

Rosa M Benito

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Mean first-passage times for solvated LiCN isomerization at intermediate to high temperatures.. <i>Journal of Chemical Physics</i> , 2022 , 156, 034103	3.9	
140	Recurrence plots for quantifying the vegetation indices dynamics in a semi-arid grassland. <i>Geoderma</i> , 2022 , 406, 115488	6.7	1
139	A Multi-Scale Entropy Approach to Study Collapse and Anomalous Diffusion in Shared Mobility Systems. <i>Entropy</i> , 2022 , 24, 606	2.8	
138	Identification of the invariant manifolds of the LiCN molecule using Lagrangian descriptors. <i>Physical Review E</i> , 2021 , 104, 044210	2.4	1
137	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of 3 Qubits: One Reports to Two. <i>Entropy</i> , 2021 , 23,	2.8	0
136	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of 3 Qubits: Two Report to One. <i>Entropy</i> , 2021 , 23,	2.8	1
135	The Vegetation-Climate System Complexity through Recurrence Analysis. <i>Entropy</i> , 2021 , 23,	2.8	3
134	Correspondence between classical and quantum resonances. <i>Physical Review E</i> , 2021 , 103, 062207	2.4	
133	Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of Two Qubits: One Reports to One. <i>Sensors</i> , 2020 , 20,	3.8	4
132	Influence of external driving on decays in the geometry of the LiCN isomerization. <i>Journal of Chemical Physics</i> , 2020 , 153, 084115	3.9	9
131	Using correlation diagrams to study the vibrational spectrum of highly nonlinear floppy molecules: The K-CN case. <i>Physical Review E</i> , 2020 , 101, 062215	2.4	1
130	Identifying reaction pathways in phase space via asymptotic trajectories. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 10087-10105	3.6	4
129	Semi-Automatic Training Set Construction for Supervised Sentiment Analysis in Polarized Contexts. <i>Lecture Notes in Social Networks</i> , 2020 , 177-197	0.6	
128	Impact of individual actions on the collective response of social systems. <i>Scientific Reports</i> , 2020 , 10, 12126	4.9	1
127	Short-periodic-orbit method for excited chaotic eigenfunctions. <i>Physical Review E</i> , 2020 , 102, 042210	2.4	5
126	Shannon entropy at avoided crossings in the quantum transition from order to chaos. <i>Physical Review E</i> , 2019 , 99, 062209	2.4	4
125	Finite-barrier corrections for multidimensional barriers in colored noise. <i>Physical Review E</i> , 2019 , 99, 052211	2.4	3

124	Unveiling the chaotic structure in phase space of molecular systems using Lagrangian descriptors. <i>Physical Review E</i> , 2019 , 99, 032221	2.4	19
123	Competition games between teams vying for common resources under consensus dynamics on networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2019 , 534, 121874	3.3	
122	Relationship between ideology and language in the Catalan independence context. <i>Scientific Reports</i> , 2019 , 9, 17148	4.9	2
121	Above Saddle-Point Regions of Order in a Sea of Chaos in the Vibrational Dynamics of KCN. <i>Journal of Physical Chemistry A</i> , 2018 , 122, 3433-3441	2.8	8
120	Recurrent Patterns of User Behavior in Different Electoral Campaigns: A Twitter Analysis of the Spanish General Elections of 2015 and 2016. <i>Complexity</i> , 2018 , 2018, 1-15	1.6	5
119	Water phase transitions from the perspective of hydrogen-bond network analysis. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 28308-28318	3.6	5
118	Global patterns of synchronization in human communications. <i>Journal of the Royal Society Interface</i> , 2017 , 14,	4.1	19
117	Semiclassical basis sets for the computation of molecular vibrational states. <i>Journal of Chemical Physics</i> , 2017 , 146, 014107	3.9	8
116	Spatial and radiometric characterization of multi-spectrum satellite images through multi-fractal analysis. <i>Nonlinear Processes in Geophysics</i> , 2017 , 24, 141-155	2.9	8
115	Transition state theory for activated systems with driven anharmonic barriers. <i>Journal of Chemical Physics</i> , 2017 , 147, 074104	3.9	17
114	Transition state theory for solvated reactions beyond recrossing-free dividing surfaces. <i>Physical Review E</i> , 2016 , 93, 062304	2.4	7
113	Theory of short periodic orbits for partially open quantum maps. <i>Physical Review E</i> , 2016 , 94, 012222	2.4	8
112	Transition state geometry of driven chemical reactions on time-dependent double-well potentials. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 30270-30281	3.6	32
111	Frequency analysis of the laser driven nonlinear dynamics of HCN. <i>Journal of Chemical Physics</i> , 2016 , 145, 244309	3.9	5
110	Agricultural activity shapes the communication and migration patterns in Senegal. <i>Chaos</i> , 2016 , 26, 065305	3.5	4
109	Analyzing the usage of social media during spanish presidential electoral campaigns 2016 ,		3
108	Solvated molecular dynamics of LiCN isomerization: All-atom argon solvent versus a generalized Langevin bath. <i>Journal of Chemical Physics</i> , 2016 , 144, 024104	3.9	14
107	Scar Functions, Barriers for Chemical Reactivity, and Vibrational Basis Sets. <i>Journal of Physical Chemistry A</i> , 2016 , 120, 4928-38	2.8	10

