Analysis and Applications, 2007, 13, 405-419.	0.5	52
87	Continuous wavelet spectral analysis of climate dynamics. World Scientific Lecture Notes in Complex Systems, 2007, , 325-346.	0.1	O
88	Critical states of seismicity – Implications from a physical model for the seismic cycle. World Scientific Lecture Notes in Complex Systems, 2007, , 371-396.	0.1	0
89	Dissipation at the core-mantle boundary on a small-scale topography. Journal of Geophysical Research, 2006, 111, .	3.3	13
90	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

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91	Earthquake activity related to seismic cycles in a model for a heterogeneous strike-slip fault. Tectonophysics, 2006, 423, 137-145.	0.9	33
92	Instantaneous polarization attributes based on an adaptive approximate covariance method. Geophysics, 2006, 71, V99-V104.	1.4	34
93	Characterization of polarization attributes of seismic waves using continuous wavelet transforms. Geophysics, 2006, 71, V67-V77.	1.4	50
94	Existence and computation of optimally localized coherent states. Journal of Mathematical Physics, 2006, 47, 123503.	0.5	0
95	Wavelet frames: an alternative to spherical harmonic representation of potential fields. Geophysical Journal International, 2005, 163, 875-899.	1.0	119
96	Characterization of dispersive surface waves using continuous wavelet transforms. Geophysical Journal International, 2005, 163, 463-478.	1.0	50
97	Wavelet Analysis of Ellipticity, Dispersion, and Dissipation Properties of Rayleigh Waves. Acoustical Physics, 2005, 51, 425.	0.2	10
98	Instantaneous polarization attributes in the time-frequency domain and wavefield separation. Geophysical Prospecting, 2005, 53, 723-731.	1.0	28
99	Modeling of Wave Dispersion Using Continuous Wavelet Transforms. Pure and Applied Geophysics, 2005, 162, 843-855.	0.8	50
100	The Role of Heterogeneities as a Tuning Parameter of Earthquake Dynamics. Pure and Applied Geophysics, 2005, 162, 1027-1049.	0.8	39
101	Aftershocks resulting from creeping sections in a heterogeneous fault. Geophysical Research Letters, 2005, 32, .	1.5	35
102	Onset of power law aftershock decay rates in southern California. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	19
103	Estimating polarization attributes with an adaptive covariance method in the wavelet domain., 2005, , .		2
104	On the Relevance of the Spatial Distribution of Events for Seismic Hazard Evaluation. Natural Hazards, 2004, 31, 1-19.	1.6	3
105	Quasi-static and Quasi-dynamic Modeling of Earthquake Failure at Intermediate Scales. Pure and Applied Geophysics, 2004, 161, 2103.	0.8	24
106	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
107	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
108	Correlation dimension of self-similar surfaces and application to Kirchhoff integrals. Journal of Physics A, 2003, 36, 9067-9079.	1.6	1

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109	An Interpolation Family between Gabor and Wavelet Transformations., 2003,, 363-394.		12
110	Temporal limits of the power law aftershock decay rate. Journal of Geophysical Research, 2002, 107, ESE 12-1-ESE 12-14.	3.3	72
111	Deconvolution from instrumental devices and source effect in acoustic experiments. IEEE Transactions on Instrumentation and Measurement, 2002, 51, 268-276.	2.4	2
112	Rate Matrices for Analyzing Large Families of Protein Sequences. Journal of Computational Biology, 2001, 8, 381-399.	0.8	17
113	Two-Channel Perfect Reconstruction FIR Filter Banks over Commutative Rings. Applied and Computational Harmonic Analysis, 2000, 8, 113-121.	1.1	11
114	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
115	Diffusion through time-dependent media. Geophysical Journal International, 2000, 141, 299-306.	1.0	1
116	Introduction to continuous wavelet analysis., 2000, , 1-71.		2
117	Approximation of nonessential spectrum of transfer operators. Nonlinearity, 1999, 12, 525-538.	0.6	18
118	Identification of sources of potential fields with the continuous wavelet transform: Basic theory. Journal of Geophysical Research, 1999, 104, 5003-5013.	3.3	101
119	A Weyl-Berry formula for the scattering operator associated to self-similar potentials on the line. , 1999, , 267-274.		O
120	Wavelet analysis of the Chandler wobble. Journal of Geophysical Research, 1998, 103, 27069-27089.	3.3	54
121	Time-dependent scattering on fractal measures. Journal of Mathematical Physics, 1998, 39, 4165-4194.	0.5	6
122	<title>Unified view on filter banks</title> ., 1998,,.		2
123	Wavelet analysis of potential fields. Inverse Problems, 1997, 13, 165-178.	1.0	149
124	Some Directional Elliptic Regularity for Domains with Cusps. Wavelet Analysis and Its Applications, 1997, 6, 541-565.	0.2	0
125	On equivalent definitions of the correlation dimension for a probability measure. Journal of Statistical Physics, 1997, 86, 707-720.	0.5	14
126	Potential Scattering on Fractals in One Dimension. , 1997, , 266-279.		0

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127	Continuous wavelet transforms on the sphere. Journal of Mathematical Physics, 1996, 37, 4156-4165.	0.5	110
128	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
129	Scattering on fractal measures. Journal of Physics A, 1996, 29, 7651-7667.	1.6	21
130	Wavelet Analysis over Abelian Groups. Applied and Computational Harmonic Analysis, 1995, 2, 52-60.	1.1	20
131	Wavelets on Discrete Fields. Applied and Computational Harmonic Analysis, 1994, 1, 137-146.	1.1	35
132	Functional calculus using wavelet transforms. Journal of Mathematical Physics, 1994, 35, 3745-3752.	0.5	2
133	Fractal Wavelet Dimensions and Time Evolution. Wavelet Analysis and Its Applications, 1994, 5, 363-381.	0.2	0
134	General inversion formulas for wavelet transforms. Journal of Mathematical Physics, 1993, 34, 4190-4198.	0.5	8
135	Localization properties of wavelet transforms. Journal of Mathematical Physics, 1993, 34, 3227-3244.	0.5	16
136	Inverse Radon transforms through inverse wavelet transforms. Inverse Problems, 1991, 7, 853-861.	1.0	68
137	Pointwise analysis of Riemann's ?nondifferentiable? function. Inventiones Mathematicae, 1991, 105, 157-175.	1.3	86
138	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
139	Wavelet analysis on the circle. Journal of Mathematical Physics, 1990, 31, 39-44.	0.5	28
140	Numerical resolution of the burgers equation using the wavelet transform. Lecture Notes in Physics, 1990, , 369-370.	0.3	0
141	Wavelet Transform Analysis of Invariant Measures of Some Dynamical Systems. Inverse Problems and Theoretical Imaging, 1990, , 182-196.	0.2	O
142	Wavelet Transform Analysis of Invariant Measures of Some Dynamical Systems. Inverse Problems and Theoretical Imaging, 1989, , 182-196.	0.2	21
143	On the wavelet transformation of fractal objects. Journal of Statistical Physics, 1988, 50, 963-993.	0.5	155
144	Fractal dimensions and homeomorphic conjugacies. Journal of Statistical Physics, 1988, 50, 995-1020.	0.5	15

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145	Wavelet Transform of Multifractals. Physical Review Letters, 1988, 61, 2281-2284.	2.9	271
146	Crossover Effect in the f(\hat{l} ±)Spectrum for Quasiperiodic Trajectories at the Onset of Chaos. Physical Review Letters, 1987, 58, 2007-2010.	2.9	29
147	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
148	Error distribution in regional modelling of the geomagnetic field. Geophysical Journal International, 0, , .	1.0	5