Rosa M Benito

List of Publications by Citations

141 papers	1,688 citations	21 h-index	33 g-index
149 ext. papers	1,823 ext. citations	3 avg, IF	4.71 L-index

#	Paper	IF	Citations
141	Kinetic Approach to the Photocurrent Transients in Water Photoelectrolysis at n - TiO2 Electrodes: II . Analysis of the Photocurrent-Time Dependence. *Journal of the Electrochemical Society*, **1990**, 137, 1810-1815	3.9	127
140	Measuring political polarization: Twitter shows the two sides of Venezuela. *Chaos*, **2015**, 25, 033114	3.3	79
139	Scars in groups of eigenstates in a classically chaotic system. *Physical Review Letters*, **1994**, 73, 1613-1616	7.4	76
138	Characterizing and modeling an electoral campaign in the context of Twitter: 2011 Spanish Presidential election as a case study. *Chaos*, **2012**, 22, 023138	3.3	57
137	Comparison of classical and quantum phase space structure of nonrigid molecules, LiCN. *Chemical Physics Letters*, **1989**, 161, 60-66	2.5	50
136	Scar Formation at the Edge of the Chaotic Region. *Physical Review Letters*, **1998**, 80, 944-947	7.4	43
135	Signatures of homoclinic motion in quantum chaos. *Physical Review Letters*, **2005**, 94, 054101	7.4	39
134	Users structure and behavior on an online social network during a political protest. *Physica A: Statistical Mechanics and Its Applications*, **2012**, 391, 5244-5253	3.3	37
133	Solvent-induced acceleration of the rate of activation of a molecular reaction. *Physical Review Letters*, **2008**, 101, 178302	7.4	37
132	Saddle-node bifurcations in the LiNC/LiCN molecular system: Classical aspects and quantum manifestations. *Journal of Chemical Physics*, **1996**, 105, 5068-5081	3.9	33
131	Transition state geometry of driven chemical reactions on time-dependent double-well potentials. *Physical Chemistry Chemical Physics*, **2016**, 18, 30270-30281	3.6	32
130	Local frequency analysis and the structure of classical phase space of the LiNC/LiCN molecular system. *Journal of Chemical Physics*, **1998**, 108, 63-71	3.9	30
129	An extended formalism for preferential attachment in heterogeneous complex networks. *Europhysics Letters*, **2008**, 82, 58004	1.6	30
128	Scarring by homoclinic and heteroclinic orbits. *Physical Review Letters*, **2006**, 97, 094101	7.4	29
127	Quantum manifestations of saddle-node bifurcations. *Chemical Physics Letters*, **1995**, 246, 421-426	2.5	29
126	A periodic orbit analysis of the vibrationally highly excited LiNC/LiCN: A comparison with quantum mechanics. *Journal of Chemical Physics*, **1996**, 104, 2921-2931	3.9	28
125	The anatomy of urban social networks and its implications in the searchability problem. *Scientific Reports*, **2015**, 5, 10265	4.9	25

