J Miguel Rubi

List of Publications by Year
in descending order

153 papers	4,432 citations	126708 33 h-index	123241 61 g-index
157 all docs	157 docs citations	157 times ranked	2308 citing authors

#	Article	IF	Citations
1	Enhancing particle transport in deformable micro-channels. Journal of Chemical Physics, 2022, 156, 054118.	1.2	6
2	A Criterion for the Formation of Nonequilibrium Self-Assembled Structures. Journal of Physical Chemistry B, 2021, 125, 1838-1845.	1.2	9
3	Computational Model for Membrane Transporters. Potential Implications for Cancer. Frontiers in Cell and Developmental Biology, 2021, 9, 642665.	1.8	2
4	Extrasynaptic Communication. Frontiers in Molecular Neuroscience, 2021, 14, 638858.	1.4	4
5	Monte Carlo simulations in the unconstrained ensemble. Physical Review E, 2021, 103, L061303.	0.8	4
6	Antiresonant driven systems for particle manipulation. Physical Review E, 2021, 103, 062102.	0.8	7
7	Casimir forces between two carbon nanotubes. Physical Review B, 2021, 104, .	1.1	10
8	Enhancing carrier flux for efficient drug delivery in cancer tissues. Biophysical Journal, 2021, 120, 5255-5266.	0.2	4
9	Communication: Gibbs thermodynamics and surface properties at the nanoscale. Journal of Chemical Physics, 2021, 155, 221101.	1.2	6
10	Strong Coupling and Nonextensive Thermodynamics. Entropy, 2020, 22, 975.	1.1	6
11	Casimir forces exerted by epsilon-near-zero hyperbolic materials. Scientific Reports, 2020, 10, 16831.	1.6	3
12	Entropic transport in a crowded medium. Journal of Chemical Physics, 2020, 153, 034108.	1.2	6
13	Role of Interfacial Entropy in the Particle-Size Dependence of Thermophoretic Mobility. Physical Review Letters, 2020, 125, 045901.	2.9	2
14	Entropy Production beyond the Thermodynamic Limit from Single-Molecule Stretching Simulations. Journal of Physical Chemistry B, 2020, 124, 8909-8917.	1.2	7
15	A Legendreâ€“Fenchel Transform for Molecular Stretching Energies. Nanomaterials, 2020, 10, 2355.	1.9	5
16	Statistical Mechanics at Strong Coupling: A Bridge between Landsbergâ€™s Energy Levels and Hillâ€™s Nanothermodynamics. Nanomaterials, 2020, 10, 2471.	1.9	8
17	Modelling non-equilibrium self-assembly from dissipation. Molecular Physics, 2020, 118, e1761036.	0.8	0
18	Molecular fields and statistical field theory of fluids: Application to interface phenomena. Physical Review E, 2020, 101, 042135.	0.8	6

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19	Entropic diffusion in confined soft-matter and biological systems. Europhysics Letters, 2019, 127, 10001.	0.7	22
20	The Soret coefficient from the FaxÃ©n theorem for a particle moving in a fluid under a temperature gradient. European Physical Journal E, 2019, 42, 55.	0.7	3
21	Thermodynamic Efficiency of Somatic Exocytosis of Serotonin. Frontiers in Physiology, 2019, 10, 473.	1.3	2
22	Self-assembling outside equilibrium: emergence of structures mediated by dissipation. Physical Chemistry Chemical Physics, 2019, 21, 17475-17493.	1.3	30
23	Driving an electrolyte through a corrugated nanopore. Journal of Chemical Physics, 2019, 151, 084902.	1.2	15
24	Equilibrium and nonequilibrium thermodynamics of a photon gas in the near field. European Physical Journal: Special Topics, 2019, 227, 2059-2067.	1.2	0
25	The Role of Energy and Matter Dissipation in Determining the Architecture of Self-Assembled Structures. Journal of Physical Chemistry B, 2019, 123, 5902-5908.	1.2	13
26	Negative Thermophoretic Force in the Strong Coupling Regime. Physical Review Letters, 2019, 123, 200602.	2.9	11
27	Understanding Gelation as a Nonequilibrium Self-Assembly Process. Journal of Physical Chemistry B, 2018, 122, 4937-4945.	1.2	14
28	Prediction of Protein Configurational Entropy (Popcoen). Journal of Chemical Theory and Computation, 2018, 14, 1811-1819.	2.3	11
29	Nonequilibrium self-assembly induced Liesegang rings in a non-isothermal system. Physical Chemistry Chemical Physics, 2018, 20, 4699-4707.	1.3	13
30	Entropic Stabilization of Cas4 Protein SSO0001 Predicted with Popcoen. Entropy, 2018, 20, 580.	1.1	1
31	Entropy production and rectification efficiency in colloid transport along a pulsating channel. Journal of Physics Condensed Matter, 2018, 30, 244001.	0.7	5
32	Thermophoretic torque in colloidal particles with mass asymmetry. Physical Review E, 2018, 97, 052607.	0.8	14
33	Kinetics and energetics of chemical reactions through intermediate states. Physica A: Statistical Mechanics and Its Applications, 2018, 509, 86-96.	1.2	8
34	Multiscale Model for the Dielectric Permittivity. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2017, 72, 109-114.	0.7	3
35	Entropic rectification and current inversion in a pulsating channel. Journal of Chemical Physics, 2017, 146, .	1.2	14
36	Conditions for the generation of spin and charge currents in bulk spin Hall devices. Europhysics Letters, 2017, 118, 67005.	0.7	6

