Jean-Louis Barrat

List of Publications by Year
in descending order

86 papers	7,276 citations	61857 43 h-index	53109 85 g-index
86 all docs	86 docs citations	86 times ranked	6122 citing authors

#	Article	IF	Citations
1	Temperature dependence of thermodynamic, dynamical, and dielectric properties of water models. Journal of Chemical Physics, 2022, 156, 126101.	1.2	10
2	Are strongly confined colloids good models for two dimensional liquids?. Journal of Chemical Physics, 2022, 156, 164903.	1.2	2
3	Adsorption and Desorption of Polymers on Bioinspired Chemically Structured Substrates. ACS Applied Materials & Interfaces, 2021, 13, 30086-30097.	4.0	12
4	Time correlation functions for quantum systems: Validating Bayesian approaches for harmonic oscillators and beyond. Journal of Chemical Physics, 2021, 155, 134108.	1.2	1
5	Elastic avalanches reveal marginal behavior in amorphous solids. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 86-92.	3.3	31
6	Protein Short-Time Diffusion in a Naturally Crowded Environment. Journal of Physical Chemistry Letters, 2019, 10, 1709-1715.	2.1	30
7	Local versus Global Stretched Mechanical Response in a Supercooled Liquid near the Glass Transition. Physical Review Letters, 2019, 122, 105501.	2.9	31
8	Elasticity and plasticity of disordered systems, a statistical physics perspective. Physica A: Statistical Mechanics and Its Applications, 2018, 504, 20-30.	1.2	6
9	Entanglement Reduction Induced by Geometrical Confinement in Polymer Thin Films. Macromolecules, 2018, 51, 9850-9860.	2.2	29
10	Creep dynamics of athermal amorphous materials: a mesoscopic approach. Soft Matter, 2018, 14, 8306-8316.	1.2	19
11	Nonlinear Rheology in a Model Biological Tissue. Physical Review Letters, 2017, 118, 158105.	2.9	41
12	Role of the Intercrystalline Tie Chains Network in the Mechanical Response of Semicrystalline Polymers. Physical Review Letters, 2017, 118, 217802.	2.9	50
13	Analytical correlation functions for motion through diffusivity landscapes. Journal of Chemical Physics, 2016, 144, 204109.	1.2	16
14	Simulation of entangled polymer solutions. Journal of Chemical Physics, 2016, 145, 124113.	1.2	10
15	Edwards Thermodynamics for a Driven Athermal System with Dry Friction. Physical Review Letters, 2015, 115, 140601.	2.9	7
16	Plastic Deformation Mechanisms of Semicrystalline and Amorphous Polymers. ACS Macro Letters, 2015, 4, 147-150.	2.3	89
17	Elastic consequences of a single plastic event: Towards a realistic account of structural disorder and shear wave propagation in models of flowing amorphous solids. Journal of the Mechanics and Physics of Solids, 2015, 78, 333-351.	2.3	18
18	From Paris to Lyon, and from simple to complex liquids: a view on Jean-Pierre Hansen's contribution. Molecular Physics, 2015, 113, 2378-2382.	0.8	1

