Edan Lerner

List of Publications by Year
in descending order

80 papers	3,601 citations	117453 34 h-index	133063 59 g-index
81 all docs	81 docs citations	81 times ranked	1316 citing authors

#	Article	IF	Citations
1	Measuring the free energy of hard-sphere colloidal glasses. Journal Physics D: Applied Physics, 2022, 55, 165304.	1.3	1
2	Ultrahigh Poisson's ratio glasses. Physical Review Materials, 2022, 6, .	0.9	3
3	Simple and Broadly Applicable Definition of Shear Transformation Zones. Physical Review Letters, 2021, 126, 015501.	2.9	32
4	Elastic moduli fluctuations predict wave attenuation rates in glasses. Journal of Chemical Physics, 2021, 154, 081101.	1.2	24
5	Mechanical disorder of sticky-sphere glasses. II. Thermomechanical inannealability. Physical Review E, 2021, 103, 022606.	0.8	12
6	Mechanical disorder of sticky-sphere glasses. I. Effect of attractive interactions. Physical Review E, 2021, 103, 022605.	0.8	23
7	Mean-field model of interacting quasilocalized excitations in glasses. SciPost Physics Core, 2021, 4, .	0.9	17
8	Low-frequency vibrational spectrum of mean-field disordered systems. Physical Review B, 2021, 103, .	1.1	27
9	Finite-size study of the athermal quasistatic yielding transition in structural glasses. Journal of Chemical Physics, 2021, 155, 056101.	1.2	10
10	Does mesoscopic elasticity control viscous slowing down in glassforming liquids?. Journal of Chemical Physics, 2021, 155, 074502.	1.2	9
11	Unified quantifier of mechanical disorder in solids. Physical Review E, 2021, 104, 035001.	0.8	6
12	Brittle-to-ductile transitions in glasses: Roles of soft defects and loading geometry. MRS Bulletin, 2021, 46, 902-914.	1.7	13
13	Bond-space operator disentangles quasilocalized and phononic modes in structural glasses. Physical Review E, 2021, 104, 044905.	0.8	7
14	Low-energy quasilocalized excitations in structural glasses. Journal of Chemical Physics, 2021, 155, 200901.	1.2	34
15	Universality of the Nonphononic Vibrational Spectrum across Different Classes of Computer Glasses. Physical Review Letters, 2020, 125, 085502.	2.9	60
16	Extracting the properties of quasilocalized modes in computer glasses: Long-range continuum fields, contour integrals, and boundary effects. Physical Review E, 2020, 102, 033008.	0.8	11
17	Robustness of density of low-frequency states in amorphous solids. Physical Review B, 2020, 102, .	1.1	17
18	Nonlinear quasilocalized excitations in glasses: True representatives of soft spots. Physical Review E, 2020, 101, 032130.	0.8	31

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19	Statistical mechanics of local force dipole responses in computer glasses. Journal of Chemical Physics, 2020, 152, 194503.	1.2	11
20	Finite-size effects in the nonphononic density of states in computer glasses. Physical Review E, 2020, 101, 032120.	0.8	24
21	Pinching a glass reveals key properties of its soft spots. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5228-5234.	3.3	67
22	An energy-landscape-based crossover temperature in glass-forming liquids. Journal of Chemical Physics, 2020, 153, 241101.	1.2	5
23	Simple argument for emergent anisotropic stress correlations in disordered solids. Journal of Chemical Physics, 2020, 153, 216101.	1.2	2
24	Mechanical properties of simple computer glasses. Journal of Non-Crystalline Solids, 2019, 522, 119570.	1.5	29
25	Non-reciprocal robotic metamaterials. Nature Communications, 2019, 10, 4608.	5.8	248
26	Wave attenuation in glasses: Rayleigh and generalized-Rayleigh scattering scaling. Journal of Chemical Physics, 2019, 151, 104503.	1.2	44
27	Rigidity and auxeticity transitions in networks with strong bond-bending interactions. European Physical Journal E, 2019, 42, 114.	0.7	13
28	Anisotropic structural predictor in glassy materials. Physical Review E, 2019, 99, 060601.	0.8	26
29	Theory for the density of interacting quasilocalized modes in amorphous solids. Physical Review E, 2019, 99, 023003.	0.8	24
30	Characterizing nonaffinity upon decompression of soft-sphere packings. Physical Review E, 2019, 100, 042609.	0.8	4
31	Fast generation of ultrastable computer glasses by minimization of an augmented potential energy. Physical Review E, 2019, 99, 012106.	0.8	47
32	Frustration-induced internal stresses are responsible for quasilocalized modes in structural glasses. Physical Review E, 2018, 97, 032140.	0.8	41
33	Micromechanical theory of strain stiffening of biopolymer networks. Physical Review E, 2018, 98, .	0.8	20
34	Protocol dependence of plasticity in ultrastable amorphous solids. Physical Review E, 2018, 98, .	0.8	9
35	Quasilocalized states of self stress in packing-derived networks. European Physical Journal E, 2018, 41, 93.	0.7	13
36	Theory for Swap Acceleration near the Glass and Jamming Transitions for Continuously Polydisperse Particles. Physical Review X, 2018, 8, .	2.8	33

