Henry Abarbanel

List of Publications by Year
in descending order

45 papers	4,194 citations	430442 18 h-index	301761 39 g-index
48 all docs	48 docs citations	48 times ranked	2520 citing authors

#	Article	IF	Citations
1	Integrating Recurrent Neural Networks With Data Assimilation for Scalable Data‐Driven State Estimation. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	21
2	Reduced-Dimension, Biophysical Neuron Models Constructed From Observed Data. Neural Computation, 2022, 34, 1545-1587.	1.3	3
3	A personal retrospective on the 60th anniversary of the journal biological cybernetics. Biological Cybernetics, 2021, 115, 205-206.	0.6	1
4	Robust forecasting using predictive generalized synchronization in reservoir computing. Chaos, 2021, 31, 123118.	1.0	15
5	Precision annealing Monte Carlo methods for statistical data assimilation and machine learning. Physical Review Research, 2020, 2, .	1.3	0
6	Machine Learning of Time Series Using Time-Delay Embedding and Precision Annealing. Neural Computation, 2019, 31, 2004-2024.	1.3	7
7	Response to â€œComment on â€˜A unifying view of synchronization for data assimilation in complex nonlinear networksâ€™â€•[Chaos 28, 028101 (2018)]. Chaos, 2018, 28, 028102.	1.0	0
8	Machine Learning: Deepest Learning as Statistical Data Assimilation Problems. Neural Computation, 2018, 30, 2025-2055.	1.3	53
9	A unifying view of synchronization for data assimilation in complex nonlinear networks. Chaos, 2017, 27, 126802.	1.0	14
10	Symplectic structure of statistical variational data assimilation. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 756-771.	1.0	5
11	Data assimilation of membrane dynamics and channel kinetics with a neuromorphic integrated circuit. , 2016, , .		4
12	Nonlinear statistical data assimilation for HVC $$_{\mathrm{RA}}$$ RA neurons in the avian song system. Biological Cybernetics, 2016, 110, 417-434.	0.6	20
13	Model of the songbird nucleus HVC as a network of central pattern generators. Journal of Neurophysiology, 2016, 116, 2405-2419.	0.9	12
14	Automatic Construction of Predictive Neuron Models through Large Scale Assimilation of Electrophysiological Data. Scientific Reports, 2016, 6, 32749.	1.6	36
15	Systematic variational method for statistical nonlinear state and parameter estimation. Physical Review E, 2015, 92, 052901.	0.8	27
16	Basin structure of optimization based state and parameter estimation. Chaos, 2015, 25, 053108.	1.0	2
17	Using waveform information in nonlinear data assimilation. Physical Review E, 2014, 90, 062916.	0.8	8
18	The Number of Required Observations in Data Assimilation for a Shallow-Water Flow. Monthly Weather Review, 2013, 141, 2502-2518.	0.5	18

#	ARTICLE	IF	CITATIONS
19	Dynamical estimation of neuron and network properties I: variational methods. Biological Cybernetics, 2011, 105, 217-237.	0.6	47
20	Data assimilation with regularized nonlinear instabilities. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 769-783.	1.0	13
21	Estimation of parameters in nonlinear systems using balanced synchronization. Physical Review E, 2008, 77, 016208.	0.8	51
22	Neural Circuitry for Recognizing Interspike Interval Sequences. Physical Review Letters, 2006, 96, 148104.	2.9	23
23	Mapping Neural Architectures Onto Acoustic Features of Birdsong. Journal of Neurophysiology, 2004, 92, 96-110.	0.9	17
24	Dynamical model of birdsong maintenance and control. Physical Review E, 2004, 70, 051911.	0.8	14
25	Spike timing and synaptic plasticity in the premotor pathway of birdsong. Biological Cybernetics, 2004, 91, 159-67.	0.6	12
26	Biophysical model of synaptic plasticity dynamics. Biological Cybernetics, 2003, 89, 214-226.	0.6	67
27	Dynamical model of long-term synaptic plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 10132-10137.	3.3	90
28	Recovery of hidden information through synaptic dynamics. Network: Computation in Neural Systems, 2002, 13, 487-501.	2.2	6
29	Modeling observed chaotic oscillations in bursting neurons: the role of calcium dynamics and IP 3. Biological Cybernetics, 2000, 82, 517-527.	0.6	77
30	Dynamic Control of Irregular Bursting in an Identified Neuron of an Oscillatory Circuit. Journal of Neurophysiology, 1999, 82, 115-122.	0.9	49
31	Computer simulations of stimulus dependent state switching in basic circuits of bursting neurons. Physical Review E, 1998, 58, 6418-6430.	0.8	13
32	Influence of noise on chaotic laser dynamics. Physical Review E, 1997, 55, 6483-6500.	0.8	17
33	Nonlinear dynamics of the Great Salt Lake: system identification and prediction. Climate Dynamics, 1996, 12, 287-297.	1.7	65
34	Generalized synchronization of chaos: The auxiliary system approach. Physical Review E, 1996, 53, 4528-4535.	0.8	563
35	Analysis of Observed Chaotic Data. Institute for Nonlinear Science, 1996, , .	0.2	1,041
36	Nonlinear dynamics of the Great Salt Lake: system identification and prediction. Climate Dynamics, 1996, 12, 287-297.	1.7	1

#	Article	IF	Citations
37	Generalized synchronization of chaos in directionally coupled chaotic systems. Physical Review E, 1995, 51, 980-994.	0.8	1,489
38	Nonlinearity and chaos at work. Nature, 1993, 364, 672-673.	13.7	3
39	Local Lyapunov exponents computed from observed data. Journal of Nonlinear Science, 1992, 2, 343-365.	1.0	138
40	LYAPUNOV EXPONENTS IN CHAOTIC SYSTEMS: THEIR IMPORTANCE AND THEIR EVALUATION USING OBSERVED DATA. International Journal of Modern Physics B, 1991, 05, 1347-1375.	1.0	137
41	Hamiltonian dynamics of coupled potential vorticity and internal wave motion: I. linear modes. Geophysical and Astrophysical Fluid Dynamics, 1991, 59, 91-111.	0.4	1
42	Hamiltonian description of almost geostrophic flow. Geophysical and Astrophysical Fluid Dynamics, 1985, 33, 145-171.	0.4	3
43	Nonlinear Analysis of Time Series Data. , 0, , 5-37.		3
44	Nonlinear Communication Strategies. , 0, , 349-368.		1
45	Recovery of hidden information through synaptic dynamics. , 0, .		3