Marc Joyeux

List of Publications by Year
in descending order

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86 papers	2,015 citations	236925 25 h-index	289244 40 g-index
88 all docs	88 docs citations	88 times ranked	1080 citing authors

#	Article	IF	Citations
1	HCP CPH ISOMERIZATION: Caught in the Act. Annual Review of Physical Chemistry, 1999, 50, 443-484.	10.8	117
2	Ultra-fast underwater suction traps. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 2909-2914.	2.6	95
3	Highly Excited Motion in Molecules:â€‰ Saddle-Node Bifurcations and Their Fingerprints in Vibrational Spectra. Journal of Physical Chemistry A, 2002, 106, 5407-5421.	2.5	82
4	Energy Localization in Molecules, Bifurcation Phenomena, and Their Spectroscopic Signatures: The Global View. Chemical Reviews, 2009, 109, 4248-4271.	47.7	72
5	Dynamical model based on finite stacking enthalpies for homogeneous and inhomogeneous DNA thermal denaturation. Physical Review E, 2005, 72, 051902.	2.1	69
6	CO2Molecule as a Quantum Realization of the1âˆ¶1âˆ¶2Resonant Swing-Spring with Monodromy. Physical Review Letters, 2004, 93, 024302.	7.8	64
7	Different mechanics of snap-trapping in the two closely related carnivorous plantsDionaea muscipulaandAldrovanda vesiculosa. Physical Review E, 2011, 84, 041928.	2.1	61
8	Semiclassical study of the isomerization states of HCP. Journal of Chemical Physics, 2000, 112, 4162-4172.	3.0	52
9	Intraâ€“inter polyad mixing and breaking of symmetricâ€“antisymmetric selection rule in the vibrational spectra of CS2 molecule. Journal of Chemical Physics, 1992, 96, 6495-6508.	3.0	48
10	van der Waals states in ozone and their influence on the threshold spectrum of O3(Xâ€Š1A1). I. Bound states. Journal of Chemical Physics, 2003, 119, 6512-6523.	3.0	48
11	Global bending quantum number and the absence of monodromy in theHCNâ†”CNHmolecule. Physical Review A, 2004, 69, .	2.5	47
12	Vibrational analysis of HOCl up to 98% of the dissociation energy with a Fermi resonance Hamiltonian. Journal of Chemical Physics, 1999, 111, 6807-6820.	3.0	45
13	Canonical perturbation theory for highly excited dynamics. Canadian Journal of Physics, 2002, 80, 1459-1480.	1.1	43
14	Spectroscopy, dynamics, and chaos of the CS2 molecule: Fourier transform and phaseâ€space analysis. Journal of Chemical Physics, 1991, 95, 8744-8752.	3.0	40
15	Gustavsonâ€™s procedure and the dynamics of highly excited vibrational states. Journal of Chemical Physics, 1998, 109, 2111-2122.	3.0	40
16	Description of nonspecific DNA-protein interaction and facilitated diffusion with a dynamical model. Journal of Chemical Physics, 2009, 130, 015103.	3.0	40
17	Pressure of a gas of underdamped active dumbbells. Physical Review E, 2016, 93, 032605.	2.1	38
18	Vibrational dynamics up to the dissociation threshold: A case study of two-dimensional HOCl. Journal of Chemical Physics, 2000, 113, 9610-9621.	3.0	36

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19	Compaction of bacterial genomic DNA: clarifying the concepts. Journal of Physics Condensed Matter, 2015, 27, 383001.	1.8	36
20	Optical measurements of methyl group tunneling in molecular crystals: Temperature dependence of the nuclear spin conversion rate. Journal of Chemical Physics, 1992, 96, 6335-6343.	3.0	33
21	Monodromy of the LiNC/NCLi molecule. Chemical Physics Letters, 2003, 382, 439-442.	2.6	32
22	Classical dynamics of the 1:1, 1:2 and 1:3 resonance Hamiltonians. Chemical Physics, 1996, 203, 281-307.	1.9	30
23	On the application of canonical perturbation theory to floppy molecules. Journal of Chemical Physics, 2000, 112, 31-39.	3.0	30
24	A Model of H-NS Mediated Compaction of Bacterial DNA. Biophysical Journal, 2013, 104, 1615-1622.	0.5	29
25	Comparison of Kinetic and Dynamical Models of DNAâ˜Protein Interaction and Facilitated Diffusion. Journal of Physical Chemistry A, 2010, 114, 9662-9672.	2.5	27
26	Dissociation energies of six NO2 isotopologues by laser induced fluorescence spectroscopy and zero point energy of some triatomic molecules. Journal of Chemical Physics, 2004, 121, 7153-7161.	3.0	26
27	Intramolecular Dynamics Along Isomerization and Dissociation Pathways. Advances in Chemical Physics, 2005, , 267-303.	0.3	25
28	Analysis of the highly excited vibrational dynamics of HCP using a high-order Fermi resonance Hamiltonian. Journal of Chemical Physics, 1998, 109, 8342-8354.	3.0	23
29	Statistical physics of the melting of inhomogeneous DNA. Physical Review E, 2008, 77, 031903.	2.1	23
30	In vivo compaction dynamics of bacterial DNA: A fingerprint of DNA/RNA demixing?. Current Opinion in Colloid and Interface Science, 2016, 26, 17-27.	7.4	23
31	Investigation of the vibrational dynamics of the HCN/CNH isomers through high order canonical perturbation theory. Journal of Chemical Physics, 2000, 113, 7165-7177.	3.0	22
32	An effective model for the Xâ€‰2A1â€“Aâ€‰2B2 conical intersection in NO2. Journal of Chemical Physics, 2003, 119, 5923-5932.	3.0	22
33	Dynamical model of DNA-protein interaction: Effect of protein charge distribution and mechanical properties. Journal of Chemical Physics, 2009, 131, .	3.0	22
34	Semiclassical quantization of the spectroscopist's Hamiltonian for coupled vibrational modes. Chemical Physics, 1994, 185, 263-279.	1.9	20
35	Towards more realistic dynamical models for DNA secondary structure. Chemical Physics Letters, 2006, 419, 434-438.	2.6	20
36	Mechanical model of the ultrafast underwater trap ofUtricularia. Physical Review E, 2011, 83, 021911.	2.1	20

