Giulio Biroli

List of Publications by Year
in descending order

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60 papers	4,993 citations	147801 31 h-index	144013 57 g-index
63 all docs	63 docs citations	63 times ranked	2690 citing authors

#	Article	IF	Citations
1	Theoretical perspective on the glass transition and amorphous materials. Reviews of Modern Physics, 2011, 83, 587-645.	45.6	1,605
2	On the Adam-Gibbs-Kirkpatrick-Thirumalai-Wolynes scenario for the viscosity increase in glasses. Journal of Chemical Physics, 2004, 121, 7347-7354.	3.0	399
3	Perspective: The glass transition. Journal of Chemical Physics, 2013, 138, 12A301.	3.0	287
4	Inhomogeneous Mode-Coupling Theory and Growing Dynamic Length in Supercooled Liquids. Physical Review Letters, 2006, 97, 195701.	7.8	262
5	Random critical point separates brittle and ductile yielding transitions in amorphous materials. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6656-6661.	7.1	195
6	Lattice Glass Models. Physical Review Letters, 2001, 88, 025501.	7.8	173
7	Ideal glass transitions by random pinning. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8850-8855.	7.1	160
8	Nonlinear susceptibility in glassy systems: A probe for cooperative dynamical length scales. Physical Review B, 2005, 72, .	3.2	147
9	Jamming Percolation and Glass Transitions in Lattice Models. Physical Review Letters, 2006, 96, 035702.	7.8	113
10	Spatial Structures and Dynamics of Kinetically Constrained Models of Glasses. Physical Review Letters, 2004, 92, 185504.	7.8	110
11	Dynamic criticality at the jamming transition. Journal of Chemical Physics, 2013, 138, 12A507.	3.0	98
12	Marginally stable equilibria in critical ecosystems. New Journal of Physics, 2018, 20, 083051.	2.9	94
13	A new kind of phase transition?. Nature Physics, 2007, 3, 222-223.	16.7	90
14	Breakdown of elasticity in amorphous solids. Nature Physics, 2016, 12, 1130-1133.	16.7	90
15	Critical fluctuations and breakdown of the Stokesâ€“Einstein relation in the mode-coupling theory of glasses. Journal of Physics Condensed Matter, 2007, 19, 205101.	1.8	61
16	Random-Field-like Criticality in Glass-Forming Liquids. Physical Review Letters, 2014, 112, 175701.	7.8	50
17	Gardner physics in amorphous solids and beyond. Journal of Chemical Physics, 2019, 151, 010901.	3.0	48
18	Theory of the superglass phase. Physical Review B, 2008, 78, .	3.2	47

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19	Random pinning glass transition: Hallmarks, mean-field theory and renormalization group analysis. Journal of Chemical Physics, 2013, 138, 12A547.	3.0	47
20	Complex interactions can create persistent fluctuations in high-diversity ecosystems. PLoS Computational Biology, 2020, 16, e1007827.	3.2	47
21	Anomalous nonlinear response of glassy liquids: General arguments and a mode-coupling approach. Journal of Chemical Physics, 2010, 132, 054501.	3.0	40
22	Spinodals with Disorder: From Avalanches in Random Magnets to Glassy Dynamics. Physical Review Letters, 2016, 116, 145701.	7.8	40
23	Quantum Thouless-Anderson-Palmer equations for glassy systems. Physical Review B, 2001, 64, .	3.2	38
24	Can the glass transition be explained without a growing static length scale?. Journal of Chemical Physics, 2019, 150, 094501.	3.0	38
25	Properties of Equilibria and Glassy Phases of the Random Lotka-Volterra Model with Demographic Noise. Physical Review Letters, 2021, 126, 258301.	7.8	38
26	Spin Glass in a Field: A New Zero-Temperature Fixed Point in Finite Dimensions. Physical Review Letters, 2015, 114, 095701.	7.8	37
27	Attractive versus truncated repulsive supercooled liquids: The dynamics is encoded in the pair correlation function. Physical Review E, 2020, 101, 010602.	2.1	37
28	Renormalization Group Analysis of the Random First-Order Transition. Physical Review Letters, 2011, 106, 115705.	7.8	36
29	Gardner transition in finite dimensions. Physical Review B, 2015, 91, .	3.2	35
30	Liu-Nagel phase diagrams in infinite dimension. SciPost Physics, 2018, 4, .	4.9	35
31	Cooperative Behavior of Kinetically Constrained Lattice Gas Models of Glassy Dynamics. Journal of Statistical Physics, 2005, 120, 167-238.	1.2	34
32	A crash course on ageing. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, P05014.	2.3	32
33	Out-of-equilibrium dynamical mean-field equations for the perceptron model. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 085002.	2.1	31
34	A New Class of Cellular Automata with a Discontinuous Glass Transition. Journal of Statistical Physics, 2007, 130, 83-112.	1.2	30
35	Dynamical heterogeneity in lattice glass models. Journal of Chemical Physics, 2010, 132, 044510.	3.0	28
36	Patch-repetition correlation length in glassy systems. Europhysics Letters, 2012, 98, 36005.	2.0	25