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37	Lateral-drag propulsion forces induced by anisotropy. Scientific Reports, 2017, 7, 6155.	1.6	12
38	Thermodynamics Far from the Thermodynamic Limit. Journal of Physical Chemistry B, 2017, 121, 10429-10434.	1.2	6
39	Entropy facilitated active transport. Journal of Chemical Physics, 2017, 146, .	1.2	14
40	Testing the mutual information expansion of entropy with multivariate Gaussian distributions. Journal of Chemical Physics, 2017, 147, 224102.	1.2	6
41	Nonequilibrium Phenomena in Confined Systems. Entropy, 2017, 19, 507.	1.1	4
42	Rectification and Non-Gaussian Diffusion in Heterogeneous Media. Entropy, 2016, 18, 394.	1.1	11
43	Non-equilibrium molecular dynamics simulations of the thermal transport properties of Lennard-Jones fluids using configurational temperatures. Molecular Simulation, 2016, 42, 1214-1222.	0.9	13
44	Finite Systems in a Heat Bath: Spectrum Perturbations and Thermodynamics. Journal of Physical Chemistry B, 2016, 120, 9180-9186.	1.2	9
45	Theory of Casimir Forces without the Proximity-Force Approximation. Physical Review Letters, 2016, 116, 110601.	2.9	9
46	Entropically induced asymmetric passage times of charged tracers across corrugated channels. Journal of Chemical Physics, 2016, 144, 034901.	1.2	28
47	Heat Engine Driven by Photon Tunneling in Many-Body Systems. Physical Review Applied, 2015, 4, .	1.5	34
48	Near-field thermodynamics and nanoscale energy harvesting. Physica Scripta, 2015, T165, 014026.	1.2	1
49	Anomalous law of cooling. Journal of Chemical Physics, 2015, 142, 104106.	1.2	6
50	Geometrically Tuned Channel Permeability. Macromolecular Symposia, 2015, 357, 178-188.	0.4	14
51	Vibrational Entropy of a Protein: Large Differences between Distinct Conformations. Journal of Chemical Theory and Computation, 2015, 11, 351-359.	2.3	27
52	Thermodynamics and energy conversion of near-field thermal radiation: Maximum work and efficiency bounds. EPJ Web of Conferences, 2014, 79, 01001.	0.1	1
53	Heat and work distributions for mixed Gaussâ€“Cauchy process. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P09002.	0.9	14
54	Near-field thermodynamics: Useful work, efficiency, and energy harvesting. Journal of Applied Physics, 2014, 115, 124307.	1.1	17

