Sergio Roberto Lopes

List of Publications by Year in Descending Order

131 papers	1,627 citations	20 h-index	33 g-index
140 ext. papers	1,826 ext. citations	3.5 avg, IF	4.67 L-index

#	Paper	IF	Citations
131	Efficient computation of recurrence quantification analysis via microstates. *Applied Mathematics and Computation*, **2022**, 428, 127175	2.7	
130	Maximum entropy in the dimensional transition of the magnetic domain wall dynamics. *Physica A: Statistical Mechanics and Its Applications*, **2021**, 568, 125730	3.3	1
129	The role of individual neuron ion conductances in the synchronization processes of neuron networks. *Neural Networks*, **2021**, 137, 97-105	9.1	4
128	Symbolic analysis of bursting dynamical regimes of Rulkov neural networks. *Neurocomputing*, **2021**, 441, 44-51	5.4	4
127	Discriminating chaotic and stochastic time series using permutation entropy and artificial neural networks. *Scientific Reports*, **2021**, 11, 15789	4.9	2
126	Bistability in the synchronization of identical neurons. *Physical Review E*, **2021**, 104, 024204	2.4	3
125	Evaluating Temporal Correlations in Time Series Using Permutation Entropy, Ordinal Probabilities and Machine Learning. *Entropy*, **2021**, 23,	2.8	1
124	Phase-locking intermittency induced by dynamical heterogeneity in networks of thermosensitive neurons. *Chaos*, **2021**, 31, 083121	3.3	0
123	Parameter-free quantification of stochastic and chaotic signals. *Chaos, Solitons and Fractals*, **2020**, 133, 109616	9.3	9
122	Synchronization malleability in neural networks under a distance-dependent coupling. *Physical Review Research*, **2020**, 2,	3.9	1
121	Ecology and signal structure drive the evolution of synchronous displays. *Evolution; International Journal of Organic Evolution*, **2020**, 74, 434-446	3.8	2
120	Maximum entropy principle in recurrence plot analysis on stochastic and chaotic systems. *Chaos*, **2020**, 30, 043123	3.3	5
119	Protocol for suppression of phase synchronization in Hodgkin Huxley-type networks. *Physica A: Statistical Mechanics and Its Applications*, **2019**, 528, 121388	3.3	1
118	Investigation of Details in the Transition to Synchronization in Complex Networks by Using Recurrence Analysis. *Mathematical and Computational Applications*, **2019**, 24, 42	1	
117	Suppression of Phase Synchronization in Scale-Free Neural Networks Using External Pulsed Current Protocols. *Mathematical and Computational Applications*, **2019**, 24, 46	1	1
116	Synchronization domains in two coupled neural networks. *Communications in Nonlinear Science and Numerical Simulation*, **2019**, 75, 140-151	3.7	11
115	Hippocampal and cortical communication around micro-arousals in slow-wave sleep. *Scientific Reports*, **2019**, 9, 5876	4.9	7

