Henri Orland

List of Publications by Year
in descending order

162 papers	7,058 citations	53751 45 h-index	62565 80 g-index
167 all docs	167 docs citations	167 times ranked	4511 citing authors

#	Article	IF	Citations
1	Steric Effects in Electrolytes: A Modified Poisson-Boltzmann Equation. Physical Review Letters, 1997, 79, 435-438.	2.9	818
2	Theory of critical micelle concentration for solutions of block copolymers. Journal of Chemical Physics, 1983, 79, 3550-3557.	1.2	362
3	Beyond Poisson-Boltzmann: Fluctuation effects and correlation functions. European Physical Journal E, 2000, 1, 203.	0.7	268
4	Adsorption of large ions from an electrolyte solution: a modified Poissonâ€“Boltzmann equation. Electrochimica Acta, 2000, 46, 221-229.	2.6	261
5	Dipolar Poisson-Boltzmann Equation: Ions and Dipoles Close to Charge Interfaces. Physical Review Letters, 2007, 99, 077801.	2.9	214
6	Dielectric Constant of Ionic Solutions: A Field-Theory Approach. Physical Review Letters, 2012, 108, 227801.	2.9	195
7	Mean-Field Model for Protein Folding. Europhysics Letters, 1988, 6, 307-310.	0.7	177
8	Dominant Pathways in Protein Folding. Physical Review Letters, 2006, 97, 108101.	2.9	143
9	Variational charge renormalization in charged systems. European Physical Journal E, 2003, 11, 301-311.	0.7	138
10	White and weighted averages over solutions of Thouless Anderson Palmer equations for the Sherrington Kirkpatrick spin glass. Journal De Physique, 1980, 41, 923-930.	1.8	121
11	Polyelectrolyte Titration:Â Theory and Experiment. Journal of Physical Chemistry B, 2000, 104, 11027-11034.	1.2	116
12	Thermal fluctuations in some random field models. Journal of Statistical Physics, 1988, 51, 1-27.	0.5	114
13	Scaling Laws of Polyelectrolyte Adsorption. Macromolecules, 1998, 31, 1665-1671.	2.2	113
14	Field theory for charged fluids and colloids. Europhysics Letters, 1999, 45, 726-732.	0.7	110
15	Localization Transition of Random Chains at Interfaces. Europhysics Letters, 1989, 8, 9-13.	0.7	107
16	Phase diagram of a semiflexible polymer chain in a Î¸ solvent: Application to protein folding. Journal of Chemical Physics, 1996, 105, 1601-1608.	1.2	103
17	Topological Classification of RNA Structures. Journal of Molecular Biology, 2008, 379, 900-911.	2.0	97
18	Effect of Polyelectrolyte Adsorption on Intercolloidal Forces. Journal of Physical Chemistry B, 1999, 103, 5042-5057.	1.2	91

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19	AquaSAXS: a web server for computation and fitting of SAXS profiles with non-uniformally hydrated atomic models. Nucleic Acids Research, 2011, 39, W184-W189.	6.5	91
20	Polyelectrolyte Solutions between Charged Surfaces. Europhysics Letters, 1995, 32, 499-504.	0.7	88
21	RNA folding and large N matrix theory. Nuclear Physics B, 2002, 620, 456-476.	0.9	84
22	Two-body collisions and time dependent Hartree-Fock theory. Zeitschrift FÃ¼r Physik A, 1979, 290, 191-204.	1.4	78
23	Wetting of a Disordered Substrate: Exact Critical Behavior in Two Dimensions. Physical Review Letters, 1986, 57, 2184-2187.	2.9	75
24	Path integrals for the nuclear many-body problem. Physical Review C, 1981, 24, 1740-1761.	1.1	74
25	Incorporating Dipolar Solvents with Variable Density in Poisson-Boltzmann Electrostatics. Biophysical Journal, 2008, 95, 5587-5605.	0.2	73
26	Dynamics of the swelling or collapse of a homopolymer. Europhysics Letters, 1998, 41, 467-472.	0.7	72
27	Chemical Sequence and Spatial Structure in Simple Models of Biopolymers. Europhysics Letters, 1988, 6, 597-601.	0.7	69
28	Variational theory for a single polyelectrolyte chain. European Physical Journal B, 1999, 8, 81-98.	0.6	69
29	Chiral discrimination in solutions and in Langmuir monolayers. Journal of the American Chemical Society, 1993, 115, 12322-12329.	6.6	68
30	An evaluation of the number of Hamiltonian paths. Journal De Physique (Paris), Lettres, 1985, 46, 353-357.	2.8	67
31	Quantitative Protein Dynamics from Dominant Folding Pathways. Physical Review Letters, 2007, 99, 118102.	2.9	67
32	Guided replication of random chain: a new Monte Carlo method. Journal of Physics A, 1990, 23, L621-L626.	1.6	66
33	Scaling behavior of polyelectrolytes and polyampholytes: Simulation by an ensemble growth method. Journal of Chemical Physics, 1991, 95, 4506-4518.	1.2	66
34	Mean-field theory for optimization problems. Journal De Physique (Paris), Lettres, 1985, 46, 763-770.	2.8	66
35	Magnetic phase structure on the Penrose lattice. Journal of Statistical Physics, 1986, 45, 777-800.	0.5	63
36	Knotted vs. Unknotted Proteins: Evidence of Knot-Promoting Loops. PLoS Computational Biology, 2010, 6, e1000864.	1.5	63

