

# Jan W Kantelhardt

## List of Publications by Year in descending order

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115  
papers

10,893  
citations

93792

39  
h-index

38517

99  
g-index

119  
all docs

119  
docs citations

119  
times ranked

8164  
citing authors

#	ARTICLE	IF	CITATIONS
1	Reconstruction of Pulse Wave and Respiration From Wrist Accelerometer During Sleep. IEEE Transactions on Biomedical Engineering, 2022, 69, 830-839.	2.5	3
2	The Reconstruction of Causal Networks in Physiology. Frontiers in Network Physiology, 2022, 2, .	0.8	8
3	Capability of processed EEG parameters to monitor conscious sedation in endoscopy is similar to general anaesthesia. United European Gastroenterology Journal, 2021, 9, 354-361.	1.6	6
4	Self-organized multistability in the forest fire model. Physical Review E, 2021, 104, L012201.	0.8	5
5	Connectivity of EEG synchronization networks increases for Parkinson's disease patients with freezing of gait. Communications Biology, 2021, 4, 1017.	2.0	24
6	Unique sleep stage transitions determined by obstructive sleep apnea severity, age and gender. Journal of Sleep Research, 2020, 29, e12895.	1.7	8
7	Reconstruction of the respiratory signal through ECG and wrist accelerometer data. Scientific Reports, 2020, 10, 14530.	1.6	11
8	Coupling Between Leg Muscle Activation and EEG During Normal Walking, Intentional Stops, and Freezing of Gait in Parkinson's Disease. Frontiers in Physiology, 2019, 10, 870.	1.3	23
9	A Biased Diffusion Approach to Sleep Dynamics Reveals Neuronal Characteristics. Biophysical Journal, 2019, 117, 987-997.	0.2	8
10	Excessive phase synchronization in cortical activation during locomotion in persons with Parkinson's disease. Parkinsonism and Related Disorders, 2019, 65, 210-216.	1.1	18
11	Detection and analysis of pulse waves during sleep via wrist-worn actigraphy. PLoS ONE, 2019, 14, e0226843.	1.1	6
12	Detection and analysis of pulse waves during sleep via wrist-worn actigraphy. , 2019, 14, e0226843.		0
13	Detection and analysis of pulse waves during sleep via wrist-worn actigraphy. , 2019, 14, e0226843.		0
14	Detection and analysis of pulse waves during sleep via wrist-worn actigraphy. , 2019, 14, e0226843.		0
15	Detection and analysis of pulse waves during sleep via wrist-worn actigraphy. , 2019, 14, e0226843.		0
16	Performance-based approach for movement artifact removal from electroencephalographic data recorded during locomotion. PLoS ONE, 2018, 13, e0197153.	1.1	37
17	Age and gender dependency of physiological networks in sleep. Physiological Measurement, 2017, 38, 959-975.	1.2	9
18	Quantifying cardio-respiratory phase synchronization—a comparison of five methods using ECGs of post-infarction patients. Physiological Measurement, 2017, 38, 925-939.	1.2	28