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19	Correlation of structure and mechanical response in solid-like polymers. Journal of Physics Condensed Matter, 2015, 27, 194131.	0.7	16
20	Acoustic excitations and elastic heterogeneities in disordered solids. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11949-11954.	3.3	67
21	Rheology of athermal amorphous solids: Revisiting simplified scenarios and the concept of mechanical noise temperature. Europhysics Letters, 2014, 107, 44003.	0.7	37
22	Relaxation in Yield Stress Systems through Elastically Interacting Activated Events. Physical Review Letters, 2014, 113, 248301.	2.9	65
23	Universal and non-universal features in coarse-grained models of flow in disordered solids. Soft Matter, 2014, 10, 4648-4661.	1.2	39
24	Molecular dynamics simulation of electrokinetic flow of an aqueous electrolyte solution in nanochannels. Journal of Chemical Physics, 2014, 140, 214701.	1.2	54
25	Nanoscale Buckling in Lamellar Block Copolymers: A Molecular Dynamics Simulation Approach. Macromolecules, 2013, 46, 7853-7864.	2.2	23
26	Entanglement-induced reinforcement in polymer nanocomposites. Soft Matter, 2013, 9, 10532.	1.2	23
27	Numerical study of a slip-link model for polymer melts and nanocomposites. Journal of Chemical Physics, 2013, 138, 194902.	1.2	20
28	Elastic heterogeneity, vibrational states, and thermal conductivity across an amorphisation transition. Europhysics Letters, 2013, 104, 56001.	0.7	58
29	A mesoscopic model for the rheology of soft amorphous solids, with application to microchannel flows. Faraday Discussions, 2013, 167, 567.	1.6	21
30	Spatial Cooperativity in Microchannel Flows of Soft Jammed Materials: A Mesoscopic Approach. Physical Review Letters, 2013, 110, 138304.	2.9	44
31	Nanoscale buckling deformation in layered copolymer materials. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 680-685.	3.3	89
32	Influence of Tie and Loop Molecules on the Mechanical Properties of Lamellar Block Copolymers. Macromolecules, 2012, 45, 8445-8452.	2.2	42
33	Shear Flow of Non-Brownian Suspensions Close to Jamming. Physical Review Letters, 2012, 109, 105901.	2.9	79
34	Spontaneous formation of permanent shear bands in a mesoscopic model of flowing disordered matter. Soft Matter, 2012, 8, 4197.	1.2	97
35	Heat conduction across molecular junctions between nanoparticles. Journal of Chemical Physics, 2011, 134, 234707.	1.2	5
36	Connecting Diffusion and Dynamical Heterogeneities in Actively Deformed Amorphous Systems. Physical Review Letters, 2011, 106, 156001.	2.9	77

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37	Portable Implementation of a Quantum Thermal Bath for Molecular Dynamics Simulations. Journal of Statistical Physics, 2011, 144, 679-689.	0.5	46
38	Predictors of Cavitation in Glassy Polymers under Tensile Strain: A Coarseâ€Grained Molecular Dynamics Investigation. Macromolecular Theory and Simulations, 2011, 20, 826-836.	0.6	56
39	Molecular dynamics simulations of glassy polymers. Soft Matter, 2010, 6, 3430.	1.2	249
40	Fluctuations and correlations during the shear flow of elastic particles near the jamming transition. Soft Matter, 2010, 6, 3050.	1.2	42
41	Heat transfer from nanoparticles: A corresponding state analysis. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15113-15118.	3.3	186
42	Jamming Transition as Probed by Quasistatic Shear Flow. Physical Review Letters, 2009, 102, 218303.	2.9	135
43	Entanglement network in nanoparticle reinforced polymers. Journal of Chemical Physics, 2009, 130, 244903.	1.2	118
44	Polymer chain generation for coarse-grained models using radical-like polymerization. Journal of Chemical Physics, 2008, 128, 234904.	1.2	49
45	Modeling Thermal Conductivity and Collective Effects in a Simple Nanofluid. Journal of Computational and Theoretical Nanoscience, 2008, 5, 187-193.	0.4	10
46	Modeling Deformation and Flow of Disordered Materials. MRS Bulletin, 2007, 32, 941-944.	1.7	21
47	Flow boundary conditions from nano- to micro-scales. Soft Matter, 2007, 3, 685.	1.2	537
48	Local Dynamics and Primitive Path Analysis for a Model Polymer Melt near a Surface. Macromolecules, 2007, 40, 3797-3804.	2.2	53
49	Modeling Transient Absorption and Thermal Conductivity in a Simple Nanofluid. Nano Letters, 2006, 6, 1224-1228.	4.5	128
50	Linear and Nonlinear Viscoelasticity of a Model Unentangled Polymer Melt: Molecular Dynamics and Rouse Modes Analysis. Macromolecular Theory and Simulations, 2006, 15, 252-262.	0.6	56
51	Polymer Melt near a Solid Surface:Â A Molecular Dynamics Study of Chain Conformations and Desorption Dynamics. Macromolecules, 2005, 38, 571-580.	2.2	55
52	Introducing Variable Cell Shape Methods in Field Theory Simulations of Polymersâ€. Journal of Physical Chemistry B, 2005, 109, 6694-6700.	1.2	71
53	Comment on â€œNew phase for one-component hard spheresâ€•[J. Chem. Phys. 120, 11686 (2004)]. Journal of Chemical Physics, 2004, 121, 12115-12116.	1.2	1
54	Analytical model for the thermal conductivity of nanostructures. Superlattices and Microstructures, 2004, 35, 173-186.	1.4	42