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37	PDB_Hydro: incorporating dipolar solvents with variable density in the Poisson-Boltzmann treatment of macromolecule electrostatics. Nucleic Acids Research, 2006, 34, W38-W42.	6.5	62
38	Effective Langevin equations for constrained stochastic processes. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P06039.	0.9	62
39	On the response of a two-level quantum system to a class of time-dependent quasiperiodic perturbations. Journal of Statistical Physics, 1988, 53, 551-564.	0.5	61
40	Beyond the Poisson-Boltzmann Model: Modeling Biomolecule-Water and Water-Water Interactions. Physical Review Letters, 2009, 102, 087801.	2.9	56
41	Dipolar Poisson-Boltzmann approach to ionic solutions: A mean field and loop expansion analysis. Journal of Chemical Physics, 2013, 139, 164909.	1.2	55
42	A simple model for DNA denaturation. Europhysics Letters, 2001, 55, 132-138.	0.7	50
43	Lower Critical Dimension of the Random-Field Ising Model: A Monte Carlo Study. Physical Review Letters, 1984, 52, 145-148.	2.9	49
44	On the Bethe ansatz for random directed polymers. Journal of Statistical Physics, 1990, 61, 877-884.	0.5	49
45	Partially Folded States of Proteins: Characterization by X-ray Scattering. Journal of Molecular Biology, 1995, 254, 960-967.	2.0	49
46	Generating transition paths by Langevin bridges. Journal of Chemical Physics, 2011, 134, 174114.	1.2	47
47	Single particle states in nuclei. Nuclear Physics A, 1978, 299, 442-464.	0.6	45
48	Test-charge theory for the electric double layer. Physical Review E, 2004, 70, 016102.	0.8	43
49	Anharmonicity and Self-Similarity of the Free Energy Landscape of ProteinG. Physical Review Letters, 2007, 98, 048102.	2.9	43
50	Enumeration of RNA Structures by Matrix Models. Physical Review Letters, 2005, 94, 168103.	2.9	42
51	Transition path time distributions. Journal of Chemical Physics, 2017, 147, 214103.	1.2	40
52	Dielectric constant of ionic solutions: Combined effects of correlations and excluded volume. Journal of Chemical Physics, 2018, 149, 054504.	1.2	40
53	Conformational distribution of heptaalanine: Analysis using a new Monte Carlo chain growth method. Journal of Computational Chemistry, 1992, 13, 1216-1233.	1.5	37
54	Computational Assembly of Polymorphic Amyloid Fibrils Reveals Stable Aggregates. Biophysical Journal, 2013, 104, 683-693.	0.2	36