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19	Nocturnal Dynamics of Sleep-Wake Transitions in Patients With Narcolepsy. <i>Sleep</i> , 2017, 40, .	0.6	8
20	Modulations of Heart Rate, ECC, and Cardio-Respiratory Coupling Observed in Polysomnography. <i>Frontiers in Physiology</i> , 2016, 7, 460.	1.3	129
21	Sleep Assessment in Large Cohort Studies with High-Resolution Accelerometers. <i>Sleep Medicine Clinics</i> , 2016, 11, 469-488.	1.2	16
22	Scaling behavior of EEG amplitude and frequency time series across sleep stages. <i>Europhysics Letters</i> , 2015, 112, 18001.	0.7	14
23	Analytical and simulation models for collaborative localization. <i>Journal of Computational Science</i> , 2015, 6, 1-10.	1.5	9
24	Process and outcome for international reliability in sleep scoring. <i>Sleep and Breathing</i> , 2015, 19, 191-195.	0.9	37
25	Fractal and Multifractal Time Series. , 2015, , 1-37.		8
26	The Detection of Emerging Trends Using Wikipedia Traffic Data and Context Networks. <i>PLoS ONE</i> , 2015, 10, e0141892.	1.1	20
27	Agreement of different methods for assessing sleep characteristics: a comparison of two actigraphs, wrist and hip placement, and self-report with polysomnography. <i>Sleep Medicine</i> , 2014, 15, 1107-1114.	0.8	175
28	Phases of scaling and cross-correlation behavior in traffic. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 5742-5756.	1.2	6
29	Strategies in Crowd and Crowd Structure. <i>Acta Physica Polonica A</i> , 2013, 123, 522-525.	0.2	1
30	DETERMINISTIC ANTS IN LABYRINTH - INFORMATION GAINED BY MAP SHARING. <i>International Journal of Modern Physics C</i> , 2013, 24, 1350035.	0.8	1
31	Transitions in effective scaling behavior of accelerometric time series across sleep and wake. <i>Europhysics Letters</i> , 2013, 103, 68002.	0.7	15
32	Hadoop. TS: Large-Scale Time-Series Processing. <i>International Journal of Computer Applications</i> , 2013, 74, 1-8.	0.2	6
33	Phase transitions in physiologic coupling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 10181-10186.	3.3	199
34	Challenges in network science: Applications to infrastructures, climate, social systems and economics. <i>European Physical Journal: Special Topics</i> , 2012, 214, 273-293.	1.2	146
35	Fluctuations in Wikipedia access-rate and edit-event data. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012, 391, 6101-6111.	1.2	13
36	Network physiology reveals relations between network topology and physiological function. <i>Nature Communications</i> , 2012, 3, 702.	5.8	548

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37	Fractal and Multifractal Time Series. , 2012, , 463-487.		45
38	Evacuation in the Social Force Model is not Stationary. Acta Physica Polonica A, 2012, 121, B-77-B-81.	0.2	3
39	Changing climate states and stability: from Pliocene to present. Climate Dynamics, 2011, 37, 2437-2453.	1.7	60
40	Multifractal moving average analysis and test of multifractal model with tuned correlations. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 2637-2654.	1.2	82
41	On spurious and corrupted multifractality: The effects of additive noise, short-term memory and periodic trends. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 2480-2490.	1.2	78
42	The Statistics of Return Intervals, Maxima, and Centennial Events Under the Influence of Long-Term Correlations. , 2011, , 2-43.		6
43	Detrended Fluctuation Studies of Long-Term Persistence and Multifractality of Precipitation and River Runoff Records. , 2011, , 216-248.		6
44	Wave Localization on Complex Networks. , 2011, , 75-96.		0
45	Aging Effects on Cardiac and Respiratory Dynamics in Healthy Subjects across Sleep Stages. Sleep, 2010, 33, 943-955.	0.6	97
46	Effects of Parkinson's disease on brain-wave phase synchronisation and cross-modulation. Europhysics Letters, 2010, 89, 48001.	0.7	7
47	Equidistant band formation of precipitation in a reaction-diffusion process. New Journal of Physics, 2010, 12, 023009.	1.2	3
48	Cardiovascular and respiratory dynamics in patients with sleep apnea. , 2010, 2010, 276-9.		3
49	Ad-Hoc Information Spread between Mobile Devices: A Case Study in Analytical Modeling of Controlled Self-organization in IT Systems. Lecture Notes in Computer Science, 2010, , 101-112.	1.0	1
50	Automated synchrogram analysis applied to heartbeat and reconstructed respiration. Chaos, 2009, 19, 015106.	1.0	23
51	Cross-Modulated Amplitudes and Frequencies Characterize Interacting Components in Complex Systems. Physical Review Letters, 2009, 102, 098701.	2.9	42
52	Bivariate phase-rectified signal averaging—a novel technique for cross-correlation analysis in noisy nonstationary signals. Journal of Electrocardiology, 2009, 42, 602-606.	0.4	28
53	Multi-photon excitation fluorescence microscopy of brain-tumour tissue and analysis of cell density. Acta Neurochirurgica, 2009, 151, 253-262.	0.9	26
54	Analysis of blood pressure-heart rate feedback regulation under non-stationary conditions: beyond baroreflex sensitivity. Physiological Measurement, 2009, 30, 631-645.	1.2	21

