Silvio Franz

List of Publications by Year in Descending Order

111 papers	3,538 citations	33 h-index	57 g-index
115 ext. papers	3,939 ext. citations	3.1 avg, IF	5.52 L-index

#	Paper	IF	Citations
111	Delocalization transition in low energy excitation modes of vector spin glasses. *SciPost Physics*, **2022**, 12,	6.1	2
110	Linear low energy excitations in fully-connected models of glasses. *Journal of Statistical Mechanics: Theory and Experiment*, **2022**, 2022, 053302	1.9	1
109	Gradient descent dynamics in the mixed p-spin spherical model: finite-size simulations and comparison with mean-field integration. *Journal of Statistical Mechanics: Theory and Experiment*, **2021**, 2021, 033302	1.9	1
108	Surfing on minima of isostatic landscapes: avalanches and unjamming transition. *Journal of Statistical Mechanics: Theory and Experiment*, **2021**, 2021, 023208	1.9	0
107	Rethinking Mean-Field Glassy Dynamics and Its Relation with the Energy Landscape: The Surprising Case of the Spherical Mixed p-Spin Model. *Physical Review X*, **2020**, 10,	9.1	11
106	Critical energy landscape of linear soft spheres. *SciPost Physics*, **2020**, 9,	6.1	6
105	Large deviations of glassy effective potentials. *Journal of Physics A: Mathematical and Theoretical*, **2020**, 53, 485002	2	3
104	Critical Jammed Phase of the Linear Perceptron. *Physical Review Letters*, **2019**, 123, 115702	7.4	11
103	Impact of jamming criticality on low-temperature anomalies in structural glasses. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 13768-13773	11.5	7
102	New analysis of the free energy cost of interfaces in spin glasses. *Journal of Physics A: Mathematical and Theoretical*, **2019**, 52, 294001	2	1
101	Gardner physics in amorphous solids and beyond. *Journal of Chemical Physics*, **2019**, 151, 010901	3.9	29
100	Jamming in Multilayer Supervised Learning Models. *Physical Review Letters*, **2019**, 123, 160602	7.4	14
99	Constraint satisfaction mechanisms for marginal stability and criticality in large ecosystems. *Physical Review E*, **2019**, 99, 010401	2.4	10
98	Matrix product algorithm for stochastic dynamics on networks applied to nonequilibrium Glauber dynamics. *Physical Review E*, **2018**, 97, 010104	2.4	2
97	Mean-field avalanches in jammed spheres. *Physical Review E*, **2017**, 95, 022139	2.4	39
96	Universality of the SAT-UNSAT (jamming) threshold in non-convex continuous constraint satisfaction problems. *SciPost Physics*, **2017**, 2,	6.1	57
95	Random-diluted triangular plaquette model: Study of phase transitions in a kinetically constrained model. *Physical Review E*, **2016**, 93, 032601	2.4	2