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55	Communication: System-size scaling of Boltzmann and alternate Gibbs entropies. Journal of Chemical Physics, 2014, 140, 201101.	1.2	36
56	Entropic Electrokinetics: Recirculation, Particle Separation, and Negative Mobility. Physical Review Letters, 2014, 113, 128301.	2.9	49
57	Some conceptual thoughts toward nanoscale oriented friction in a model of articular cartilage. Mathematical Biosciences, 2013, 244, 188-200.	0.9	28
58	Chemical Cycle Kinetics: Removing the Limitation of Linearity of a Non-equilibrium Thermodynamic Description. International Journal of Thermophysics, 2013, 34, 1214-1228.	1.0	14
59	Mesoscopic non-equilibrium thermodynamic analysis of molecular motors. Physical Chemistry Chemical Physics, 2013, 15, 19405.	1.3	8
60	Carbon-Nanotube-Based Motor Driven by a Thermal Gradient. Journal of Physical Chemistry C, 2013, 117, 3109-3113.	1.5	38
61	The Lost Work in Dissipative Self-Assembly. International Journal of Thermophysics, 2013, 34, 1229-1238.	1.0	16
62	Entropic transport in confined media: a challenge for computational studies in biological and soft-matter systems. Frontiers in Physics, 2013, 1, .	1.0	44
63	A Thermokinetic Approach to Radiative Heat Transfer at the Nanoscale. PLoS ONE, 2013, 8, e58770.	1.1	13
64	Thermomolecular Orientation of Nonpolar Fluids. Physical Review Letters, 2012, 108, 105901.	2.9	45
65	Mesoscopic thermodynamics. Physica Scripta, 2012, T151, 014027.	1.2	5
66	On the Thermodynamic Efficiency of Ca2+-ATPase Molecular Machines. Biophysical Journal, 2012, 103, 1218-1226.	0.2	16
67	Entropic Splitter for Particle Separation. Physical Review Letters, 2012, 108, 020604.	2.9	142
68	Controlling protein crystal growth rate by means of temperature. Journal of Physics Condensed Matter, 2011, 23, 235101.	0.7	14
69	Temperature at Small Scales: A Lower Limit for a Thermodynamic Description. Journal of Physical Chemistry B, 2011, 115, 1422-1428.	1.2	9
70	Optimal Resting-Growth Strategies of Microbial Populations in Fluctuating Environments. PLoS ONE, 2011, 6, e18622.	1.1	21
71	Heat transfer in proteinâ€“water interfaces. Physical Chemistry Chemical Physics, 2010, 12, 1610.	1.3	95
72	Non-equilibrium Stefanâ€“Boltzmann law. Journal of Non-Equilibrium Thermodynamics, 2010, 35, .	2.4	2

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73	Heat Exchange between Two Interacting Nanoparticles beyond the Fluctuation-Dissipation Regime. Physical Review Letters, 2009, 103, 048301.	2.9	32
74	Vieri Mastroprieto: Non-Perturbative Renormalization. Journal of Statistical Physics, 2009, 134, 793-794.	0.5	0
75	J. Zinn-Justin: Phase Transitions and Renormalization Group. Journal of Statistical Physics, 2009, 134, 795-796.	0.5	0
76	Entropic stochastic resonance: the constructive role of the unevenness. European Physical Journal B, 2009, 69, 11-18.	0.6	71
77	Thermal noise suppression: how much does it cost?. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 095005.	0.7	4
78	Double entropic stochastic resonance. Europhysics Letters, 2009, 87, 50003.	0.7	53
79	Entropic particle transport in periodic channels. BioSystems, 2008, 93, 16-22.	0.9	92
80	The Long Arm of the Second Law. Scientific American, 2008, 299, 62-67.	1.0	37
81	Heat transfer between nanoparticles: Thermal conductance for near-field interactions. Physical Review B, 2008, 77, .	1.1	55
82	Entropic Stochastic Resonance. Physical Review Letters, 2008, 101, 130602.	2.9	161
83	Khinchin Theorem and Anomalous Diffusion. Physical Review Letters, 2008, 101, 230602.	2.9	63
84	Energy Transduction in Biological Systems: A Mesoscopic Non-Equilibrium Thermodynamics Perspective. Journal of Non-Equilibrium Thermodynamics, 2007, 32, .	2.4	15
85	Biased diffusion in confined media: Test of the Fick-Jacobs approximation and validity criteria. Physical Review E, 2007, 75, 051111.	0.8	167
86	Thermokinetic Approach of Single Particles and Clusters Involving Anomalous Diffusion under Viscoelastic Response. Journal of Physical Chemistry B, 2007, 111, 2293-2298.	1.2	33
87	Unifying Thermodynamic and Kinetic Descriptions of Single-Molecule Processes:â€‰ RNA Unfolding under Tension. Journal of Physical Chemistry B, 2007, 111, 9598-9602.	1.2	19
88	Non-equilibrium thermodynamics of small-scale systems. Energy, 2007, 32, 297-300.	4.5	11
89	Stochastic population dynamics in turbulent fields. European Physical Journal: Special Topics, 2007, 146, 177-187.	1.2	7
90	Entropic Transport: Kinetics, Scaling, and Control Mechanisms. Physical Review Letters, 2006, 96, 130603.	2.9	281

