Reik Donner

List of Publications by Year
in descending order

141 papers	5,723 citations	101543 36 h-index	85541 71 g-index
188 all docs	188 docs citations	188 times ranked	4540 citing authors

#	Article	IF	Citations
1	Complex network approach for recurrence analysis of time series. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 4246-4254.	2.1	501
2	Recurrence networksâ€"a novel paradigm for nonlinear time series analysis. New Journal of Physics, 2010, 12, 033025.	2.9	489
3	Complex network approaches to nonlinear time series analysis. Physics Reports, 2019, 787, 1-97.	25.6	370
4	RECURRENCE-BASED TIME SERIES ANALYSIS BY MEANS OF COMPLEX NETWORK METHODS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2011, 21, 1019-1046.	1.7	350
5	Armed-conflict risks enhanced by climate-related disasters in ethnically fractionalized countries. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9216-9221.	7.1	280
6	Nonlinear detection of paleoclimate-variability transitions possibly related to human evolution. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20422-20427.	7.1	208
7	Validation practices for satelliteâ€based Earth observation data across communities. Reviews of Geophysics, 2017, 55, 779-817.	23.0	137
8	The geometry of chaotic dynamics â€" a complex network perspective. European Physical Journal B, 2011, 84, 653-672.	1.5	126
9	Ambiguities in recurrence-based complex network representations of time series. Physical Review E, 2010, 81, 015101.	2.1	113
10	Visibility graph analysis of geophysical time series: Potentials and possible pitfalls. Acta Geophysica, 2012, 60, 589-623.	2.0	101
11	Analytical framework for recurrence network analysis of time series. Physical Review E, 2012, 85, 046105.	2.1	96
12	Event coincidence analysis for quantifying statistical interrelationships between event time series. European Physical Journal: Special Topics, 2016, 225, 471-487.	2.6	93
13	Geometric detection of coupling directions by means of inter-system recurrence networks. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 3504-3513.	2.1	87
14	Statistical Mechanics and Information-Theoretic Perspectives on Complexity in the Earth System. Entropy, 2013, 15, 4844-4888.	2.2	85
15	Recurrence networks from multivariate signals for uncovering dynamic transitions of horizontal oil-water stratified flows. Europhysics Letters, 2013, 103, 50004.	2.0	84
16	Unified functional network and nonlinear time series analysis for complex systems science: The<tt>pyunicorn</tt>package. Chaos, 2015, 25, 113101.	2.5	84
17	Disentangling different types of El NiÃ±o episodes by evolving climate network analysis. Physical Review E, 2013, 88, 052807.	2.1	79
18	Testing time series irreversibility using complex network methods. Europhysics Letters, 2013, 102, 10004.	2.0	78

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19	Scale-resolved phase coherence analysis of hemispheric sunspot activity: a new look at the north-south asymmetry. Astronomy and Astrophysics, 2007, 475, L33-L36.	5.1	76
20	Multiple-node basin stability in complex dynamical networks. Physical Review E, 2017, 95, 032317.	2.1	74
21	Urban road networks â€" spatial networks with universal geometric features?. European Physical Journal B, 2011, 84, 563-577.	1.5	73
22	Identifying complex periodic windows in continuous-time dynamical systems using recurrence-based methods. Chaos, 2010, 20, 043130.	2.5	65
23	Climatic risks and impacts in South Asia: extremes of water scarcity and excess. Regional Environmental Change, 2017, 17, 1569-1583.	2.9	65
24	A Network of Networks Perspective on Global Trade. PLoS ONE, 2015, 10, e0133310.	2.5	62
25	Identification of dynamical transitions in marine palaeoclimate records by recurrence network analysis. Nonlinear Processes in Geophysics, 2011, 18, 545-562.	1.3	59
26	Recurrence threshold selection for obtaining robust recurrence characteristics in different embedding dimensions. Chaos, 2018, 28, 085720.	2.5	58
27	Varved sediments of Lake Yoa (Ounianga Kebir, Chad) reveal progressive drying of the Sahara during the last 6100 years. Sedimentology, 2013, 60, 911-934.	3.1	57
28	Long-term changes in the northâ€"south asymmetry of solar activity: a nonlinear dynamics characterization using visibility graphs. Nonlinear Processes in Geophysics, 2014, 21, 1113-1126.	1.3	57
29	CoinCalc â€"A new R package for quantifying simultaneities of event series. Computers and Geosciences, 2017, 98, 64-72.	4.2	57
30	Non-linear regime shifts in Holocene Asian monsoon variability: potential impacts on cultural change and migratory patterns. Climate of the Past, 2015, 11, 709-741.	3.4	55
31	An integrative quantifier of multistability in complex systems based on ecological resilience. Scientific Reports, 2015, 5, 16196.	3.3	51
32	Complex network analysis helps to identify impacts of the El NiÃ±o Southern Oscillation on moisture divergence in South America. Climate Dynamics, 2015, 45, 619-632.	3.8	48
33	A climate networkâ€based index to discriminate different types of El NiÃ±o and La NiÃ±a. Geophysical Research Letters, 2016, 43, 7176-7185.	4.0	47
34	Meteorological Drivers of Extremes in Daily Stem Radius Variations of Beech, Oak, and Pine in Northeastern Germany: An Event Coincidence Analysis. Frontiers in Plant Science, 2016, 7, 733.	3.6	42
35	Impact of temperature and precipitation extremes on the flowering dates of four German wildlife shrub species. Biogeosciences, 2016, 13, 5541-5555.	3.3	41
36	Spatial patterns of linear and nonparametric long-term trends in Baltic sea-level variability. Nonlinear Processes in Geophysics, 2012, 19, 95-111.	1.3	40