94	The jamming transition in high dimension: an analytical study of the TAP equations and the effective thermodynamic potential. *Journal of Statistical Mechanics: Theory and Experiment*, **2016**, 2016, 093301	1.9	19
93	Identifying relevant positions in proteins by Critical Variable Selection. *Molecular BioSystems*, **2016**, 12, 2147-58		13
92	The simplest model of jamming. *Journal of Physics A: Mathematical and Theoretical*, **2016**, 49, 145001	2	65
91	Quasi-equilibrium in glassy dynamics: a liquid theory approach. *Journal of Physics A: Mathematical and Theoretical*, **2015**, 48, 19FT01	2	9
90	Universal spectrum of normal modes in low-temperature glasses. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 14539-44	11.5	108
89	Quasi equilibrium construction for the long time limit of glassy dynamics. *Journal of Statistical Mechanics: Theory and Experiment*, **2015**, 2015, P10010	1.9	1
88	The Edge-Disjoint Path Problem on Random Graphs by Message-Passing. *PLoS ONE*, **2015**, 10, e0145222	3.7	9
87	Dynamics and termination cost of spatially coupled mean-field models. *Physical Review E*, **2014**, 89, 012102		5
86	Shortest node-disjoint paths on random graphs. *Journal of Statistical Mechanics: Theory and Experiment*, **2014**, 2014, P07009	1.9	9
85	Some Thoughts on the Ontogenesis in B-Cell Immune Networks. *Springer Proceedings in Mathematics and Statistics*, **2014**, 71-79	0.2	
84	Quasi-equilibrium in glassy dynamics: an algebraic view. *Journal of Statistical Mechanics: Theory and Experiment*, **2013**, 2013, P02003	1.9	9
83	A note on weakly discontinuous dynamical transitions. *Journal of Chemical Physics*, **2013**, 138, 064504	3.9	6
82	Static replica approach to critical correlations in glassy systems. *Journal of Chemical Physics*, **2013**, 138, 12A540	3.9	21
81	Correction for Franz et al., Quantitative field theory of the glass transition. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 11211-11211	11.5	2
80	Finite-size critical fluctuations in microscopic models of mode-coupling theory. *Journal of Statistical Mechanics: Theory and Experiment*, **2013**, 2013, P02025	1.9	8
79	Universality classes of critical points in constrained glasses. *Journal of Statistical Mechanics: Theory and Experiment*, **2013**, 2013, P11012	1.9	27
78	Glassy critical points and the random field Ising model. *Journal of Statistical Mechanics: Theory and Experiment*, **2013**, 2013, L02001	1.9	13
77	Quantitative field theory of the glass transition. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 18725-30	11.5	50

76	Using affinity propagation for identifying subspecies among clonal organisms: lessons from M. tuberculosis. *BMC Bioinformatics*, **2011**, 12, 224	3.6	17
75	Field theory of fluctuations in glasses. *European Physical Journal E*, **2011**, 34, 102	1.5	85
74	Modeling microevolution in a changing environment: the evolving quasispecies and the diluted champion process. *Journal of Statistical Mechanics: Theory and Experiment*, **2011**, 2011, P08022	1.9	6
73	Hierarchical random energy model of a spin glass. *Physical Review Letters*, **2010**, 104, 127206	7.4	39
72	Surface tension in Kac glass models. *Journal of Statistical Mechanics: Theory and Experiment*, **2010**, 2010, P04008	1.9	7
71	Overlap interfaces in hierarchical spin-glass models. *Journal of Statistical Mechanics: Theory and Experiment*, **2009**, 2009, P02002	1.9	25
70	Non-neutral theory of biodiversity. *Europhysics Letters*, **2009**, 87, 28001	1.6	11
69	Self-averaging Identities for Random Spin Systems **2009**, 123-142		5
68	Mosaic length and finite interaction-range effects in a one-dimensional random energy model. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 324011	2	9
67	Ising model with memory: coarsening and persistence properties. *Journal of Statistical Mechanics: Theory and Experiment*, **2008**, 2008, P07006	1.9	7
66	Spin glass models with Kac interactions. *European Physical Journal B*, **2008**, 64, 557-561	1.2	
65	Analytic determination of dynamical and mosaic length scales in a Kac glass model. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F251-F257	2	74
64	On the Dynamics of Kac p-Spin Glasses. *Journal of Statistical Physics*, **2007**, 126, 765-780	1.5	6
63	Metastable states, relaxation times and free-energy barriers in finite-dimensional glassy systems. *Europhysics Letters*, **2006**, 73, 492-498	1.6	28
62	Local spin glass order in 1D. *Europhysics Letters*, **2006**, 75, 385-391	1.6	6
61	A Note on the Guerra and Talagrand Theorems for Mean Field Spin Glasses: The Simple Case of Spherical Models. *Journal of Statistical Physics*, **2006**, 122, 313-332	1.5	4
60	A minimal stochastic model for influenza evolution. *Journal of Statistical Mechanics: Theory and Experiment*, **2005**, 2005, P07008-P07008	1.9	30
59	First steps of a nucleation theory in disordered systems. *Journal of Statistical Mechanics: Theory and Experiment*, **2005**, 2005, P04001	1.9	32