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37	Quantum mechanical and quasiclassical investigations of the time domain nonadiabatic dynamics of NO2 close to the bottom of the XA12â€AB22 conical intersection. Journal of Chemical Physics, 2006, 125, 014304.	3.0	19
38	Vibrational study of 4-nitropyridine N-oxide. III-The charge-transfer phenomenon as observed in solution. Journal of Raman Spectroscopy, 1988, 19, 499-502.	2.5	18
39	Dynamical versus statistical mesoscopic models for DNA denaturation. Journal of Physics Condensed Matter, 2009, 21, 034101.	1.8	18
40	A segregative phase separation scenario of the formation of the bacterial nucleoid. Soft Matter, 2018, 14, 7368-7381.	2.7	18
41	The X2A1â€“A2B2 conical intersection in NO2: determination of the coupling parameter Î» from high-resolution experimental data. Chemical Physics, 2002, 283, 17-28.	1.9	17
42	1â^•ffluctuations of DNA temperature at thermal denaturation. Physical Review E, 2007, 75, 061914.	2.1	17
43	Measurement of very long (107 s) spin conversion times: dimethyl-s-tetrazine in durene. Chemical Physics, 1993, 178, 433-448.	1.9	16
44	Slow periodic oscillations in time domain dynamics of NO2. Journal of Chemical Physics, 2007, 126, 074301.	3.0	16
45	Theoretical investigation of finite size effects at DNA melting. Physical Review E, 2007, 76, 021917.	2.1	16
46	Raman study of a 4-nitropyridine N-oxide single crystal. 1-Lattice vibrations. Journal of Raman Spectroscopy, 1988, 19, 133-142.	2.5	14
47	Vibrational study of 3-methyl 4-nitropyridine N-oxide. Journal of Molecular Structure, 1991, 247, 363-372.	3.6	14
48	The vibrational spectrum of deuterated phosphaethyne: A quantum mechanical, classical, and semiclassical analysis. Journal of Chemical Physics, 2000, 112, 8855-8865.	3.0	14
49	The bound state spectrum of HOBr up to the dissociation limit: Evolution of saddle-node bifurcations. Journal of Chemical Physics, 2003, 118, 9643-9652.	3.0	14
50	Scaling laws at the phase transition of systems with divergent order parameter and/or internal length: The example of DNA denaturation. Physical Review E, 2006, 73, 051910.	2.1	14
51	Fractional Bidromy in the Vibrational Spectrum of HOCl. Physical Review Letters, 2010, 104, 113002.	7.8	14
52	Thermal and mechanical denaturation properties of a DNA model with three sites per nucleotide. Journal of Chemical Physics, 2011, 135, 085105.	3.0	14
53	Etude par spectroscopie vibrationnelle du compose 4-nitropyridine N-oxyde. II-vibrations internes. Journal of Raman Spectroscopy, 1988, 19, 441-451.	2.5	13
54	On resonance-type effective vibrational Hamiltonians for CO2 I. Theoretical background. Chemical Physics, 1997, 221, 269-286.	1.9	13