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37	Fingerprint of volcanic forcing on the ENSOâ€“Indian monsoon coupling. Science Advances, 2020, 6, .	10.3	39
38	Impacts of temperature extremes on European vegetation during the growing season. Biogeosciences, 2017, 14, 4891-4903.	3.3	35
39	Understanding the Earth as a Complex System â€“ recent advances in data analysis and modelling in Earth sciences. European Physical Journal: Special Topics, 2009, 174, 1-9.	2.6	34
40	Radon applications in geosciences â€“ Progress & perspectives. European Physical Journal: Special Topics, 2015, 224, 597-603.	2.6	33
41	Mapping and discrimination of networks in the complexity-entropy plane. Physical Review E, 2017, 96, 042304.	2.1	32
42	Nonlinear characterization of the performance of production and logistics networks. Journal of Manufacturing Systems, 2008, 27, 84-99.	13.9	31
43	Anticipative control of switched queueing systems. European Physical Journal B, 2008, 63, 341-347.	1.5	30
44	Symbolic recurrence plots: A new quantitative framework for performance analysis of manufacturing networks. European Physical Journal: Special Topics, 2008, 164, 85-104.	2.6	30
45	Spatial network surrogates for disentangling complex system structure from spatial embedding of nodes. Physical Review E, 2016, 93, 042308.	2.1	30
46	Phase space reconstruction for non-uniformly sampled noisy time series. Chaos, 2018, 28, 085702.	2.5	30
47	Optimal model-free prediction from multivariate time series. Physical Review E, 2015, 91, 052909.	2.1	29
48	Common solar wind drivers behind magnetic stormâ€“magnetospheric substorm dependency. Scientific Reports, 2018, 8, 16987.	3.3	29
49	Tropical and mid-latitude teleconnections interacting with the Indian summer monsoon rainfall: a theory-guided causal effect network approach. Earth System Dynamics, 2020, 11, 17-34.	7.1	29
50	Ordinal partition transition network based complexity measures for inferring coupling direction and delay from time series. Chaos, 2019, 29, 043111.	2.5	26
51	Power-laws in recurrence networks from dynamical systems. Europhysics Letters, 2012, 98, 48001.	2.0	24
52	Geometric signature of complex synchronisation scenarios. Europhysics Letters, 2013, 102, 30007.	2.0	24
53	Phase coherence and attractor geometry of chaotic electrochemical oscillators. Chaos, 2012, 22, 033130.	2.5	23
54	Recurrenceâ€Based Quantification of Dynamical Complexity in the Earth's Magnetosphere at Geospace Storm Timescales. Journal of Geophysical Research: Space Physics, 2019, 124, 90-108.	2.4	23