114	Temperature dependence of phase and spike synchronization of neural networks. *Chaos, Solitons and Fractals*, **2019**, 123, 35-42	9.3	10
113	Correlated Brownian motion and diffusion of defects in spatially extended chaotic systems. *Chaos*, **2019**, 29, 071104	3.3	2
112	Mechanism for explosive synchronization of neural networks. *Physical Review E*, **2019**, 100, 052301	2.4	10
111	Phase synchronization and intermittent behavior in healthy and Alzheimer-affected human-brain-based neural network. *Physical Review E*, **2019**, 99, 022402	2.4	9
110	Synchronous patterns and intermittency in a network induced by the rewiring of connections and coupling. *Chaos*, **2019**, 29, 123132	3.3	5
109	Optimizing the detection of nonstationary signals by using recurrence analysis. *Chaos*, **2018**, 28, 085703	3.3	15
108	Quantifying entropy using recurrence matrix microstates. *Chaos*, **2018**, 28, 083108	3.3	19
107	Suppression of anomalous synchronization and nonstationary behavior of neural network under small-world topology. *Physica A: Statistical Mechanics and Its Applications*, **2018**, 497, 126-138	3.3	14
106	Neuron dynamics variability and anomalous phase synchronization of neural networks. *Chaos*, **2018**, 28, 106304	3.3	20
105	Nonstationary transition to phase synchronization of neural networks induced by the coupling architecture. *Physica A: Statistical Mechanics and Its Applications*, **2018**, 507, 321-334	3.3	10
104	Characterization of intermittency at the onset of turbulence in the forced and damped nonlinear Schrödinger equation. *Communications in Nonlinear Science and Numerical Simulation*, **2017**, 42, 404-419	3.7	
103	Predictability of arousal in mouse slow wave sleep by accelerometer data. *PLoS ONE*, **2017**, 12, e0176761	3.7	12
102	Detection of nonstationary transition to synchronized states of a neural network using recurrence analyses. *Physical Review E*, **2017**, 96, 012320	2.4	17
101	Synchronization of biological clock cells with a coupling mediated by the local concentration of a diffusing substance. *Communications in Nonlinear Science and Numerical Simulation*, **2016**, 35, 37-52	3.7	10
100	Controlling ratchet transport via a finite kicked environment. *Physical Review E*, **2016**, 94, 062210	2.4	
99	Weak dissipative effects on trajectories from the edge of basins of attraction. *Physica A: Statistical Mechanics and Its Applications*, **2016**, 456, 68-74	3.3	9
98	Recurrence quantification analysis of chimera states. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2015**, 379, 2188-2192	2.3	23
97	Phase synchronization of coupled bursting neurons and the generalized Kuramoto model. *Neural Networks*, **2015**, 66, 107-18	9.1	40

96	Pattern formation and Turing instability in an activator-inhibitor system with power-law coupling. *Physica A: Statistical Mechanics and Its Applications*, **2015**, 419, 487-497	3.3	10
95	Mechanism for stickiness suppression during extreme events in Hamiltonian systems. *Physical Review E*, **2015**, 91, 062903	2.4	9
94	Mathematical model of brain tumour with glia-neuron interactions and chemotherapy treatment. *Journal of Theoretical Biology*, **2015**, 368, 113-21	2.3	15
93	Multidimensional aspects of nonlinear electromagnetic solitary pulses. *Physica A: Statistical Mechanics and Its Applications*, **2014**, 404, 332-340	3.3	2
92	Control of extreme events in the bubbling onset of wave turbulence. *Physical Review E*, **2014**, 89, 040901	2.4	12
91	Evidence of determinism for intermittent convective transport in turbulence processes. *Physica A: Statistical Mechanics and Its Applications*, **2014**, 402, 8-13	3.3	4
90	Characterization of spatial patterns produced by a Turing instability in coupled dynamical systems. *Communications in Nonlinear Science and Numerical Simulation*, **2014**, 19, 1055-1071	3.7	7
89	Dynamic range in small-world networks of Hodgkin-Huxley neurons with chemical synapses. *Physica A: Statistical Mechanics and Its Applications*, **2014**, 410, 628-640	3.3	11
88	Dynamical Effects in Confined Plasma Turbulence. *Brazilian Journal of Physics*, **2014**, 44, 903-913	1.2	
87	Spatial recurrence analysis: a sensitive and fast detection tool in digital mammography. *Chaos*, **2014**, 24, 013106	3.3	10
86	Synchronization of bursting Hodgkin-Huxley-type neurons in clustered networks. *Physical Review E*, **2014**, 90, 032818	2.4	36
85	Super persistent transient in a master-slave configuration with Colpitts oscillators. *Journal of Physics A: Mathematical and Theoretical*, **2014**, 47, 405101	2	3
84	Model for tumour growth with treatment by continuous and pulsed chemotherapy. *BioSystems*, **2014**, 116, 43-8	1.9	29
83	Dynamic range in a neuron network with electrical and chemical synapses. *Communications in Nonlinear Science and Numerical Simulation*, **2014**, 19, 164-172	3.7	14
82	Finite-time rotation number: A fast indicator for chaotic dynamical structures. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2013**, 377, 452-456	2.3	19
81	Control of bursting synchronization in networks of Hodgkin-Huxley-type neurons with chemical synapses. *Physical Review E*, **2013**, 87, 042713	2.4	29
80	Analysis of the influence of external biasing on Texas Helimak turbulence. *Physics of Plasmas*, **2013**, 20, 022310	2.1	12
79	The influence of connectivity on the firing rate in a neuronal network with electrical and chemical synapses. *Physica A: Statistical Mechanics and Its Applications*, **2012**, 391, 819-827	3.3	6