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55	Generalized Poland-Scheraga model for DNA hybridization. Biopolymers, 2004, 75, 453-467.	1.2	35
56	Dominant reaction pathways in high-dimensional systems. Journal of Chemical Physics, 2009, 130, 064106.	1.2	35
57	Dominant reaction pathways in protein folding: A direct validation against molecular dynamics simulations. Journal of Chemical Physics, 2010, 133, 045104.	1.2	34
58	Phase diagram of magnetic polymers. European Physical Journal B, 1999, 12, 261-268.	0.6	33
59	TT2NE: a novel algorithm to predict RNA secondary structures with pseudoknots. Nucleic Acids Research, 2011, 39, e93-e93.	6.5	32
60	Absence of knots in known RNA structures. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2052-2057.	3.3	31
61	Mechanism of Thermal Renaturation and Hybridization of Nucleic Acids: Kramersâ€™ Process and Universality in Watsonâ"Crick Base Pairing. Journal of Physical Chemistry B, 2009, 113, 3715-3725.	1.2	30
62	Effect of Memory and Active Forces on Transition Path Time Distributions. Journal of Physical Chemistry B, 2018, 122, 11186-11194.	1.2	30
63	MISTRAL: a tool for energy-based multiple structural alignment of proteins. Bioinformatics, 2009, 25, 2663-2669.	1.8	29
64	McGenus: a Monte Carlo algorithm to predict RNA secondary structures with pseudoknots. Nucleic Acids Research, 2013, 41, 1895-1900.	6.5	29
65	Random hydrophilic-hydrophobic copolymers. Journal De Physique II, 1994, 4, 2139-2148.	0.9	28
66	Exact critical behavior of two-dimensional wetting problems with quenched disorder. Journal of Statistical Physics, 1988, 51, 29-56.	0.5	27
67	Energies of Parameter-Dependent Systems. Physical Review Letters, 1979, 42, 285-287.	2.9	26
68	A field-theoretic approach to non-equilibrium work identities. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 095002.	0.7	26
69	Computing Ion Solvation Free Energies Using the Dipolar Poisson Model. Journal of Physical Chemistry B, 2009, 113, 5694-5697.	1.2	25
70	Tailoring Nanostructures Using Copolymer Nanoimprint Lithography. Advanced Materials, 2012, 24, 1952-1955.	11.1	24
71	Random Field Ising Model: Dimensional Reduction or Spin-Glass Phase?. Journal De Physique, I, 1995, 5, 987-1001.	1.2	24
72	Protein Adsorption on Lipid Monolayers at their Coexistence Region. Journal De Physique II, 1996, 6, 1023-1047.	0.9	23

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73	Phase Behavior of DNA in the Presence of DNA-Binding Proteins. Biophysical Journal, 2016, 110, 51-62.	0.2	22
74	Ab initio sampling of transition paths by conditioned Langevin dynamics. Journal of Chemical Physics, 2017, 147, 152703.	1.2	22
75	Conductivity of Concentrated Electrolytes. Physical Review Letters, 2022, 128, 098002.	2.9	22
76	Variational study of the random-fieldXYmodel. Physical Review B, 1996, 53, R2941-R2944.	1.1	21
77	Dynamics of polymers: A mean-field theory. Journal of Chemical Physics, 2014, 140, 084902.	1.2	21
78	Impact of Loop Statistics on the Thermodynamics of RNA Folding. Physical Review Letters, 2008, 101, 048103.	2.9	20
79	Path integrals and time-dependent mean-field theories. Journal De Physique (Paris), Lettres, 1980, 41, 53-56.	2.8	20
80	One-dimensional random Ising models. Journal of Physics A, 1985, 18, 621-639.	1.6	19
81	Wetting of a disordered substrate. Physical Review B, 1985, 32, 4683-4686.	1.1	19
82	Mean-field theory of polymer melting. Journal of Physics A, 1992, 25, L1323-L1329.	1.6	19
83	Simple Integral Equation for the Polymer Brush. Macromolecules, 1996, 29, 713-717.	2.2	18
84	Block Copolymer at Nano-Patterned Surfaces. Macromolecules, 2010, 43, 7261-7268.	2.2	18
85	Organization of Block Copolymers using NanoImprint Lithography: Comparison of Theory and Experiments. Macromolecules, 2011, 44, 2206-2211.	2.2	18
86	Flory theory revisited. Journal De Physique, I, 1994, 4, 101-114.	1.2	17
87	A Disorder-Dependent Variational Method Without Replicas: Application to the Random Phase Sine-Gordon Model. Europhysics Letters, 1995, 30, 203-208.	0.7	17
88	Formation and stability of secondary structures in globular proteins. Journal De Physique II, 1993, 3, 245-253.	0.9	17
89	On the remarkable spectrum of a non-Hermitian random matrix model. Journal of Physics A, 2003, 36, 3385-3400.	1.6	16
90	Steepest descent calculation of RNA pseudoknots. Physical Review E, 2005, 72, 011911.	0.8	16