58	A field-theoretical approach to the spin glass transition: models with long but finite interaction range. *Journal of Statistical Mechanics: Theory and Experiment*, **2005**, 2005, P01008	1.9	8
57	Finite-range spin glasses in the Kac limit: free energy and local observables. *Journal of Physics A*, **2004**, 37, 7433-7446		23
56	Number partitioning as a random energy model. *Journal of Statistical Mechanics: Theory and Experiment*, **2004**, 2004, P04003	1.9	11
55	Kac limit for finite-range spin glasses. *Physical Review Letters*, **2004**, 92, 030602	7.4	23
54	THE KAC LIMIT FOR DILUTED SPIN GLASSES. *International Journal of Modern Physics B*, **2004**, 18, 675-679	1.1	5
53	On pre-asymptotic aging in finite dimensional spin glasses. **2004**, 119-128		
52	Dynamical arrest in a geometric model for the glass transition. *Europhysics Letters*, **2003**, 64, 302-308	1.6	7
51	On the tail of the overlap probability distribution in the Sherrington Kirkpatrick model. *Journal of Physics A*, **2003**, 36, 15-27		8
50	How glasses explore configuration space. *Journal of Physics Condensed Matter*, **2003**, 15, S881-S890	1.8	2
49	Replica bounds for diluted non-Poissonian spin systems. *Journal of Physics A*, **2003**, 36, 10967-10985		40
48	Replica Bounds for Optimization Problems and Diluted Spin Systems. *Journal of Statistical Physics*, **2003**, 111, 535-564	1.5	118
47	Quasiequilibrium during aging of the two-dimensional Edwards-Anderson model. *Physical Review E*, **2003**, 68, 066128	2.4	5
46	Kob-Andersen model: a nonstandard mechanism for the glassy transition. *Physical Review E*, **2002**, 65, 021506	2.4	30
45	Dynamic phase transition for decoding algorithms. *Physical Review E*, **2002**, 66, 046120	2.4	33
44	Theory of non-linear susceptibility and correlation length in glasses and liquids. *Journal of Non-Crystalline Solids*, **2002**, 307-310, 215-224	3.9	142
43	A ferromagnet with a glass transition. *Europhysics Letters*, **2001**, 55, 465-471	1.6	76
42	Exact solutions for diluted spin glasses and optimization problems. *Physical Review Letters*, **2001**, 87, 127209	7.4	54
41	Spectral statistics of instantaneous normal modes in liquids and random matrices. *Physical Review E* , **2001**, 64, 016305	2.4	21

40 Random heteropolymer dynamics. *Physical Review E*, **2001**, 64, 051910   2.4   13

39 On non-linear susceptibility in supercooled liquids. *Journal of Physics Condensed Matter*, **2000**, 12, 6335-6342   139

38 Non trivial overlap distributions at zero temperature. *European Physical Journal B*, **2000**, 18, 485-491   1.2   11

37 Quasi-equilibrium interpretation of ageing dynamics. *Journal of Physics A*, **2000**, 33, 891-905   96

36 Ultrametricity in three-dimensional edwards-anderson spin glasses. *Physical Review E*, **2000**, 61, 1121-4   2.4   11

35 Constrained Boltzmann-Gibbs measures and effective potential for glasses in hypernetted chain approximation and numerical simulations. *Journal of Chemical Physics*, **1999**, 110, 1726-1734   3.9   77

34 On dynamical correlations in supercooled liquids. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1999**, 79, 1827-1831   57