124	Saddle point resonances in a bound system with classical chaos. *Chemical Physics Letters*, **1992**, 192, 430-436	2.5	24
123	Semiclassical quantization of fragmented tori: Application to saddle-node states of LiNC/LiCN. *Journal of Chemical Physics*, **1997**, 107, 7934-7942	3.9	22
122	Localization properties of groups of eigenstates in chaotic systems. *Physical Review E*, **2001**, 63, 066220	2.4	22
121	Soil porous system as heterogeneous complex network. *Geoderma*, **2010**, 160, 13-21	6.7	21
120	Multifractal analysis of tori destruction in a molecular Hamiltonian system. *Physical Review E*, **2002**, 65, 016213	2.4	21
119	Avoided crossings, scars, and transition to chaos. *Journal of Chemical Physics*, **1997**, 107, 2395-2406	3.9	20
118	Global patterns of synchronization in human communications. *Journal of the Royal Society Interface*, **2017**, 14,	4.1	19
117	Unveiling the chaotic structure in phase space of molecular systems using Lagrangian descriptors. *Physical Review E*, **2019**, 99, 032221	2.4	19
116	Reaction rate calculation with time-dependent invariant manifolds. *Journal of Chemical Physics*, **2012**, 136, 224510	3.9	18
115	Transition state theory for activated systems with driven anharmonic barriers. *Journal of Chemical Physics*, **2017**, 147, 074104	3.9	17
114	Scars at the edge of the transition from order to chaos in the isomerizing molecular systems LiNC-LiCN and HCN-HNC, and HO2. *Physical Review E*, **2010**, 82, 026201	2.4	17
113	Detailed study of the direct numerical observation of the Kramers turnover in the LiNC?LiCN isomerization rate. *Journal of Chemical Physics*, **2012**, 137, 204301	3.9	17
112	Multiscaling of porous soils as heterogeneous complex networks. *Nonlinear Processes in Geophysics*, **2008**, 15, 893-902	2.9	17
111	Distribution of zeros of the Husimi function in a realistic Hamiltonian molecular system. *Physical Review E*, **1996**, 54, 2458-2464	2.4	17
110	Multiple leaders on a multilayer social media. *Chaos, Solitons and Fractals*, **2015**, 72, 90-98	9.3	16
109	Robustness of heterogeneous complex networks. *Physica A: Statistical Mechanics and Its Applications*, **2009**, 388, 2234-2242	3.3	15
108	Renormalization of the rotational constants of an ammonia molecule seeded into a 4He droplet. *Chemical Physics Letters*, **2011**, 502, 14-22	2.5	15
107	Poincar□Birkhoff theorem in quantum mechanics. *Physical Review E*, **2011**, 84, 026206	2.4	15

106	The role of the CN vibration in the activated dynamics of LiNCLiCN isomerization in an argon solvent at high temperatures. *Journal of Chemical Physics*, **2014**, 141, 074312	3.9	14
105	Mapping the online communication patterns of political conversations. *Physica A: Statistical Mechanics and Its Applications*, **2014**, 414, 403-413	3.3	14
104	Communication: transition state theory for dissipative systems without a dividing surface. *Journal of Chemical Physics*, **2012**, 136, 091102	3.9	14
103	Diagonal matrix elements in a scar function basis set. *Europhysics Letters*, **2010**, 89, 40013	1.6	14
102	EMERGENCE OF MULTISCALING IN HETEROGENEOUS COMPLEX NETWORKS. *International Journal of Modern Physics C*, **2007**, 18, 1591-1607	1.1	14
101	Topology of the distribution of zeros of the Husimi function in the LiNC/LiCN molecular system. *Journal of Chemical Physics*, **2004**, 120, 6516-23	3.9	14
100	Solvated molecular dynamics of LiCN isomerization: All-atom argon solvent versus a generalized Langevin bath. *Journal of Chemical Physics*, **2016**, 144, 024104	3.9	14
99	Quantum localization through interference on homoclinic and heteroclinic circuits. *New Journal of Physics*, **2008**, 10, 053016	2.9	12
98	Vibrational dynamics of the floppy LiNC/LiCN molecular system. *Journal of Chemical Physics*, **2005**, 123, 044301	3.9	12
97	Using basis sets of scar functions. *Physical Review E*, **2013**, 87, 042921	2.4	11
96	Onset of quantum chaos in molecular systems and the zeros of the Husimi function. *Physical Review E*, **2013**, 87, 062901	2.4	11
95	Classical invariants and the quantization of chaotic systems. *Physical Review E*, **2004**, 70, 035202	2.4	11
94	Beyond the first recurrence in scar phenomena. *Physical Review E*, **2000**, 62, R7583-6	2.4	11
93	Transition from order to chaos in molecular wave functions and spectra. *Journal of Chemical Physics* , **1996**, 104, 6401-6404	3.9	11
92	Periodic-orbit spectroscopy of the hydrogen atom in parallel electric and magnetic fields. *Physical Review A*, **1994**, 49, 2734-2747	2.6	11
91	Maximum population transfer in a periodically driven quantum system. *Physical Review A*, **2014**, 90,	2.6	10
90	MODELING THE TOPOLOGY OF SDH NETWORKS. *International Journal of Modern Physics C*, **2008**, 19, 1809-1820	1.1	10
89	Frequency map analysis of the 3D vibrational dynamics of the LiCN/LiNC molecular system. *European Physical Journal: Special Topics*, **2008**, 165, 183-193	2.3	10