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55	Comparison of detrending methods for fluctuation analysis. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2008, 387, 5080-5090.	1.2	277
56	Bivariate phase-rectified signal averaging. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2008, 387, 5091-5100.	1.2	30
57	Comparison of models and lattice-gas simulations for Liesegang patterns. <i>European Physical Journal: Special Topics</i> , 2008, 161, 121-141.	1.2	8
58	Consequences of fluctuations in Liesegang pattern formation. <i>Europhysics Letters</i> , 2008, 84, 48006.	0.7	4
59	Wave Localization in Complex Networks with High Clustering. <i>Physical Review Letters</i> , 2008, 101, 175702.	2.9	40
60	Phase-rectified signal averaging for the detection of quasi-periodicities and the prediction of cardiovascular risk. <i>Chaos</i> , 2007, 17, 015112.	1.0	85
61	Experimental Evidence for Phase Synchronization Transitions in the Human Cardiorespiratory System. <i>Physical Review Letters</i> , 2007, 98, 054102.	2.9	177
62	Cardiovascular and respiratory dynamics during normal and pathological sleep. <i>Chaos</i> , 2007, 17, 015116.	1.0	62
63	Statistics of return intervals in long-term correlated records. <i>Physical Review E</i> , 2007, 75, 011128.	0.8	121
64	Fluctuation and synchronization of gait intervals and gait force profiles distinguish stages of Parkinson's disease. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 383, 455-465.	1.2	77
65	Statistics of Return Intervals and Extreme Events in Long-term Correlated Time Series. , 2007, , 339-367.		1
66	Deceleration capacity of heart rate as a predictor of mortality after myocardial infarction: cohort study. <i>Lancet, The</i> , 2006, 367, 1674-1681.	6.3	502
67	Long-term persistence and multifractality of precipitation and river runoff records. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	311
68	Long-term persistence and multifractality of river runoff records: Detrended fluctuation studies. <i>Journal of Hydrology</i> , 2006, 322, 120-137.	2.3	265
69	Phase-rectified signal averaging detects quasi-periodicities in non-stationary data. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 364, 423-434.	1.2	187
70	Extreme value statistics in records with long-term persistence. <i>Physical Review E</i> , 2006, 73, 016130.	0.8	84
71	Coarsening dynamics in elastically anisotropic alloys. <i>Physical Review B</i> , 2006, 73, .	1.1	6
72	Detrended fluctuation analysis in x-ray photon correlation spectroscopy for determining coarsening dynamics in alloys. <i>Physical Review E</i> , 2006, 74, 041107.	0.8	5

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73	Nonrandom Variability of Respiration During Sleep in Healthy Humans. <i>Sleep</i> , 2005, 28, 411-417.	0.6	58
74	Long-Term Memory: A Natural Mechanism for the Clustering of Extreme Events and Anomalous Residual Times in Climate Records. <i>Physical Review Letters</i> , 2005, 94, 048701.	2.9	301
75	Diffusion and Conduction in Percolation Systems. , 2005, , 895-914.		22
76	Revealing antiphase-domain dynamics in alloys by combining advanced statistical techniques with x-ray photon correlation spectroscopy. <i>Physical Review B</i> , 2004, 69, .	1.1	17
77	Return intervals of rare events in records with long-term persistence. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 342, 308-314.	1.2	70
78	Discrete charging of a quantum dot strongly coupled to external leads. <i>Europhysics Letters</i> , 2004, 68, 699-705.	0.7	19
79	Comparison of detrended fluctuation analysis and spectral analysis for heart rate variability in sleep and sleep apnea. <i>IEEE Transactions on Biomedical Engineering</i> , 2003, 50, 1143-1151.	2.5	400
80	The effect of long-term correlations on the return periods of rare events. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 330, 1-7.	1.2	99
81	Multifractality of river runoff and precipitation: comparison of fluctuation analysis and wavelet methods. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 330, 240-245.	1.2	201
82	Breathing during REM and non-REM sleep: correlated versus uncorrelated behaviour. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 319, 447-457.	1.2	58
83	Long-term correlations distinguish coarsening mechanisms in alloys. <i>Physical Review B</i> , 2003, 68, .	1.1	18
84	Modeling transient correlations in heartbeat dynamics during sleep. <i>Europhysics Letters</i> , 2003, 62, 147-153.	0.7	61
85	Dynamics of Heart Rate and Sleep Stages in Normals and Patients with Sleep Apnea. <i>Neuropsychopharmacology</i> , 2003, 28, S48-S53.	2.8	122
86	Quantifying Heartbeat Dynamics by Magnitude and Sign Correlations. <i>AIP Conference Proceedings</i> , 2003, , .	0.3	4
87	Sublocalization, superlocalization, and violation of standard single-parameter scaling in the Anderson model. <i>Physical Review B</i> , 2002, 66, .	1.1	21
88	Characterization of sleep stages by correlations in the magnitude and sign of heartbeat increments. <i>Physical Review E</i> , 2002, 65, 051908.	0.8	161
89	Parallel magnetoconductance of interacting electrons in a two-dimensional disordered system. <i>Physical Review B</i> , 2002, 65, .	1.1	10
90	Vibrational models for the Boson peak. <i>Journal of Non-Crystalline Solids</i> , 2002, 307-310, 96-102.	1.5	3