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55	Zealotry effects on opinion dynamics in the adaptive voter model. Physical Review E, 2017, 96, 052315.	2.1	22
56	Long-Lead Statistical Forecasts of the Indian Summer Monsoon Rainfall Based on Causal Precursors. Weather and Forecasting, 2019, 34, 1377-1394.	1.4	22
57	Analysis of complex networks associated to seismic clusters near the Itoiz reservoir dam. European Physical Journal: Special Topics, 2009, 174, 181-195.	2.6	21
58	Indications for a North Atlantic ocean circulation regime shift at the onset of the Little Ice Age. Climate Dynamics, 2015, 45, 3623-3633.	3.8	21
59	Disentangling the multi-scale effects of sea-surface temperatures on global precipitation: A coupled networks approach. Chaos, 2019, 29, 063116.	2.5	21
60	Event synchrony measures for functional climate network analysis: A case study on South American rainfall dynamics. Chaos, 2020, 30, 033102.	2.5	21
61	Dominant patterns of interaction between the tropics and mid-latitudes in boreal summer: causal relationships and the role of timescales. Weather and Climate Dynamics, 2020, 1, 519-539.	3.5	21
62	Temporal correlation patterns in pre-seismic electromagnetic emissions reveal distinct complexity profiles prior to major earthquakes. Physics and Chemistry of the Earth, 2015, 85-86, 44-55.	2.9	19
63	Regional and inter-regional effects in evolving climate networks. Nonlinear Processes in Geophysics, 2014, 21, 451-462.	1.3	18
64	Hierarchical structures in Northern Hemispheric extratropical winter oceanâ€“atmosphere interactions. International Journal of Climatology, 2017, 37, 3821-3836.	3.5	18
65	Schumann resonance and cardiovascular hospital admission in the area of Granada, Spain: An event coincidence analysis approach. Science of the Total Environment, 2020, 705, 135813.	8.0	18
66	An early-warning indicator for Amazon droughts exclusively based on tropical Atlantic sea surface temperatures. Environmental Research Letters, 2020, 15, 094087.	5.2	18
67	Complex Network Techniques for Climatological Data Analysis. , 2016, , 159-183.		16
68	Spatio-temporal organization of dynamics in a two-dimensional periodically driven vortex flow: A Lagrangian flow network perspective. Chaos, 2017, 27, 035806.	2.5	16
69	Reconstructing Late Holocene North Atlantic atmospheric circulation changes using functional paleoclimate networks. Climate of the Past, 2017, 13, 1593-1608.	3.4	16
70	Characterisation of long-term climate change by dimension estimates of multivariate palaeoclimatic proxy data. Nonlinear Processes in Geophysics, 2006, 13, 485-497.	1.3	15
71	Disentangling regular and chaotic motion in the standard map using complex network analysis of recurrences in phase space. Chaos, 2016, 26, 023120.	2.5	15
72	Bilateral Trade Agreements and the Interconnectedness of Global Trade. Frontiers in Physics, 2018, 6, .	2.1	15

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73	Temporal organization of magnetospheric fluctuations unveiled by recurrence patterns in the Dst index. Chaos, 2018, 28, 085716.	2.5	14
74	Intrinsic vs. spurious long-range memory in high-frequency records of environmental radioactivity. European Physical Journal: Special Topics, 2015, 224, 741-762.	2.6	13
75	Analyzing long-term correlated stochastic processes by means of recurrence networks: Potentials and pitfalls. Physical Review E, 2015, 91, 022926.	2.1	13
76	Multivariate analysis of spatially heterogeneous phase synchronisation in complex systems: application to self-organised control of material flows in networks. European Physical Journal B, 2008, 63, 349-361.	1.5	12
77	Geometric and dynamic perspectives on phase-coherent and noncoherent chaos. Chaos, 2012, 22, 013115.	2.5	12
78	Changes in extreme sea-levels in the Baltic Sea. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 20921.	1.7	12
79	Introduction to Focus Issue: Complex network perspectives on flow systems. Chaos, 2017, 27, 035601.	2.5	12
80	Motif formation and industry specific topologies in the Japanese business firm network. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 053404.	2.3	12
81	Recovery time after localized perturbations in complex dynamical networks. New Journal of Physics, 2017, 19, 103004.	2.9	12
82	Effects of the Lake Sobradinho Reservoir (Northeastern Brazil) on the Regional Climate. Climate, 2017, 5, 50.	2.8	12
83	Spatiotemporal patterns of synchronous heavy rainfall events in East Asia during the Baiu season. Earth System Dynamics, 2021, 12, 295-312.	7.1	12
84	Characterizing dynamical transitions by statistical complexity measures based on ordinal pattern transition networks. Chaos, 2021, 31, 033127.	2.5	12
85	Edge directionality properties in complex spherical networks. Physical Review E, 2019, 99, 012301.	2.1	11
86	Disentangling nonlinear geomagnetic variability during magnetic storms and quiescence by timescale dependent recurrence properties. Journal of Space Weather and Space Climate, 2020, 10, 25.	3.3	11
87	Multiscale measures of phase-space trajectories. Chaos, 2020, 30, 123116.	2.5	10
88	Differential Imprints of Distinct ENSO Flavors in Global Patterns of Very Low and High Seasonal Precipitation. Frontiers in Climate, 2021, 3, .	2.8	10
89	Nonlinear time series analysis of palaeoclimate proxy records. Quaternary Science Reviews, 2021, 274, 107245.	3.0	10
90	Long-term changes in the seasonality of Baltic sea level. Tellus, Series A: Dynamic Meteorology and Oceanography, 2016, 68, 30540.	1.7	9