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55	Kapitza resistance at the liquidâ€"solid interface. Molecular Physics, 2003, 101, 1605-1610.	0.8	273
56	Low-friction flows of liquid at nanopatterned interfaces. Nature Materials, 2003, 2, 237-240.	13.3	536
57	Nonequilibrium dynamics and fluctuation-dissipation relation in a sheared fluid. Journal of Chemical Physics, 2002, 116, 6228-6242.	1.2	257
58	Stable unidimensional arrays of coherent strained islands. Surface Science, 2001, 490, 351-360.	0.8	8
59	Phase Separation in a Chaotic Flow. Physical Review Letters, 2001, 86, 2014-2017.	2.9	21
60	Aging in a simple glass former. Journal of Physics Condensed Matter, 2000, 12, 6385-6394.	0.7	27
61	A two-time-scale, two-temperature scenario for nonlinear rheology. Physical Review E, 2000, 61, 5464-5472.	0.8	200
62	Diffusion of gold nanoclusters on graphite. Physical Review B, 2000, 61, 16084-16090.	1.1	118
63	Aging in a Lennard-Jones glass. Physica A: Statistical Mechanics and Its Applications, 1999, 263, 234-241.	1.2	21
64	Influence of wetting properties on hydrodynamic boundary conditions at a fluid/solid interface. Faraday Discussions, 1999, 112, 119-128.	1.6	243
65	Aging and the fluctuation dissipation ratio in a Lennard-Jones fluid. Journal of Physics Condensed Matter, 1999, 11, A247-A252.	0.7	11
66	Large Slip Effect at a Nonwetting Fluid-Solid Interface. Physical Review Letters, 1999, 82, 4671-4674.	2.9	710
67	Kob and Barrat Reply:. Physical Review Letters, 1998, 81, 931-931.	2.9	6
68	Energy flux into a fluidized granular medium at a vibrating wall. Physical Review E, 1997, 55, 7767-7770.	0.8	54
69	Theoretical study of a five-coordinated silica polymorph. Physical Review B, 1997, 56, 5797-5806.	1.1	68
70	Fast Diffusion of a Lennard-Jones Cluster on a Crystalline Surface. Physical Review Letters, 1997, 78, 4597-4600.	2.9	115
71	A Strong to Fragile Transition in a Model of Liquid Silica. Molecular Simulation, 1997, 20, 17-25.	0.9	47
72	Aging Effects in a Lennard-Jones Glass. Physical Review Letters, 1997, 78, 4581-4584.	2.9	231

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73	Quantitative Study of a Freely Cooling Granular Medium. Journal De Physique, I, 1997, 7, 137-151.	1.2	82
74	Melting, freezing, and coalescence of gold nanoclusters. Physical Review B, 1997, 56, 2248-2257.	1.1	389
75	Hydrodynamic properties of confined fluids. Journal of Physics Condensed Matter, 1996, 8, 9297-9300.	0.7	27
76	Numerical Simulation ofÎ±-Quartz under Nonhydrostatic Compression: Memory Glass and Five-Coordinated Crystalline Phases. Physical Review Letters, 1996, 76, 772-775.	2.9	74
77	Hydrodynamic boundary conditions, correlation functions, and Kubo relations for confined fluids. Physical Review E, 1994, 49, 3079-3092.	0.8	291
78	Interacting rigid polyelectrolytes. Journal De Physique II, 1994, 4, 1089-1102.	0.9	8
79	Hydrodynamic boundary conditions and correlation functions of confined fluids. Physical Review Letters, 1993, 70, 2726-2729.	2.9	86
80	Molecular-dynamics investigation of tracer diffusion in a simple liquid. Physical Review A, 1992, 45, 2308-2314.	1.0	32
81	On the scattering properties of polyelectrolyte gels. Journal De Physique II, 1992, 2, 1531-1544.	0.9	41
82	Numerical simulation of brownian motion with frequency-dependent friction. Chemical Physics Letters, 1990, 165, 551-553.	1.2	5
83	The role of molecular flexibility in simulations of water. Molecular Physics, 1990, 70, 535-539.	0.8	58
84	Plasmon dispersion in dense, partially ionized plasmas. Physica A: Statistical Mechanics and Its Applications, 1988, 149, 613-621.	1.2	0
85	Structure of a Nonneutral Classical Plasma in a Magnetic Field. Physical Review Letters, 1988, 60, 2484-2487.	2.9	53
86	Factorization of the Triplet Direct Correlation Function in Dense Fluids. Physical Review Letters, 1987, 58, 2075-2078.	2.9	70