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91	Thermodynamics for Single-Molecule Stretching Experiments. Journal of Physical Chemistry B, 2006, 110, 12733-12737.	1.2	29
92	Mesoscopic thermodynamics of stationary non-equilibrium states. New Journal of Physics, 2005, 7, 35-35.	1.2	13
93	Active transport: a kinetic description based on thermodynamic grounds. Journal of Theoretical Biology, 2005, 234, 7-12.	0.8	33
94	Inferring the in vivo looping properties of DNA. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 17642-17645.	3.3	54
95	Energy dissipation in slipping biological pumps. Physical Chemistry Chemical Physics, 2005, 7, 4009.	1.3	42
96	The Mesoscopic Dynamics of Thermodynamic Systems. Journal of Physical Chemistry B, 2005, 109, 21502-21515.	1.2	196
97	Slow dynamics and local quasi-equilibriumâ€"relaxation in supercooled colloidal systems. Journal of Physics Condensed Matter, 2004, 16, S2047-S2054.	0.7	14
98	Local quasi-equilibrium description of slow relaxation systems. Journal of Chemical Physics, 2004, 120, 2818-2823.	1.2	27
99	Mesoscopic Nonequilibrium Thermodynamics Gives the Same Thermodynamic Basis to Butlerâ^'Volmer and Nernst Equations. Journal of Physical Chemistry B, 2003, 107, 13471-13477.	1.2	72
100	Nonequilibrium translational effects in evaporation and condensation. Journal of Chemical Physics, 2003, 119, 9163-9170.	1.2	23
101	Interplay of frequency-synchronization with noise: Current resonances, giant diffusion and diffusion-crests. Europhysics Letters, 2002, 57, 644-650.	0.7	41
102	A mesoscopic approach to the slow dynamics of supercooled liquids and colloidal systems. Journal of Physics Condensed Matter, 2002, 14, 1651-1657.	0.7	13
103	Kinetic equations for diffusion in the presence of entropic barriers. Physical Review E, 2001, 64, 061106.	0.8	367
104	Thermodynamics "beyond" local equilibrium. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 11081-11084.	3.3	122
105	Noise Suppression by Noise. Physical Review Letters, 2001, 86, 950-953.	2.9	65
106	Breaking of scale invariance symmetry in adsorption processes. Europhysics Letters, 2000, 51, 327-333.	0.7	0
107	The rheology of field-responsive suspensions. Journal of Physics Condensed Matter, 2000, 12, A75-A84.	0.7	8
108	Suppression of non-Poissonian shot noise by Coulomb correlations in ballistic conductors. Physical Review B, 2000, 62, 8184-8191.	1.1	16

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109	Energy Transduction in Periodically Driven Non-Hermitian Systems. Physical Review Letters, 2000, 85, 3995-3998.	2.9	6
110	Controlling anomalous stresses in soft field-responsive systems. Physical Review E, 2000, 62, 5313-5317.	0.8	32
111	Self-consistent theory of shot noise in nondegenerate ballistic conductors. Physical Review B, 2000, 61, 5511-5529.	1.1	24
112	GonzÃ¡lezet al.Reply:. Physical Review Letters, 1999, 83, 1268-1268.	2.9	2
113	Noise and periodic modulations in neural excitable media. Physical Review E, 1999, 59, 5920-5927.	0.8	6
114	Adsorption kinetics in the presence of external fields. Physical Review E, 1999, 59, 4285-4297.	0.8	4
115	Long-Range-Interaction Induced Ordered Structures in Deposition Processes. Physical Review Letters, 1998, 80, 5373-5376.	2.9	14
116	Universality of the 1/3 Shot-Noise Suppression Factor in Nondegenerate Diffusive Conductors. Physical Review Letters, 1998, 80, 2901-2904.	2.9	59
117	Electron-number statistics and shot-noise suppression by Coulomb correlation in nondegenerate ballistic transport. Physical Review B, 1998, 57, 1366-1369.	1.1	30
118	Stochastic Resonance in Noisy Nondynamical Systems. Physical Review Letters, 1998, 81, 14-17.	2.9	44
119	Discretized integral hydrodynamics. Physical Review E, 1998, 58, 1843-1850.	0.8	5
120	Stochastic resonance in nonpotential systems. Physical Review E, 1998, 57, 4979-4985.	0.8	33
121	Noise suppression due to long-range Coulomb interaction: crossover between diffusive and ballistic transport regimes. Semiconductor Science and Technology, 1997, 12, 1053-1056.	1.0	11
122	Relation for the nonequilibrium population of the interface states: Effects on the bias dependence of the ideality factor. Journal of Applied Physics, 1997, 81, 2674-2681.	1.1	40
123	Stationary states and phase diagram for a model of the Gunn effect under realistic boundary conditions. Physical Review E, 1997, 56, 1490-1499.	0.8	5
124	Effect of the output of the system in signal detection. Physical Review E, 1997, 56, R32-R35.	0.8	4
125	Asymptotic analysis of the Gunn effect with realistic boundary conditions. Physical Review E, 1997, 56, 1500-1510.	0.8	19
126	Spatiotemporal Stochastic Resonance in the Swift-Hohenberg Equation. Physical Review Letters, 1997, 78, 2886-2889.	2.9	111