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91	Manning condensation in two dimensions. Physical Review E, 2006, 73, 010501.	0.8	16
92	Block copolymer films with free interfaces: Ordering by nanopatterned substrates. Physical Review E, 2012, 86, 010801.	0.8	16
93	Coherent states formulation of polymer field theory. Journal of Chemical Physics, 2014, 140, 024905.	1.2	16
94	A maximum overlap neural network for pattern recognition. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 125, 32-34.	0.9	15
95	Propagation in random media: Calculation of the effective dispersive permittivity by use of the replica method. Physical Review E, 1995, 52, 1123-1127.	0.8	15
96	Directed polymers in a random medium: A variational approach. Physical Review B, 1997, 55, 226-230.	1.1	15
97	Protein Folding, Anisotropic Collapse and Blue Phases. Journal De Physique, I, 1997, 7, 1201-1210.	1.2	15
98	PROTEIN FOLDING AND HETEROPOLYMERS. Series on Directions in Condensed Matter Physics, 1997, , 387-443.	0.1	15
99	Functional integral methods for quantum spin systems. Annals of Physics, 1981, 132, 277-291.	1.0	14
100	RNA Base Pairing Determines the Conformations of RNA Inside Spherical Viruses. Physical Review Letters, 2017, 119, 188102.	2.9	14
101	Disorder Lines and Nonmonotonous Renormalization Group Flows: Application to the Two-Dimensional XY Model. Europhysics Letters, 1990, 11, 349-354.	0.7	13
102	Biasing a Monte Carlo chain growth method with Ramachandran's plot: Application to twenty-L-alanine. Biopolymers, 1993, 33, 1843-1849.	1.2	13
103	Some physical approaches to protein folding. Journal De Physique, I, 1993, 3, 259-275.	1.2	13
104	Self-Consistent Field Study of Polyelectrolyte Brushes. Journal of the Physical Society of Japan, 2007, 76, 104601.	0.7	13
105	Fluctuations in the ensemble of reaction pathways. Journal of Chemical Physics, 2011, 134, 164109.	1.2	13
106	Dominant folding pathways of a peptide chain from ab initio quantum-mechanical simulations. Journal of Chemical Physics, 2011, 134, 024501.	1.2	13
107	Modified Poissonâ€“Boltzmann equations for characterizing biomolecular solvation. Journal of Theoretical and Computational Chemistry, 2014, 13, 1440001.	1.8	13
108	Ionic profiles close to dielectric discontinuities: Specific ion-surface interactions. Journal of Chemical Physics, 2016, 145, 134704.	1.2	12

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109	Statistical Physics Approach to the Optimal Transport Problem. Physical Review Letters, 2019, 123, 040603.	2.9	11
110	Adsorption of Polymers on a Fluctuating Surface. Europhysics Letters, 1995, 29, 303-308.	0.7	10
111	Topology of pseudoknotted homopolymers. Physical Review E, 2006, 73, 031902.	0.8	10
112	The elusive quest for RNA knots. RNA Biology, 2016, 13, 134-139.	1.5	10
113	Path integrals, boson expansions and the time dependent mean-field approximations. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1981, 100, 195-200.	1.5	9
114	The random fuse network as a dipolar magnet. Europhysics Letters, 2002, 57, 831-837.	0.7	9
115	Random heteropolymers in layered fluids. Journal of Chemical Physics, 1990, 93, 2043-2047.	1.2	8
116	Simulating stochastic dynamics using large time steps. Physical Review E, 2009, 80, 061112.	0.8	8
117	Secondary structure formation of homopolymeric single-stranded nucleic acids including force and loop entropy: Implications for DNA hybridization. European Physical Journal E, 2011, 34, 55.	0.7	8
118	Adapting Poisson-Boltzmann to the self-consistent mean field theory: Application to protein side-chain modeling. Journal of Chemical Physics, 2011, 135, 055104.	1.2	8
119	Optimal transport at finite temperature. Physical Review E, 2019, 100, 013310.	0.8	8
120	Generating stochastic trajectories with global dynamical constraints. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 123204.	0.9	8
121	Dynamics of the critical wetting transition. Physical Review B, 1985, 31, 7434-7435.	1.1	7
122	Replica field theory for composite media. Journal De Physique, I, 1993, 3, 2171-2177.	1.2	7
123	Irrelevance of bulk symmetry to critical wetting. Physical Review B, 1986, 33, 95-98.	1.1	6
124	Thermodynamics of Ising models with layered randomness: Exact solutions on square and triangular lattices. Physical Review B, 1989, 40, 5094-5108.	1.1	6
125	A new Monte Carlo method to study protein structures. Journal De Chimie Physique Et De Physico-Chimie Biologique, 1991, 88, 2473-2478.	0.2	6
126	Comparison of a new Monte Carlo peptide conformational search procedure with high temperature molecular dynamics. Journal De Chimie Physique Et De Physico-Chimie Biologique, 1991, 88, 2479-2488.	0.2	6