106	Multiple leaders on a multilayer social media. <i>Chaos, Solitons and Fractals</i> , 2015 , 72, 90-98	9.3	16
105	Using the small alignment index chaos indicator to characterize the vibrational dynamics of a molecular system: LiNC-LiCN. <i>Physical Review E</i> , 2015 , 92, 042918	2.4	4
104	The anatomy of urban social networks and its implications in the searchability problem. <i>Scientific Reports</i> , 2015 , 5, 10265	4.9	25
103	Measuring political polarization: Twitter shows the two sides of Venezuela. <i>Chaos</i> , 2015 , 25, 033114	3.3	79
102	Structural analysis and traffic flow in the transport networks of Madrid. <i>Networks and Heterogeneous Media</i> , 2015 , 10, 127-148	1.6	1
101	Characterizing ethnic interactions from human communication patterns in Ivory Coast. <i>Networks and Heterogeneous Media</i> , 2015 , 10, 87-99	1.6	5
100	The role of the CN vibration in the activated dynamics of LiNCLiCN isomerization in an argon solvent at high temperatures. <i>Journal of Chemical Physics</i> , 2014 , 141, 074312	3.9	14
99	Maximum population transfer in a periodically driven quantum system. <i>Physical Review A</i> , 2014 , 90,	2.6	10
98	Geometrical analysis of the LiCN vibrational dynamics: a stability geometrical indicator. <i>Physical Review E</i> , 2014 , 89, 022901	2.4	3
97	Mapping the online communication patterns of political conversations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014 , 414, 403-413	3.3	14
96	Adapting physics courses in an engineering school to the b-learning philosophy. <i>European Journal of Engineering Education</i> , 2014 , 39, 496-506	1.5	2
95	Using basis sets of scar functions. <i>Physical Review E</i> , 2013 , 87, 042921	2.4	11
94	Onset of quantum chaos in molecular systems and the zeros of the Husimi function. <i>Physical Review E</i> , 2013 , 87, 062901	2.4	11
93	Classical transients and the support of open quantum maps. <i>Physical Review E</i> , 2013 , 87, 012909	2.4	5
92	Effect of the local morphology in the field emission properties of conducting polymer surfaces. <i>Journal of Physics Condensed Matter</i> , 2013 , 25, 285106	1.8	4
91	Ab initio potential energy surface for the highly nonlinear dynamics of the KCN molecule. <i>Journal of Chemical Physics</i> , 2013 , 139, 194304	3.9	7
90	Analysis of the Full Vibrational Dynamics of the LiNC/LiCN Molecular System. <i>Springer Proceedings in Mathematics and Statistics</i> , 2013 , 77-88	0.2	4
89	Quantifying soil complexity using network models of soil porous structure. <i>Nonlinear Processes in Geophysics</i> , 2013 , 20, 41-45	2.9	6