33 The Response of Glassy Systems to Random Perturbations: A Bridge Between Equilibrium and Off-Equilibrium. *Journal of Statistical Physics*, **1999**, 97, 459-488   1.5   88

32 Critical properties of a three-dimensional p-spin model. *European Physical Journal B*, **1999**, 8, 417-422   1.2   8

31 Overlap properties and adsorption transition of two Hamiltonian paths. *European Physical Journal B*, **1999**, 11, 463-468   1.2   1

30 Effective potential in glassy systems: theory and simulations. *Physica A: Statistical Mechanics and Its Applications*, **1998**, 261, 317-339   3.3   76

29 Basins of attraction of metastable states of the sphericalp-spin model. *Journal of Physics A*, **1998**, 31, L119-L127   8

28 Effective potentials in glassy systems. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1998**, 77, 239-243

27 Glass transition and effective potential in the hypernetted chain approximation. *Journal of Physics A*, **1998**, 31, L163-L169   70

26 Measuring Equilibrium Properties in Aging Systems. *Physical Review Letters*, **1998**, 81, 1758-1761   7.4   163

25 Crossover behavior of a one-dimensional random energy model. *Physical Review E*, **1998**, 58, 5455-5460   2.4   3

24 Relaxation processes and entropic traps in the Backgammon model. *Journal of Physics A*, **1997**, 30, L359-L365   20

23 Error threshold in simple landscapes. *Journal of Physics A*, **1997**, 30, 4481-4487   70

22	Temperature evolution and bifurcations of metastable states in mean-field spin glasses, with connections with structural glasses. *Journal of Physics A*, **1997**, 30, 5593-5612		67
21	Phase Diagram of Coupled Glassy Systems: A Mean-Field Study. *Physical Review Letters*, **1997**, 79, 2486-2489	7.4	171
20	Glassy mean-field dynamics of the backgammon model. *Journal of Statistical Physics*, **1996**, 85, 131-150	1.5	22
19	Fragile-glass behavior of a short-range p-spin model. *Physical Review B*, **1996**, 54, 9756-9764	3.3	33
18	Glassy transition and aging in a model without disorder. *Physical Review Letters*, **1995**, 74, 2114-2117	7.4	88
17	On chaos in mean-field spin glasses. *Journal of Physics A*, **1995**, 28, 2499-2513		21
16	Series expansion of the off-equilibrium mode coupling equations. *Journal of Physics A*, **1995**, 28, 5437-5443		5
15	Dynamical Solution of a Model without Energy Barriers. *Europhysics Letters*, **1995**, 31, 507-512	1.6	32
14	Fluctuation-dissipation ratio in three-dimensional spin glasses. *Journal of Statistical Physics*, **1995**, 79, 749-758	1.5	69
13	Recipes for Metastable States in Spin Glasses. *Journal De Physique, I*, **1995**, 5, 1401-1415		173
12	Partial annealing and overfrustration in disordered systems. *Journal of Physics A*, **1994**, 27, 2351-2365		57
11	Closure of macroscopic laws in disordered spin systems: a toy model. *Journal of Physics A*, **1994**, 27, 6947-6954		9
10	Off-Equilibrium Glassy Dynamics: A Simple Case. *Europhysics Letters*, **1994**, 26, 209-214	1.6	113
9	On mean field glassy dynamics out of equilibrium. *Physica A: Statistical Mechanics and Its Applications*, **1994**, 210, 48-72	3.3	74
8	An evolutionary version of the random energy model. *Journal of Physics A*, **1993**, 26, L1195-L1199		27
7	Free-Energy Cost for Ultrametricity Violations in Spin Glasses. *Europhysics Letters*, **1993**, 22, 405-411	1.6	11
6	Ultrametricity in an Inhomogeneous Simplest Spin Glass Model. *Europhysics Letters*, **1992**, 17, 5-9	1.6	9
5	Memorizing polymersᶸshapes and permutations. *Journal of Physics A*, **1992**, 25, 6631-6648		1