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127	Tidal bore effect in heavy ion collisions. Journal De Physique (Paris), Lettres, 1976, 37, 327-331.	2.8	5
128	General formalism for phase combination and phase refinement: a statistical thermodynamics approach in reciprocal space. Acta Crystallographica Section A: Foundations and Advances, 2000, 56, 562-574.	0.3	5
129	Classification and predictions of RNA pseudoknots based on topological invariants. Physical Review E, 2016, 94, 042410.	0.8	5
130	Numerical Simulation of Finite-Temperature Field Theory for Interacting Bosons. Physical Review Letters, 2020, 124, 070601.	2.9	5
131	Erratum Path integrals and time-dependent mean-field theories. Journal De Physique (Paris), Lettres, 1980, 41, 401-401.	2.8	5
132	Flexible conducting polymers: An analytic approach. Journal of Chemical Physics, 1998, 108, 8725-8735.	1.2	4
133	Probing the binding affinity of amyloids to reduce toxicity of oligomers in diabetes. Bioinformatics, 2015, 31, 2294-2302.	1.8	4
134	Boson representations for systems of fermions. Journal De Physique (Paris), Lettres, 1980, 41, 523-525.	2.8	4
135	Hartree-Fock Theory with Hard Cores. Physical Review Letters, 1978, 41, 1016-1019.	2.9	3
136	Static and dynamic aspects of disorder lines. Journal of Physics A, 1991, 24, 1245-1252.	1.6	3
137	Hall Effect in Composite Media: A Replica Approach. Europhysics Letters, 1994, 27, 305-310.	0.7	3
138	A Variational Approach to Interfaces in Random Media. Europhysics Letters, 1994, 27, 317-322.	0.7	3
139	Beyond Poissonâ€“Boltzmann: Numerical Sampling of Charge Density Fluctuations. Journal of Physical Chemistry B, 2016, 120, 6270-6277.	1.2	3
140	Efficient Sampling of Knotting-Unknotting Pathways for Semiflexible Gaussian Chains. Polymers, 2017, 9, 196.	2.0	3
141	Sampling constrained stochastic trajectories using Brownian bridges. Journal of Chemical Physics, 2022, 157, .	1.2	3
142	The role of the energy gap in protein folding dynamics. Europhysics Letters, 2000, 49, 169-175.	0.7	2
143	Bridge hopping on conducting polymers in solution. Europhysics Letters, 2001, 55, 59-65.	0.7	2
144	Real symmetric random matrices and replicas. Physical Review E, 2006, 74, 051120.	0.8	2

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145	Electric response of DNA hairpins to magnetic fields. Journal of Applied Physics, 2006, 99, 113711.	1.1	2
146	Prediction of RNA secondary structures with pseudoknots. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 2987-2992.	1.2	2
147	Numerical Encodings of Amino Acids in Multivariate Gaussian Modeling of Protein Multiple Sequence Alignments. Molecules, 2019, 24, 104.	1.7	2
148	Fast computation of exact solutions of generic and degenerate assignment problems. Physical Review E, 2021, 103, 042101.	0.8	2
149	Polymer expansion of the quantum many-body problem. Physics Letters, Section A: General, Atomic and Solid State Physics, 1980, 76, 213-218.	0.9	1
150	Replica field theory for composite media. Physica A: Statistical Mechanics and Its Applications, 1994, 207, 106-109.	1.2	1
151	Gas of self-avoiding loops on the brickwork lattice. Journal of Physics A, 1998, 31, 1685-1694.	1.6	1
152	Checking for Optimal Solutions in Some NP-Complete Problems. Physical Review Letters, 2005, 95, 107202.	2.9	1
153	Are better conductors more rigid?. Europhysics Letters, 2006, 76, 325-331.	0.7	1
154	Accelerated Sampling of Boltzmann Distributions. Journal of the Physical Society of Japan, 2009, 78, 103002.	0.7	1
155	Simultaneous Identification of Multiple Binding Sites in Proteins: A Statistical Mechanics Approach. Journal of Physical Chemistry B, 2021, 125, 5052-5067.	1.2	1
156	Low-temperature properties of superconducting materials on sublattice structures. Physical Review B, 1989, 39, 4736-4739.	1.1	0
157	Stochastic dynamics and dominant protein folding pathways. Philosophical Magazine, 2008, 88, 4093-4099.	0.7	0
158	Solvation of Ion Pairs: The Poisson-Langevin Model. , 2009, , .		0
159	Accelerated stochastic sampling of discrete statistical systems. Physical Review E, 2010, 82, 056704.	0.8	0
160	Multicanonical Monte Carlo ensemble growth algorithm. Physical Review E, 2020, 101, 021301.	0.8	0
161	Wetting of a disordered substrate. Lecture Notes in Physics, 1990, , 23-28.	0.3	0
162	Localization and Folding of Random Chains. , 1990, , 105-113.		0