88	Characterizing and Modeling Collective Behavior in Complex Events on Twitter. <i>Springer Proceedings in Complexity</i> , 2013 , 643-649	0.3	
87	Users structure and behavior on an online social network during a political protest. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012 , 391, 5244-5253	3.3	37
86	Reaction rate calculation with time-dependent invariant manifolds. <i>Journal of Chemical Physics</i> , 2012 , 136, 224510	3.9	18
85	Characterizing and modeling an electoral campaign in the context of Twitter: 2011 Spanish Presidential election as a case study. <i>Chaos</i> , 2012 , 22, 023138	3.3	57
84	An adaptive stochastic model for financial markets. <i>Chaos, Solitons and Fractals</i> , 2012 , 45, 899-908	9.3	2
83	Communication: transition state theory for dissipative systems without a dividing surface. <i>Journal of Chemical Physics</i> , 2012 , 136, 091102	3.9	14
82	Detailed study of the direct numerical observation of the Kramers turnover in the LiNC ⁺ /LiCN isomerization rate. <i>Journal of Chemical Physics</i> , 2012 , 137, 204301	3.9	17
81	Computationally efficient method to construct scar functions. <i>Physical Review E</i> , 2012 , 85, 026214	2.4	9
80	Community Structure in a Soil Porous System. <i>Soil Science</i> , 2012 , 177, 81-87	0.9	2
79	Serendipity in social networks. <i>Networks and Heterogeneous Media</i> , 2012 , 7, 363-371	1.6	2
78	Structural properties of urban bus and subway networks of Madrid. <i>Networks and Heterogeneous Media</i> , 2012 , 7, 415-428	1.6	7
77	Scarring by short pieces of bifurcated periodic orbits. <i>Europhysics Letters</i> , 2011 , 93, 60005	1.6	
76	Renormalization of the rotational constants of an ammonia molecule seeded into a 4He droplet. <i>Chemical Physics Letters</i> , 2011 , 502, 14-22	2.5	15
75	Environmental stability of quantum chaotic ratchets. <i>Physical Review E</i> , 2011 , 83, 011103	2.4	9
74	Information transfer dynamics in fixed-pathways networks. <i>Chaos</i> , 2011 , 21, 013126	3.3	2
73	Poincaré-Birkhoff theorem in quantum mechanics. <i>Physical Review E</i> , 2011 , 84, 026206	2.4	15
72	DYNAMICAL DISORDER AND SELF-CORRELATION IN THE CHARACTERIZATION OF NONLINEAR SYSTEMS: APPLICATION TO DETERMINISTIC CHAOS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2011 , 21, 963-983	2	2
71	Effect of irregularities in the work function and field emission properties of metals. <i>Journal of Applied Physics</i> , 2010 , 108, 114512	2.5	1

70	TOPOLOGICAL ANALYSIS OF COMPLEX OPTICAL TRANSPORT NETWORKS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2010 , 20, 787-794	2	2
69	EVOLUTION OF HETEROGENEOUS NETWORKS UNDER PREFERENTIAL ATTACHMENT. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2010 , 20, 923-927	2	2
68	Scars at the edge of the transition from order to chaos in the isomerizing molecular systems LiNC-LiCN and HCN-HNC, and HO ₂ . <i>Physical Review E</i> , 2010 , 82, 026201	2.4	17
67	Soil porous system as heterogeneous complex network. <i>Geoderma</i> , 2010 , 160, 13-21	6.7	21
66	On the topology of optical transport networks. <i>Journal of Physics: Conference Series</i> , 2010 , 246, 012013	0.3	1
65	Diagonal matrix elements in a scar function basis set. <i>Europhysics Letters</i> , 2010 , 89, 40013	1.6	14
64	Kernel nonlinearity in heterogeneous evolving networks. <i>European Physical Journal B</i> , 2010 , 76, 557-564	1.2	3
63	Zeros of the Husimi function and quantum numbers in the HCP molecule. <i>European Physical Journal D</i> , 2010 , 60, 279-286	1.3	6
62	On the robustness of Spanish telecommunication networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010 , 389, 4209-4216	3.3	8
61	Compatibility as underlying mechanism behind the evolution of networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010 , 389, 1789-1798	3.3	7
60	IMPROVED CLUSTERING THROUGH HETEROGENEITY IN PREFERENTIAL ATTACHMENT NETWORKS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2009 , 19, 1029-1036	2	5
59	Superscars in the LiNC ? LiCN isomerization reaction. <i>Europhysics Letters</i> , 2009 , 88, 40003	1.6	6
58	Field emission properties of an array of pyramidal structures. <i>Journal Physics D: Applied Physics</i> , 2009 , 42, 195303	3	6
57	Robustness of heterogeneous complex networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009 , 388, 2234-2242	3.3	15
56	Local affinity in heterogeneous growing networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009 , 388, 2941-2948	3.3	
55	Complexity in Spanish optical fiber and SDH transport networks. <i>Computer Physics Communications</i> , 2009 , 180, 523-526	4.2	2
54	The Effect of the Complex Topology on the Robustness of Spanish SDH Network 2009 ,		2
53	Chaos in the classical mechanics of bound and quasi-bound HX-4He complexes with X = F, Cl, Br, CN. <i>Physical Chemistry Chemical Physics</i> , 2009 , 11, 8203-13	3.6	4