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91	Rewiring hierarchical scale-free networks: Influence on synchronizability and topology. Europhysics Letters, 2017, 119, 30002.	2.0	9
92	Network inference from the timing of events in coupled dynamical systems. Chaos, 2019, 29, 083125.	2.5	9
93	A Rigorous Statistical Assessment of Recent Trends in Intensity of Heavy Precipitation Over Germany. Frontiers in Environmental Science, 2019, 7, .	3.3	9
94	Disentangling synchrony from serial dependency in paired-event time series. Physical Review E, 2020, 101, 052213.	2.1	9
95	Glossary on atmospheric electricity and its effects on biology. International Journal of Biometeorology, 2021, 65, 5-29.	3.0	9
96	Complex Network Analysis of Recurrences. Understanding Complex Systems, 2015, , 101-163.	0.6	8
97	Edge anisotropy and the geometric perspective on flow networks. Chaos, 2017, 27, 035802.	2.5	8
98	Characterizing Flows by Complex Network Methods. Advances in Dynamics, Patterns, Cognition, 2019, , 197-226.	0.3	8
99	Correlating paleoclimate time series: Sources of uncertainty and potential pitfalls. Quaternary Science Reviews, 2019, 212, 69-79.	3.0	8
100	Causal coupling inference from multivariate time series based on ordinal partition transition networks. Nonlinear Dynamics, 2021, 105, 555-578.	5.2	8
101	Multiscale fractal dimension analysis of a reduced order model of coupled oceanâ€“atmosphere dynamics. Earth System Dynamics, 2021, 12, 837-855.	7.1	8
102	Phase Coherence Analysis of Decadal-Scale Sunspot Activity on Both Solar Hemispheres. Lecture Notes in Earth Sciences, 2008, , 355-385.	0.5	8
103	TEMPORARY DIMENSIONS OF MULTIVARIATE DATA FROM PALEOCLIMATE RECORDS â€" A NOVEL MEASURE FOR DYNAMIC CHARACTERIZATION OF LONG-TERM CLIMATE CHANGE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 3685-3689.	1.7	7
104	Meridionally Extending Anomalous Wave Train over Asia During Breaks in the Indian Summer Monsoon. Earth Systems and Environment, 2019, 3, 353-366.	6.2	7
105	Regression-based distribution mapping for bias correction of climate model outputs using linear quantile regression. Stochastic Environmental Research and Risk Assessment, 2020, 34, 87-102.	4.0	7
106	Concurrent Effects between Geomagnetic Storms and Magnetospheric Substorms. Universe, 2022, 8, 226.	2.5	7
107	Low-dimensional dynamo modelling and symmetry-breaking bifurcations. Physica D: Nonlinear Phenomena, 2006, 223, 151-162.	2.8	6
108	Testing time series irreversibility using complex network methods. Europhysics Letters, 2013, 102, 29902.	2.0	6