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37	Bootstrap Percolation and Kinetically Constrained Models on Hyperbolic Lattices. Journal of Statistical Physics, 2010, 138, 411-430.	1.2	17
38	Fragility of the mean-field scenario of structural glasses for disordered spin models in finite dimensions. Physical Review B, 2013, 87, .	3.2	16
39	Random field Ising-like effective theory of the glass transition. II. Finite-dimensional models. Physical Review B, 2018, 98, .	3.2	16
40	Dynamical Arrest, Tracer Diffusion and Kinetically Constrained Lattice Gases. Journal of Statistical Physics, 2004, 117, 27-54.	1.2	15
41	Overview of different characterizations of dynamic heterogeneity. , 2011, , 68-109.		15
42	Real space renormalization group theory of disordered models of glasses. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3328-3333.	7.1	15
43	Random-field Ising-like effective theory of the glass transition. I. Mean-field models. Physical Review B, 2018, 98, .	3.2	15
44	Critical Dynamical Heterogeneities Close to Continuous Second-Order Glass Transitions. Physical Review Letters, 2014, 113, 245701.	7.8	13
45	Activated dynamics: An intermediate model between the random energy model and thep-spin model. Physical Review E, 2018, 98, 012133.	2.1	13
46	Aging and relaxation near random pinning glass transitions. Europhysics Letters, 2012, 98, 16011.	2.0	12
47	Fluctuations and Shape of Cooperative Rearranging Regions in Glass-Forming Liquids. Physical Review X, 2017, 7, .	8.9	12
48	Searching for the Gardner Transition in Glassy Glycerol. Physical Review Letters, 2021, 126, 028001.	7.8	12
49	Interplay between percolation and glassiness in the random Lorentz gas. Physical Review E, 2021, 103, L030104.	2.1	12
50	Role of fluctuations in the phase transitions of coupled plaquette spin models of glasses. SciPost Physics, 2016, 1, .	4.9	12
51	Mean-Field Caging in a Random Lorentz Gas. Journal of Physical Chemistry B, 2021, 125, 6244-6254.	2.6	11
52	Dynamics of liquids in the large-dimensional limit. Physical Review E, 2021, 104, 054606.	2.1	11
53	Real Space Migdalâ€“Kadanoff Renormalisation of Glassy Systems: Recent Results and a Critical Assessment. Journal of Statistical Physics, 2017, 167, 476-498.	1.2	10
54	Amorphous Order and Nonlinear Susceptibilities in Glassy Materials. Journal of Physical Chemistry B, 2021, 125, 7578-7586.	2.6	9

#	Article	IF	Citations
55	A Statistical Mechanics PerspectiveÂon Glasses and Aging. , 2021, , 1-68.		8
56	The Fredrickson-Andersen model with random pinning on Bethe lattices and its MCT transitions. Europhysics Letters, 2016, 116, 56004.	2.0	7
57	Local Dynamical Heterogeneity in Simple Glass Formers. Physical Review Letters, 2022, 128, 175501.	7.8	7
58	Effects of intraspecific cooperative interactions in large ecosystems. SciPost Physics, 2022, 12, .	4.9	6
59	Super-Potts glass: A disordered model for glass-forming liquids. Physical Review B, 2014, 90, .	3.2	5
60	Glasses and Aging, A Statistical Mechanics Perspective on. , 2022, , 229-296.		4