52	MODELING THE TOPOLOGY OF SDH NETWORKS. <i>International Journal of Modern Physics C</i> , 2008 , 19, 1809-1820	1.1	10
51	Quantum localization through interference on homoclinic and heteroclinic circuits. <i>New Journal of Physics</i> , 2008 , 10, 053016	2.9	12
50	Frequency analysis of the molecular vibrations of HCP. <i>Journal of Chemical Physics</i> , 2008 , 129, 164316	3.9	9
49	An extended formalism for preferential attachment in heterogeneous complex networks. <i>Europhysics Letters</i> , 2008 , 82, 58004	1.6	30
48	Field emission properties of fractal surfaces. <i>Physical Review B</i> , 2008 , 78,	3.3	8
47	Solvent-induced acceleration of the rate of activation of a molecular reaction. <i>Physical Review Letters</i> , 2008 , 101, 178302	7.4	37
46	Multiscaling of porous soils as heterogeneous complex networks. <i>Nonlinear Processes in Geophysics</i> , 2008 , 15, 893-902	2.9	17
45	Connectivity degrees in the threshold preferential attachment model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2008 , 387, 2365-2376	3.3	9
44	The scar mechanism revisited. <i>European Physical Journal: Special Topics</i> , 2008 , 165, 93-101	2.3	1
43	Frequency map analysis of the 3D vibrational dynamics of the LiCN/LiNC molecular system. <i>European Physical Journal: Special Topics</i> , 2008 , 165, 183-193	2.3	10
42	EMERGENCE OF MULTISCALING IN HETEROGENEOUS COMPLEX NETWORKS. <i>International Journal of Modern Physics C</i> , 2007 , 18, 1591-1607	1.1	14
41	Scarring by homoclinic and heteroclinic orbits. <i>Physical Review Letters</i> , 2006 , 97, 094101	7.4	29
40	Quantum chaos in floppy molecular systems: The LiCN molecule 2006 , 115-128		3
39	The onset of chaos in the vibrational dynamics of LiNC/LiCN. <i>Journal of Chemical Physics</i> , 2005 , 123, 134305	3.9	5
38	Irreversibility with quantum trajectories. <i>Physical Review E</i> , 2005 , 72, 046219	2.4	
37	Signatures of homoclinic motion in quantum chaos. <i>Physical Review Letters</i> , 2005 , 94, 054101	7.4	39
36	Homoclinic motions in the vibrational spectra of floppy systems: the LiCN molecule. <i>Journal of Chemical Physics</i> , 2005 , 122, 111101	3.9	10
35	Vibrational dynamics of the floppy LiNC/LiCN molecular system. <i>Journal of Chemical Physics</i> , 2005 , 123, 044301	3.9	12