88	Homoclinic motions in the vibrational spectra of floppy systems: the LiCN molecule. *Journal of Chemical Physics*, **2005**, 122, 111101	3.9	10
87	Dynamics of hydrogen fluoride elimination from halogenated hydrocarbons. A classical trajectory study of CH3?CF3 decomposition. *Chemical Physics Letters*, **1984**, 109, 478-484	2.5	10
86	Scar Functions, Barriers for Chemical Reactivity, and Vibrational Basis Sets. *Journal of Physical Chemistry A*, **2016**, 120, 4928-38	2.8	10
85	Influence of external driving on decays in the geometry of the LiCN isomerization. *Journal of Chemical Physics*, **2020**, 153, 084115	3.9	9
84	Environmental stability of quantum chaotic ratchets. *Physical Review E*, **2011**, 83, 011103	2.4	9
83	Computationally efficient method to construct scar functions. *Physical Review E*, **2012**, 85, 026214	2.4	9
82	Frequency analysis of the molecular vibrations of HCP. *Journal of Chemical Physics*, **2008**, 129, 164316	3.9	9
81	Connectivity degrees in the threshold preferential attachment model. *Physica A: Statistical Mechanics and Its Applications*, **2008**, 387, 2365-2376	3.3	9
80	Dynamics of quantum trajectories in chaotic systems. *Europhysics Letters*, **2003**, 64, 441-447	1.6	9
79	Semiclassical basis sets for the computation of molecular vibrational states. *Journal of Chemical Physics*, **2017**, 146, 014107	3.9	8
78	Spatial and radiometric characterization of multi-spectrum satellite images through multi-fractal analysis. *Nonlinear Processes in Geophysics*, **2017**, 24, 141-155	2.9	8
77	Above Saddle-Point Regions of Order in a Sea of Chaos in the Vibrational Dynamics of KCN. *Journal of Physical Chemistry A*, **2018**, 122, 3433-3441	2.8	8
76	Theory of short periodic orbits for partially open quantum maps. *Physical Review E*, **2016**, 94, 012222	2.4	8
75	On the robustness of Spanish telecommunication networks. *Physica A: Statistical Mechanics and Its Applications*, **2010**, 389, 4209-4216	3.3	8
74	Field emission properties of fractal surfaces. *Physical Review B*, **2008**, 78,	3.3	8
73	Algebraic calculation of vibrational energy levels for polyatomic molecules XH3 and XH4: application to ammonia and silane. *Chemical Physics Letters*, **2001**, 344, 421-428	2.5	8
72	Quantum phase-space densities for a quartic oscillator. *International Journal of Quantum Chemistry*, **1994**, 51, 555-567	2.1	8
71	Transition state theory for solvated reactions beyond recrossing-free dividing surfaces. *Physical Review E*, **2016**, 93, 062304	2.4	7

70	Ab initio potential energy surface for the highly nonlinear dynamics of the KCN molecule. *Journal of Chemical Physics*, **2013**, 139, 194304	3.9	7
69	Compatibility as underlying mechanism behind the evolution of networks. *Physica A: Statistical Mechanics and Its Applications*, **2010**, 389, 1789-1798	3.3	7
68	Fragmentation fractal dimensions of Vertisol samples: influence of sieving time and soil pretreatment. *Geoderma*, **2002**, 109, 75-83	6.7	7
67	Structural properties of urban bus and subway networks of Madrid. *Networks and Heterogeneous Media*, **2012**, 7, 415-428	1.6	7
66	Quantifying soil complexity using network models of soil porous structure. *Nonlinear Processes in Geophysics*, **2013**, 20, 41-45	2.9	6
65	Superscars in the LiNC ? LiCN isomerization reaction. *Europhysics Letters*, **2009**, 88, 40003	1.6	6
64	Field emission properties of an array of pyramidal structures. *Journal Physics D: Applied Physics*, **2009**, 42, 195303	3	6
63	Zeros of the Husimi function and quantum numbers in the HCP molecule. *European Physical Journal D*, **2010**, 60, 279-286	1.3	6
62	Fluid-Fluid Phase Separation by Molecular Dynamics. *Physics and Chemistry of Liquids*, **1981**, 10, 303-314	1.5	6
61	Classical transients and the support of open quantum maps. *Physical Review E*, **2013**, 87, 012909	2.4	5
60	IMPROVED CLUSTERING THROUGH HETEROGENEITY IN PREFERENTIAL ATTACHMENT NETWORKS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2009**, 19, 1029-1036	2	5
59	Quantum manifestations of classical trajectories in molecular systems. *International Journal of Quantum Chemistry*, **2002**, 86, 175-181	2.1	5
58	The onset of chaos in the vibrational dynamics of LiNC/LiCN. *Journal of Chemical Physics*, **2005**, 123, 134305	3.9	5
57	Theoretical Methods for the Analysis of Spectra of Highly Vibrationally Excited Polyatomic Molecules. *Laser Chemistry*, **1992**, 12, 85-102		5
56	Characterizing ethnic interactions from human communication patterns in Ivory Coast. *Networks and Heterogeneous Media*, **2015**, 10, 87-99	1.6	5
55	Short-periodic-orbit method for excited chaotic eigenfunctions. *Physical Review E*, **2020**, 102, 042210	2.4	5
54	Frequency analysis of the laser driven nonlinear dynamics of HCN. *Journal of Chemical Physics*, **2016** , 145, 244309	3.9	5
53	Recurrent Patterns of User Behavior in Different Electoral Campaigns: A Twitter Analysis of the Spanish General Elections of 2015 and 2016. *Complexity*, **2018**, 2018, 1-15	1.6	5