78	Self-organized criticality in MHD driven plasma edge turbulence. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2012**, 376, 753-757	2.3	7
77	Effective transport barriers in nontwist systems. *Physical Review E*, **2012**, 86, 036206	2.4	23
76	Anomalous transport induced by nonhyperbolicity. *Physical Review E*, **2012**, 86, 016216	2.4	7
75	Dynamical analysis of turbulence in fusion plasmas and nonlinear waves. *Communications in Nonlinear Science and Numerical Simulation*, **2012**, 17, 4690-4699	3.7	3
74	Bursting synchronization in networks with long-range coupling mediated by a diffusing chemical substance. *Communications in Nonlinear Science and Numerical Simulation*, **2012**, 17, 2924-2942	3.7	16
73	Shearless transport barriers in magnetically confined plasmas. *Plasma Physics and Controlled Fusion*, **2012**, 54, 124035	2	11
72	Phase synchronization of bursting neurons in clustered small-world networks. *Physical Review E*, **2012**, 86, 016211	2.4	62
71	Suppression of bursting synchronization in clustered scale-free (rich-club) neuronal networks. *Chaos*, **2012**, 22, 043149	3.3	45
70	SYNCHRONIZATION OF CHAOS AND THE TRANSITION TO WAVE TURBULENCE. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2012**, 22, 1250234	2	1
69	Transport barriers in plasmas. *Journal of Physics: Conference Series*, **2012**, 370, 012001	0.3	
68	Radial dependence of self-organized criticality behavior in TCABR tokamak. *Journal of Physics: Conference Series*, **2011**, 285, 012004	0.3	
67	On a cellular automaton with time delay for modelling cancer tumors. *Journal of Physics: Conference Series*, **2011**, 285, 012015	0.3	2
66	Blowout bifurcation and spatial mode excitation in the bubbling transition to turbulence. *Physica A: Statistical Mechanics and Its Applications*, **2011**, 390, 365-373	3.3	4
65	Parametric evolution of unstable dimension variability in coupled piecewise-linear chaotic maps. *Physical Review E*, **2011**, 83, 037201	2.4	3
64	Turing instability in oscillator chains with nonlocal coupling. *Physical Review E*, **2011**, 83, 046220	2.4	5
63	Two-state on-off intermittency caused by unstable dimension variability in periodically forced drift waves. *Physical Review E*, **2011**, 84, 056211	2.4	10
62	Two-state on-off intermittency and the onset of turbulence in a spatiotemporally chaotic system. *Physical Review Letters*, **2010**, 105, 055001	7.4	18
61	Extreme fractal structures in chaotic mechanical systems: riddled basins of attraction. *Journal of Physics: Conference Series*, **2010**, 246, 012001	0.3	4