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127	Kinetics of particles adsorption processes driven by diffusion. Europhysics Letters, 1997, 40, 299-304.	0.7	26
128	Stochastic Multiresonance. Physical Review Letters, 1997, 78, 2882-2885.	2.9	130
129	Noise Suppression in Mesoscopic Structures Due to Long-Range Coulomb Interaction. Physica Status Solidi (B): Basic Research, 1997, 204, 450-452.	0.7	0
130	Divergent Signal-to-Noise Ratio and Stochastic Resonance in Monostable Systems. Physical Review Letters, 1996, 77, 2863-2866.	2.9	108
131	Influence of hydrodynamic interactions on the ballistic deposition of colloidal particles on solid surfaces. Journal of Chemical Physics, 1996, 105, 7815-7827.	1.2	23
132	Stochastic resonance in a dipole. Physical Review E, 1996, 54, 6929-6932.	0.8	11
133	Particle-cluster aggregation with dipolar interactions. Physical Review E, 1995, 51, 5994-6003.	0.8	48
134	Frequencyâ€dependent viscosity of a ferrofluid. Journal of Chemical Physics, 1995, 102, 3812-3819.	1.2	3
135	Adsorption of Colloidal Particles in the Presence of External Fields. Physical Review Letters, 1995, 75, 461-464.	2.9	21
136	Relaxation dynamics in suspensions of ferromagnetic particles. Physical Review E, 1995, 51, 2190-2198.	0.8	10
137	Stochastic resonance in a system of ferromagnetic particles. Physical Review E, 1995, 51, 4159-4164.	0.8	46
138	Influence of hydrodynamic interactions on the adsorption process of large particles. Physical Review Letters, 1994, 73, 114-117.	2.9	35
139	Long-range correlations in diffusive systems away from equilibrium. Physical Review E, 1994, 49, 267-272.	0.8	18
140	Dynamics of rodlike polymers in dilute solution. Macromolecules, 1993, 26, 2550-2561.	2.2	18
141	The viscosity tensor of a ferrofluid under flow. Journal of Chemical Physics, 1992, 96, 6950-6957.	1.2	13
142	Dynamics of polymers in solution: the role of time-dependent hydrodynamic interactions. Macromolecules, 1991, 24, 5997-6005.	2.2	16
143	Some aspects of the ?harmonic liquid? away from equilibrium. International Journal of Thermophysics, 1989, 10, 199-210.	1.0	0
144	Brownian motion in a fluid in elongational flow. Journal of Statistical Physics, 1988, 53, 125-136.	0.5	14

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145	Nonequilibrium thermodynamic fluctuations of black holes. Physical Review D, 1988, 37, 2052-2058.	1.6	32
146	Consistently averaged hydrodynamic interaction beyond the Oseen approximation for Rouseâ€“Zimmâ€“Bueche dumbbells in steady shear flow. Journal of Chemical Physics, 1988, 88, 1248-1252.	1.2	8
147	Hydrodynamic effects in polymer solutions. I. Friction coefficients in steady elongational flow. Journal of Chemical Physics, 1988, 88, 7964-7969.	1.2	6
148	Heat transfer in the coolant channel of a heat-exchanger system based on fluctuation theories. Physical Review A, 1988, 38, 4822-4831.	1.0	1
149	On some properties of the entropy of a system containing a black hole. General Relativity and Gravitation, 1986, 18, 1245-1250.	0.7	14
150	Hydrodynamic fluctuations in fluids under external gradients. Physical Review A, 1986, 33, 2716-2724.	1.0	15
151	Internal and external fluctuations around nonequilibrium steady states in one-dimensional heat-conduction problems. Physical Review A, 1986, 34, 462-467.	1.0	20
152	Kerr black hole thermodynamical fluctuations. General Relativity and Gravitation, 1985, 17, 387-396.	0.7	9
153	Variational solutions for the two-stream mixing of power-law fluids. Flow, Turbulence and Combustion, 1979, 35, 393-407.	0.2	0