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55	On resonance-type effective vibrational Hamiltonians for CO2 II. Results. Chemical Physics, 1997, 221, 287-301.	1.9	13
56	Preferential Localization of the Bacterial Nucleoid. Microorganisms, 2019, 7, 204.	3.6	13
57	Role of Salt Valency in the Switch of H-NS Proteins between DNA-Bridging and DNA-Stiffening Modes. Biophysical Journal, 2018, 114, 2317-2325.	0.5	12
58	Bacterial Nucleoid: Interplay of DNA Demixing andÂSupercoiling. Biophysical Journal, 2020, 118, 2141-2150.	0.5	12
59	Application of Berry and Tabor's trace formula to the 2D Fermi resonance Hamiltonian. Chemical Physics Letters, 1995, 247, 454-464.	2.6	10
60	Semiclassical dynamics of the van der Waals states in O3(Xâ€Š1A1). Journal of Chemical Physics, 2004, 120, 7426-7437.	3.0	10
61	Equilibration of complexes of DNA and H-NS proteins on charged surfaces: A coarse-grained model point of view. Journal of Chemical Physics, 2014, 141, 115102.	3.0	10
62	Calculation of the vibrational force field for 4-nitropyridine N-oxide by the AM1 and MNDO semi-empirical methods. Spectrochimica Acta Part A: Molecular Spectroscopy, 1989, 45, 967-975.	0.1	9
63	The transition towards vibrational chaos in triatomic molecules. A numerical and analytical approach. Chemical Physics, 1992, 167, 299-314.	1.9	9
64	At the conjunction of biology, chemistry and physics: the fast movements ofDionaea, Aldrovanda, UtriculariaandStylidium. Frontiers in Life Science: Frontiers of Interdisciplinary Research in the Life Sciences, 2011, 5, 71-79.	1.1	9
65	Coarse-Grained Model of the Demixing of DNA and Non-Binding Globular Macromolecules. Journal of Physical Chemistry B, 2017, 121, 6351-6358.	2.6	9
66	Semiclassical Assignment of the Vibrational Levels of Molecules with Fermi Resonance: Application to CS2. Journal of Molecular Spectroscopy, 1996, 175, 262-266.	1.2	8
67	Free-Energy Landscape and Characteristic Forces for the Initiation of DNA Unzipping. Biophysical Journal, 2015, 108, 1727-1738.	0.5	8
68	Requirements for DNA-Bridging Proteins to Act as Topological Barriers of the Bacterial Genome. Biophysical Journal, 2020, 119, 1215-1225.	0.5	8
69	Semiclassical behavior at a quantum avoided crossing. Journal of Chemical Physics, 1995, 102, 2816-2824.	3.0	7
70	A new canonical perturbation procedure for studying nonadiabatic dynamics. Chemical Physics Letters, 2001, 337, 319-326.	2.6	7
71	A local diabatic representation of non-Bornâ€“Oppenheimer dynamics. Chemical Physics Letters, 2002, 352, 99-105.	2.6	7
72	Classical and quantum-mechanical plane switching in CO2. Journal of Chemical Physics, 2006, 124, 074318.	3.0	7

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73	Comment on â€œBubble Nucleation and Cooperativity in DNA Meltingâ€. Physical Review Letters, 2009, 102, 029601; author reply 29602.	7.8	7
74	Impact of Self-Association on the Architectural Properties of Bacterial Nucleoid Proteins. Biophysical Journal, 2021, 120, 370-378.	0.5	7
75	Canonical perturbation theory versus Bornâ€“Oppenheimer-type separation of motions: The vibrational dynamics of C3. Journal of Chemical Physics, 2003, 119, 8761-8762.	3.0	6
76	Classical dynamics of a non-integrable Hamiltonian near coupling-induced resonance islands. Journal of Physics A, 1996, 29, 5963-5977.	1.6	5
77	Mapping between the order of thermal denaturation and the shape of the critical line of mechanical unzipping in one-dimensional DNA models. Chemical Physics Letters, 2010, 484, 315-320.	2.6	5
78	Elastic models of the fast traps of carnivorousDionaeaandAldrovanda. Physical Review E, 2013, 88, 034701.	2.1	5
79	Numerical studies on the interactions between Fermi polyads: quantum and semiclassical chaos. Chemical Physics, 1992, 161, 11-17.	1.9	4
80	Vibrational chaos: rational tori, separatrices and lyapunov exponents. Chemical Physics, 1993, 174, 157-166.	1.9	4
81	Study of vibrational energy localization and redistribution in hydrogen peroxide H2O2 at low energy. Journal of Chemical Physics, 2005, 122, 074303.	3.0	4
82	On the application of canonical perturbation theory up to the dissociation threshold. Chemical Physics Letters, 2005, 412, 200-205.	2.6	3
83	Modeling of 2â€Ð DNA display. Electrophoresis, 2009, 30, 3649-3656.	2.4	2
84	Recovery of mechanical pressure in a gas of underdamped active dumbbells with Brownian noise. Physical Review E, 2017, 95, 052603.	2.1	2
85	Application of Berry and Tabor's trace formula to the 2D Fermi resonance Hamiltonian. Chemical Physics Letters, 1995, 247, 454-464.	2.6	1
86	On the Pseudo-SchrÃ¶dinger Equation Approximation of the Transfer-Integral Operator for 1-Dimensional DNA Models. Journal of Nonlinear Mathematical Physics, 2011, 18, 339.	1.3	0