60	Synchronization time in a hyperbolic dynamical system with long-range interactions. *Physica A: Statistical Mechanics and Its Applications*, **2010**, 389, 5279-5286	3.3	3
59	Delayed feedback control of bursting synchronization in a scale-free neuronal network. *Neural Networks*, **2010**, 23, 114-24	9.1	108
58	Intermittent Behavior and Synchronization of Two Coupled Noisy Driven Oscillators. *Mathematical Problems in Engineering*, **2009**, 2009, 1-13	1.1	2
57	Bicoherence in electrostatic turbulence driven by high magnetohydrodynamic activity in Tokamak Chauffage Alfvé Brésilien. *Physics of Plasmas*, **2009**, 16, 042508	2.1	13
56	Synchronization and suppression of chaos in non-locally coupled map lattices **2009**, 73, 999-1009		1
55	Clustering and diffusion in a symplectic map lattice with non-local coupling. *Chaos, Solitons and Fractals*, **2009**, 41, 2201-2215	9.3	5
54	Riddling and chaotic synchronization of coupled piecewise-linear Lorenz maps. *Physica A: Statistical Mechanics and Its Applications*, **2009**, 388, 2515-2525	3.3	5
53	Bubbling transition to spatial mode excitation in an extended dynamical system. *Physica D: Nonlinear Phenomena*, **2009**, 238, 516-525	3.3	6
52	Bursting synchronization in scale-free networks. *Chaos, Solitons and Fractals*, **2009**, 41, 2220-2225	9.3	39
51	Transport properties in nontwist area-preserving maps. *Chaos*, **2009**, 19, 043108	3.3	43
50	Using recurrences to characterize the hyperchaos-chaos transition. *Physical Review E*, **2008**, 78, 066206	2.4	17
49	Low-dimensional chaos and wave turbulence in plasmas. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2008**, 366, 609-20	3	3
48	Short-time memories in a network with randomly distributed connections. *Physical Review E*, **2008**, 78, 037102	2.4	
47	Periodic-orbit analysis and scaling laws of intermingled basins of attraction in an ecological dynamical system. *Physical Review E*, **2008**, 78, 056214	2.4	8
46	Crisis-induced unstable dimension variability in a dynamical system. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2008**, 372, 5569-5574	2.3	10
45	Collective behavior in coupled chaotic map lattices with random perturbations. *Physica A: Statistical Mechanics and Its Applications*, **2008**, 387, 1655-1668	3.3	6
44	Bursting synchronization in non-locally coupled maps. *Physica A: Statistical Mechanics and Its Applications*, **2008**, 387, 4417-4428	3.3	19
43	Synchronization regimes for two coupled noisy Liénard-type driven oscillators. *Chaos, Solitons and Fractals*, **2008**, 36, 901-910	9.3	6

42	Lyapunov spectrum of a lattice of chaotic systems with local and non-local couplings. *Chaos, Solitons and Fractals*, **2007**, 32, 702-710	9.3	6
41	Basins of attraction of nonlinear wave wave interactions. *Chaos, Solitons and Fractals*, **2007**, 32, 711-724	9.3	3
40	Direction coherence in scale-free lattices of chaotic maps. *Physica A: Statistical Mechanics and Its Applications*, **2007**, 383, 725-732	3.3	1
39	Onset of spatiotemporal chaos in a nonlinear system. *Physical Review E*, **2007**, 75, 067202	2.4	5
38	Transversal dynamics of a non-locally-coupled map lattice. *Physical Review E*, **2007**, 76, 017202	2.4	1
37	Periodic orbit analysis at the onset of the unstable dimension variability and at the blowout bifurcation. *Chaos*, **2007**, 17, 023131	3.3	13
36	Chaotic phase synchronization in scale-free networks of bursting neurons. *Physical Review E*, **2007**, 76, 016218	2.4	101
35	Turbulence Induced Transport in Tokamaks. *AIP Conference Proceedings*, **2006**,	0	2
34	Spatial recurrence plots. *Physical Review E*, **2006**, 73, 056207	2.4	35
33	Nonlinear three-mode interaction and drift-wave turbulence in a tokamak edge plasma. *Physics of Plasmas*, **2006**, 13, 042510	2.1	21
32	Chaos synchronization in a lattice of piecewise linear maps with regular and random couplings. *Physica A: Statistical Mechanics and Its Applications*, **2006**, 367, 145-157	3.3	10
31	Conversion of local transient chaos into global laminar states in coupled map lattices with long-range interactions. *Physica A: Statistical Mechanics and Its Applications*, **2006**, 367, 158-172	3.3	3
30	Self-organized memories in coupled map lattices. *Physica A: Statistical Mechanics and Its Applications*, **2006**, 368, 387-398	3.3	6
29	Bubbling bifurcation: Loss of synchronization and shadowing breakdown in complex systems. *Physica D: Nonlinear Phenomena*, **2005**, 206, 94-108	3.3	36
28	Finite-time Lyapunov spectrum for chaotic orbits of non-integrable Hamiltonian systems. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2005**, 335, 394-401	2.3	39
27	Short-term memories with a stochastic perturbation. *Chaos, Solitons and Fractals*, **2005**, 23, 1689-1694	9.3	2
26	The presence of an invariant manifold in the dissipative nonlinear four-wave coupling. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 343, 247-262	3.3	3
25	Rhythm synchronization and chaotic modulation of coupled Van der Pol oscillators in a model for the heartbeat. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 338, 335-355	3.3	54