34	Topology of the distribution of zeros of the Husimi function in the LiNC/LiCN molecular system. <i>Journal of Chemical Physics</i> , 2004 , 120, 6516-23	3.9	14
33	Classical invariants and the quantization of chaotic systems. <i>Physical Review E</i> , 2004 , 70, 035202	2.4	11
32	Dynamics of quantum trajectories in chaotic systems. <i>Europhysics Letters</i> , 2003 , 64, 441-447	1.6	9
31	Different time scales in wave function intensity statistics. <i>Physical Review E</i> , 2003 , 67, 066212	2.4	
30	Frequency map analysis and scars in molecular vibrations. <i>International Journal of Quantum Chemistry</i> , 2002 , 86, 167-174	2.1	4
29	Quantum manifestations of classical trajectories in molecular systems. <i>International Journal of Quantum Chemistry</i> , 2002 , 86, 175-181	2.1	5
28	Multifractal analysis of tori destruction in a molecular Hamiltonian system. <i>Physical Review E</i> , 2002 , 65, 016213	2.4	21
27	Dynamically localized wave packets as a tool to study the dynamics of the LiNC?LiCN isomerization reaction. <i>Journal of Chemical Physics</i> , 2002 , 116, 10183-10196	3.9	1
26	Fragmentation fractal dimensions of Vertisol samples: influence of sieving time and soil pretreatment. <i>Geoderma</i> , 2002 , 109, 75-83	6.7	7
25	Scars in Molecular Vibrations and Spectra of LiCN. <i>Foundations of Physics</i> , 2001 , 31, 147-163	1.2	3
24	Algebraic calculation of vibrational energy levels for polyatomic molecules XH ₃ and XH ₄ : application to ammonia and silane. <i>Chemical Physics Letters</i> , 2001 , 344, 421-428	2.5	8
23	Localization properties of groups of eigenstates in chaotic systems. <i>Physical Review E</i> , 2001 , 63, 066220	2.4	22
22	Beyond the first recurrence in scar phenomena. <i>Physical Review E</i> , 2000 , 62, R7583-6	2.4	11
21	PERIODIC ORBITS AND CHAOS IN THE CLASSICAL AND QUANTUM MECHANICS OF MOLECULAR SYSTEMS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1999 , 09, 2285-2290	2	
20	Local frequency analysis and the structure of classical phase space of the LiNC/LiCN molecular system. <i>Journal of Chemical Physics</i> , 1998 , 108, 63-71	3.9	30
19	Scar Formation at the Edge of the Chaotic Region. <i>Physical Review Letters</i> , 1998 , 80, 944-947	7.4	43
18	Semiclassical quantization of fragmented tori: Application to saddle-node states of LiNC/LiCN. <i>Journal of Chemical Physics</i> , 1997 , 107, 7934-7942	3.9	22
17	Avoided crossings, scars, and transition to chaos. <i>Journal of Chemical Physics</i> , 1997 , 107, 2395-2406	3.9	20

16	A periodic orbit analysis of the vibrationally highly excited LiNC/LiCN: A comparison with quantum mechanics. <i>Journal of Chemical Physics</i> , 1996 , 104, 2921-2931	3.9	28
15	Transition from order to chaos in molecular wave functions and spectra. <i>Journal of Chemical Physics</i> , 1996 , 104, 6401-6404	3.9	11
14	Saddle-node bifurcations in the LiNC/LiCN molecular system: Classical aspects and quantum manifestations. <i>Journal of Chemical Physics</i> , 1996 , 105, 5068-5081	3.9	33
13	Distribution of zeros of the Husimi function in a realistic Hamiltonian molecular system. <i>Physical Review E</i> , 1996 , 54, 2458-2464	2.4	17
12	Quantum manifestations of saddle-node bifurcations. <i>Chemical Physics Letters</i> , 1995 , 246, 421-426	2.5	29
11	Dynamics and Spectroscopy of Highly Excited Molecules 1995 , 371-392		1
10	Periodic-orbit spectroscopy of the hydrogen atom in parallel electric and magnetic fields. <i>Physical Review A</i> , 1994 , 49, 2734-2747	2.6	11
9	Scars in groups of eigenstates in a classically chaotic system. <i>Physical Review Letters</i> , 1994 , 73, 1613-1616	4.4	76
8	Quantum phase-space densities for a quartic oscillator. <i>International Journal of Quantum Chemistry</i> , 1994 , 51, 555-567	2.1	8
7	Theoretical Methods for the Analysis of Spectra of Highly Vibrationally Excited Polyatomic Molecules. <i>Laser Chemistry</i> , 1992 , 12, 85-102		5
6	Saddle point resonances in a bound system with classical chaos. <i>Chemical Physics Letters</i> , 1992 , 192, 430-436	4.3	24
5	Kinetic Approach to the Photocurrent Transients in Water Photoelectrolysis at n - TiO ₂ Electrodes: II . Analysis of the Photocurrent-Time Dependence. <i>Journal of the Electrochemical Society</i> , 1990 , 137, 1810-1815	3.9	127
4	Contributions of parent molecule fixed and excess energies to product energy partitioning in four-center elimination reactions. <i>Chemical Physics Letters</i> , 1989 , 155, 391-398	2.5	3
3	Comparison of classical and quantum phase space structure of nonrigid molecules, LiCN. <i>Chemical Physics Letters</i> , 1989 , 161, 60-66	2.5	50
2	Dynamics of hydrogen fluoride elimination from halogenated hydrocarbons. A classical trajectory study of CH ₃ CF ₃ decomposition. <i>Chemical Physics Letters</i> , 1984 , 109, 478-484	2.5	10
1	Fluid-Fluid Phase Separation by Molecular Dynamics. <i>Physics and Chemistry of Liquids</i> , 1981 , 10, 303-314	1.5	6