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91	Role of Boundary Conditions in the Parallel Magnetoconductance of a Two Dimensional Disordered System. <i>Physica Status Solidi (B): Basic Research</i> , 2002, 230, 101-105.	0.7	0
92	Multifractal detrended fluctuation analysis of nonstationary time series. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 316, 87-114.	1.2	2,846
93	Physiological Relevance of Scaling of Heart Phenomena. , 2002, , 258-281.		1
94	Detecting long-range correlations with detrended fluctuation analysis. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 295, 441-454.	1.2	1,164
95	Magnetoconductance study for systems of interacting electrons in two dimensions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 302, 359-367.	1.2	2
96	Long-range temporal anti-correlations in paddlefish electroreceptors. <i>Europhysics Letters</i> , 2001, 56, 454-460.	0.7	67
97	No indications of metal-insulator transition for systems of interacting electrons in two dimensions. <i>Physical Review B</i> , 2001, 63, .	1.1	18
98	Excess modes in the vibrational spectrum of disordered systems and the boson peak. <i>Physical Review B</i> , 2001, 63, .	1.1	61
99	Localization in self-affine energy landscapes. <i>Physical Review B</i> , 2001, 64, .	1.1	34
100	Statistische Physik: Langzeitkorrelationen in der Natur: Von Klima, Erbgut und Herzrhythmus: Die Fluktuationsanalyse erlaubt es, Klimamodelle zu testen oder Schlafphasen zu untersuchen. <i>Physik Journal</i> , 2001, 57, 49-54.	0.1	14
101	Localization in a highly correlated potential landscape. <i>Journal of Molecular Liquids</i> , 2000, 86, 151-161.	2.3	5
102	Comment on "Delocalization in the 1D Anderson Model with Long-Range Correlated Disorder". <i>Physical Review Letters</i> , 2000, 84, 198-198.	2.9	43
103	Correlated and Uncorrelated Regions in Heart-Rate Fluctuations during Sleep. <i>Physical Review Letters</i> , 2000, 85, 3736-3739.	2.9	495
104	Level statistics for vibrational eigenstates of percolation clusters. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 266, 76-80.	1.2	3
105	Are the phases in the Anderson model long-range correlated?. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 266, 461-464.	1.2	38
106	Anderson localization in a random correlated energy landscape. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 266, 492-496.	1.2	10
107	Localization behavior of vibrational modes. <i>Annalen Der Physik</i> , 1998, 7, 372-382.	0.9	7
108	Wave functions in the Anderson model and in the quantum percolation model: a comparison. <i>Annalen Der Physik</i> , 1998, 7, 400-405.	0.9	7

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109	Extended Fractons and Localized Phonons on Percolation Clusters. <i>Physical Review Letters</i> , 1998, 81, 4907-4910.	2.9	29
110	Wave functions in the Anderson model and in the quantum percolation model: a comparison. <i>Annalen Der Physik</i> , 1998, 510, 400-405.	0.9	0
111	Localization behavior of vibrational modes. <i>Annalen Der Physik</i> , 1998, 510, 372-382.	0.9	0
112	Electrons and fractons on percolation structures at criticality: Sublocalization and superlocalization. <i>Physical Review E</i> , 1997, 56, 6693-6701.	0.8	21
113	Spikes in the Current Self-Oscillations of Doped GaAs/AlAs Superlattices. <i>Physica Status Solidi (B): Basic Research</i> , 1997, 204, 500-503.	0.7	15
114	Wavelets and multifractality: Application to Anderson localized wave functions. <i>Europhysics Letters</i> , 1996, 35, 641-646.	0.7	7
115	Discrete wavelet approach to multifractality. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1995, 220, 219-238.	1.2	39