24	Spatial correlations and synchronization in coupled map lattices with long-range interactions. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 343, 201-218	3.3	16
23	Multistability and phase-space structure of dissipative nonlinear parametric four-wave interactions. *Physical Review E*, **2004**, 70, 056403	2.4	7
22	The presence of an invariant manifold in the dissipative nonlinear four-wave coupling. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 343, 247-262	3.3	1
21	Langmuir Turbulence and Solar Radio Bursts. *Space Science Reviews*, **2003**, 107, 507-514	7.5	1
20	Boundary crises, fractal basin boundaries, and electric power collapses. *Chaos, Solitons and Fractals*, **2003**, 15, 417-424	9.3	9
19	Mode locking in small-world networks of coupled circle maps. *Physica A: Statistical Mechanics and Its Applications*, **2003**, 322, 118-128	3.3	17
18	Correlation decay and partial coherence in nonlinear wave interactions. *Physical Review E*, **2003**, 68, 056601	2.4	3
17	Validity of numerical trajectories in the synchronization transition of complex systems. *Physical Review E*, **2003**, 68, 067204	2.4	26
16	Langmuir Turbulence and Solar Radio Bursts **2003**, 507-514		1
15	Sudden transition to spatiotemporal chaos in a nonlinear Klein-Gordon equation. *Chaos, Solitons and Fractals*, **2002**, 13, 1269-1279	9.3	4
14	Collective behavior in a chain of van der Pol oscillators with power-law coupling. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 303, 339-356	3.3	31
13	Lyapunov spectrum and synchronization of piecewise linear map lattices with power-law coupling. *Physical Review E*, **2002**, 65, 056209	2.4	36
12	Chaotic dynamics of nonthermal planetary radio emissions. *Planetary and Space Science*, **2000**, 48, 9-21	2	10
11	Multiple short-term memories in coupled weakly nonlinear map lattices. *Physical Review E*, **2000**, 61, 5990-3	2.4	7
10	Nonlinear Dynamics and Chaos in Space Plasmas. *Progress of Theoretical Physics Supplement*, **2000**, 139, 34-45		3
9	Nonintegrable dynamics of the triplet-triplet spatiotemporal interaction. *Physical Review E*, **1999**, 60, 5375-84	2.4	15
8	Chaos and energy redistribution in the nonlinear interaction of two spatio-temporal wave triplets. *Physica D: Nonlinear Phenomena*, **1998**, 117, 13-25	3.3	4
7	Spherically symmetric stationary MHD equilibria with azimuthal rotation. *Plasma Physics and Controlled Fusion*, **1997**, 39, 197-203	2	9

List of Publications

6	Nonintegrable interaction of ion acoustic and electromagnetic waves in a plasma. *Physical Review E*, **1997**, 55, 3423-3430	2.4	2
5	COHERENT GENERATION OF NARROW-BAND CIRCULARLY POLARIZED RADIO BURSTS FROM THE SUN AND FLARE STARS. *Solar Physics*, **1997**, 173, 199-202	2.6	11
4	Transition to chaos in the conservative four-wave parametric interactions. *Physica D: Nonlinear Phenomena*, **1997**, 110, 277-288	3.3	16
3	Hamiltonian chaos in two coupled three-wave parametric interactions with quadratic nonlinearity. *Physica D: Nonlinear Phenomena*, **1996**, 99, 269-275	3.3	15
2	Controlling chaos in nonlinear three-wave coupling. *Physical Review E*, **1996**, 54, 170-174	2.4	19
1	Detection of data corruption in stationary time series using recurrence microstates probabilities. *European Physical Journal: Special Topics*,1	2.3	1