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109	Evolving climate network perspectives on global surface air temperature effects of ENSO and strong volcanic eruptions. European Physical Journal: Special Topics, 2021, 230, 3075-3100.	2.6	6
110	The effect of time series distance functions on functional climate networks. European Physical Journal: Special Topics, 2021, 230, 2973-2998.	2.6	6
111	Complexity of Spatio-Temporal Correlations in Japanese Air Temperature Records. Lecture Notes in Earth Sciences, 2008, , 125-154.	0.5	6
112	Detecting dynamical anomalies in time series from different palaeoclimate proxy archives using windowed recurrence network analysis. Nonlinear Processes in Geophysics, 2020, 27, 261-275.	1.3	6
113	Linear and nonlinear characterization of surfaces from a laser beam melt ablation process. Journal Physics D: Applied Physics, 2006, 39, 1405-1412.	2.8	5
114	Dynamical anomalies in terrestrial proxies of North Atlantic climate variability during the last 2 ka. Climatic Change, 2017, 143, 87-100.	3.6	5
115	A perturbation-theoretic approach to Lagrangian flow networks. Chaos, 2017, 27, 035813.	2.5	5
116	Small-scale Induced Large-scale Transitions in Solar Wind Magnetic Field. Astrophysical Journal Letters, 2021, 914, L6.	8.3	5
117	Coupled network analysis revealing global monthly scale co-variability patterns between sea-surface temperatures and precipitation in dependence on the ENSO state. European Physical Journal: Special Topics, 0, , 1.	2.6	5
118	Generalization of Higuchiâ€™s fractal dimension for multifractal analysis of time series with limited length. Nonlinear Dynamics, 2022, 108, 417-431.	5.2	5
119	Potentials and limitations of RFID applications in packaging industry: a case study. International Journal of Manufacturing Technology and Management, 2010, 21, 225.	0.1	4
120	Correlation-based characterisation of time-varying dynamical complexity in the Earth's magnetosphere. Nonlinear Processes in Geophysics, 2013, 20, 965-975.	1.3	4
121	Distributions of positive correlations in sectoral value added growth in the global economic network*. European Physical Journal B, 2017, 90, 1.	1.5	4
122	Improved oneâ€•month leadâ€•time forecasting of the SPI over Russia with pressure covariates based on the SLâ€“AV model. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 2636-2649.	2.7	4
123	Spatial organization of connectivity in functional climate networks describing event synchrony of heavy precipitation. European Physical Journal: Special Topics, 2021, 230, 3045-3063.	2.6	4
124	Emergence of Synchronization in Transportation Networks with Biologically Inspired Decentralized Control. Studies in Computational Intelligence, 2009, , 237-275.	0.9	4
125	Dynamics of Supply Chains Under Mixed Production Strategies. Mathematics in Industry, 2010, , 527-533.	0.3	4
126	An Approach to a Process Model of Laser Beam Melt Ablation Using Methods of Linear and Nonlinear Data Analysis. , 2005, , 453-468.		3

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127	Areawise significance tests for windowed recurrence network analysis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20190161.	2.1	3
128	Complexity Concepts and Non-Integer Dimensions in Climate and Paleoclimate Research. , 2012, , .		2
129	Spatial Correlations of River Runoffs in a Catchment. , 2011, , 286-313.		2
130	Nonlinear time series analysis by means of complex networks. Scientia Sinica: Physica, Mechanica Et Astronomica, 2020, 50, 010509.	0.4	2
131	Partial event coincidence analysis for distinguishing direct and indirect coupling in functional network construction. Chaos, 2022, 32, 063134.	2.5	2
132	HIERARCHICAL MODELING OF A FORCED ROBERTS DYNAMO. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 3589-3593.	1.7	1
133	Editorial: Advanced Time Series Analysis in Geosciences. Frontiers in Earth Science, 2021, 9, .	1.8	1
134	A climate network perspective on the intertropical convergence zone. Earth System Dynamics, 2021, 12, 353-366.	7.1	1
135	Understanding and modeling space-time Holocene climate variability. Past Global Change Magazine, 2018, 26, 38-38.	0.1	1
136	Mechanisms of Instability in Small-Scale Manufacturing Networks. , 2008, , 161-168.		1
137	A Pedestrian Dynamics Based Approach to Autonomous Movement Control of Automatic Guided Vehicles. Lecture Notes in Production Engineering, 2013, , 175-187.	0.4	0
138	Publisher's Note: Disentangling different types of El NiÃ±o episodes by evolving climate network analysis [Phys. Rev. E88, 052807 (2013)]. Physical Review E, 2014, 89, .	2.1	0
139	Advances in Time Series Analysis and Its Applications. Mathematical Problems in Engineering, 2016, 2016, 1-1.	1.1	0
140	Characteristic signatures of Northern Hemisphere blocking events in a Lagrangian flow network representation of the atmospheric circulation. Chaos, 2021, 31, 093128.	2.5	0
141	Atmospheric Teleconnections: Advanced Tools and Citizen Science. Eos, 2018, 99, .	0.1	0