52	Water phase transitions from the perspective of hydrogen-bond network analysis. *Physical Chemistry Chemical Physics*, **2018**, 20, 28308-28318	3.6	5
51	Shannon entropy at avoided crossings in the quantum transition from order to chaos. *Physical Review E*, **2019**, 99, 062209	2.4	4
50	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of Two Qubits: One Reports to One. *Sensors*, **2020**, 20,	3.8	4
49	Identifying reaction pathways in phase space via asymptotic trajectories. *Physical Chemistry Chemical Physics*, **2020**, 22, 10087-10105	3.6	4
48	Using the small alignment index chaos indicator to characterize the vibrational dynamics of a molecular system: LiNC-LiCN. *Physical Review E*, **2015**, 92, 042918	2.4	4
47	Effect of the local morphology in the field emission properties of conducting polymer surfaces. *Journal of Physics Condensed Matter*, **2013**, 25, 285106	1.8	4
46	Analysis of the Full Vibrational Dynamics of the LiNC/LiCN Molecular System. *Springer Proceedings in Mathematics and Statistics*, **2013**, 77-88	0.2	4
45	Chaos in the classical mechanics of bound and quasi-bound HX-4He complexes with X = F, Cl, Br, CN. *Physical Chemistry Chemical Physics*, **2009**, 11, 8203-13	3.6	4
44	Frequency map analysis and scars in molecular vibrations. *International Journal of Quantum Chemistry*, **2002**, 86, 167-174	2.1	4
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42	Finite-barrier corrections for multidimensional barriers in colored noise. *Physical Review E*, **2019**, 99, 052141	2.4	3
41	Geometrical analysis of the LiCN vibrational dynamics: a stability geometrical indicator. *Physical Review E*, **2014**, 89, 022901	2.4	3
40	Kernel nonlinearity in heterogeneous evolving networks. *European Physical Journal B*, **2010**, 76, 557-564	1.2	3
39	Scars in Molecular Vibrations and Spectra of LiCN. *Foundations of Physics*, **2001**, 31, 147-163	1.2	3
38	Contributions of parent molecule fixed and excess energies to product energy partitioning in four-center elimination reactions. *Chemical Physics Letters*, **1989**, 155, 391-398	2.5	3
37	The Vegetation-Climate System Complexity through Recurrence Analysis. *Entropy*, **2021**, 23,	2.8	3
36	Analyzing the usage of social media during spanish presidential electoral campaigns **2016**,		3
35	Quantum chaos in floppy molecular systems: The LiCN molecule **2006**, 115-128		3

34	Adapting physics courses in an engineering school to the b-learning philosophy. *European Journal of Engineering Education*, **2014**, 39, 496-506	1.5	2
33	An adaptive stochastic model for financial markets. *Chaos, Solitons and Fractals*, **2012**, 45, 899-908	9.3	2
32	TOPOLOGICAL ANALYSIS OF COMPLEX OPTICAL TRANSPORT NETWORKS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2010**, 20, 787-794	2	2
31	EVOLUTION OF HETEROGENEOUS NETWORKS UNDER PREFERENTIAL ATTACHMENT. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2010**, 20, 923-927	2	2
30	Complexity in Spanish optical fiber and SDH transport networks. *Computer Physics Communications*, **2009**, 180, 523-526	4.2	2
29	Information transfer dynamics in fixed-pathways networks. *Chaos*, **2011**, 21, 013126	3.3	2
28	DYNAMICAL DISORDER AND SELF-CORRELATION IN THE CHARACTERIZATION OF NONLINEAR SYSTEMS: APPLICATION TO DETERMINISTIC CHAOS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2011**, 21, 963-983	2	2
27	Community Structure in a Soil Porous System. *Soil Science*, **2012**, 177, 81-87	0.9	2
26	The Effect of the Complex Topology on the Robustness of Spanish SDH Network **2009**,		2
25	Serendipity in social networks. *Networks and Heterogeneous Media*, **2012**, 7, 363-371	1.6	2
24	Relationship between ideology and language in the Catalan independence context. *Scientific Reports*, **2019**, 9, 17148	4.9	2
23	Using correlation diagrams to study the vibrational spectrum of highly nonlinear floppy molecules: The K-CN case. *Physical Review E*, **2020**, 101, 062215	2.4	1
22	Effect of irregularities in the work function and field emission properties of metals. *Journal of Applied Physics*, **2010**, 108, 114512	2.5	1
21	On the topology of optical transport networks. *Journal of Physics: Conference Series*, **2010**, 246, 012013	0.3	1
20	The scar mechanism revisited. *European Physical Journal: Special Topics*, **2008**, 165, 93-101	2.3	1
19	Dynamically localized wave packets as a tool to study the dynamics of the LiNC?LiCN isomerization reaction. *Journal of Chemical Physics*, **2002**, 116, 10183-10196	3.9	1
18	Identification of the invariant manifolds of the LiCN molecule using Lagrangian descriptors. *Physical Review E*, **2021**, 104, 044210	2.4	1
17	Structural analysis and traffic flow in the transport networks of Madrid. *Networks and Heterogeneous Media*, **2015**, 10, 127-148	1.6	1

16	Dynamics and Spectroscopy of Highly Excited Molecules **1995**, 371-392		1
15	Impact of individual actions on the collective response of social systems. *Scientific Reports*, **2020**, 10, 12126	4.9	1
14	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of 3 Qubits: Two Report to One. *Entropy*, **2021**, 23,	2.8	1
13	Recurrence plots for quantifying the vegetation indices dynamics in a semi-arid grassland. *Geoderma*, **2022**, 406, 115488	6.7	1
12	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of 3 Qubits: One Reports to Two. *Entropy*, **2021**, 23,	2.8	0
11	Competition games between teams vying for common resources under consensus dynamics on networks. *Physica A: Statistical Mechanics and Its Applications*, **2019**, 534, 121874	3.3	
10	Scarring by short pieces of bifurcated periodic orbits. *Europhysics Letters*, **2011**, 93, 60005	1.6	
9	Local affinity in heterogeneous growing networks. *Physica A: Statistical Mechanics and Its Applications*, **2009**, 388, 2941-2948	3.3	
8	Different time scales in wave function intensity statistics. *Physical Review E*, **2003**, 67, 066212	2.4	
7	Irreversibility with quantum trajectories. *Physical Review E*, **2005**, 72, 046219	2.4	
6	PERIODIC ORBITS AND CHAOS IN THE CLASSICAL AND QUANTUM MECHANICS OF MOLECULAR SYSTEMS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **1999**, 09, 2285-2290	2	
5	Mean first-passage times for solvated LiCN isomerization at intermediate to high temperatures.. *Journal of Chemical Physics*, **2022**, 156, 034103	3.9	
4	Semi-Automatic Training Set Construction for Supervised Sentiment Analysis in Polarized Contexts. *Lecture Notes in Social Networks*, **2020**, 177-197	0.6	
3	Characterizing and Modeling Collective Behavior in Complex Events on Twitter. *Springer Proceedings in Complexity*, **2013**, 643-649	0.3	
2	Correspondence between classical and quantum resonances. *Physical Review E*, **2021**, 103, 062207	2.4	
1	A Multi-Scale Entropy Approach to Study Collapse and Anomalous Diffusion in Shared Mobility Systems. *Entropy*, **2022**, 24, 606	2.8	