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37	Universal Nonphononic Density of States in 2D, 3D, and 4D Glasses. Physical Review Letters, 2018, 121, 055501.	2.9	83
38	Universal disorder-induced broadening of phonon bands: from disordered lattices to glasses. New Journal of Physics, 2018, 20, 073022.	1.2	43
39	A characteristic energy scale in glasses. Journal of Chemical Physics, 2018, 148, 214502.	1.2	63
40	Comment on â€œSpatial structure of states of self stress in jammed systemsâ€•by D. M. Sussman, C. P. Goodrich, and A. J. Liu, Soft Matter, 2016,12, 3982. Soft Matter, 2017, 13, 1530-1531.	1.2	4
41	Effect of instantaneous and continuous quenches on the density of vibrational modes in model glasses. Physical Review E, 2017, 96, 020104.	0.8	53
42	Local thermal energy as a structural indicator in glasses. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7289-7294.	3.3	65
43	Unjamming in models with analytic pairwise potentials. Physical Review E, 2017, 95, 062141.	0.8	11
44	Emergent interparticle interactions in thermal amorphous solids. Physical Review E, 2016, 94, 051001.	0.8	9
45	Statistics and Properties of Low-Frequency Vibrational Modes in Structural Glasses. Physical Review Letters, 2016, 117, 035501.	2.9	166
46	Nonlinear plastic modes in disordered solids. Physical Review E, 2016, 93, 011001.	0.8	52
47	Micromechanics of nonlinear plastic modes. Physical Review E, 2016, 93, 053004.	0.8	22
48	Effect of particle collisions in dense suspension flows. Physical Review E, 2016, 94, 022601.	0.8	13
49	Nonlinear modes disentangle glassy and Goldstone modes in structural glasses. SciPost Physics, 2016, 1, .	1.5	49
50	Unified theory of inertial granular flows and non-Brownian suspensions. Physical Review E, 2015, 91, 062206.	0.8	80
51	Theory of the jamming transition at finite temperature. Journal of Chemical Physics, 2015, 142, 164503.	1.2	50
52	Density scaling and quasiuniversality of flow-event statistics for athermal plastic flows. Physical Review E, 2014, 90, 052304.	0.8	14
53	Length scales and self-organization in dense suspension flows. Physical Review E, 2014, 89, 022305.	0.8	33
54	Force distribution affects vibrational properties in hard-sphere glasses. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17054-17059.	3.3	100

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55	On the density of shear transformations in amorphous solids. Europhysics Letters, 2014, 105, 26003.	0.7	82
56	Breakdown of continuum elasticity in amorphous solids. Soft Matter, 2014, 10, 5085.	1.2	91
57	Scaling description of the yielding transition in soft amorphous solids at zero temperature. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14382-14387.	3.3	204
58	Effects of coordination and pressure on sound attenuation, boson peak and elasticity in amorphous solids. Soft Matter, 2014, 10, 5628.	1.2	167
59	Simulations of driven overdamped frictionless hard spheres. Computer Physics Communications, 2013, 184, 628-637.	3.0	21
60	Phonon gap and localization lengths in floppy materials. Soft Matter, 2013, 9, 146-154.	1.2	61
61	Low-energy non-linear excitations in sphere packings. Soft Matter, 2013, 9, 8252.	1.2	117
62	A unified framework for non-Brownian suspension flows and soft amorphous solids. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4798-4803.	3.3	153
63	Toward a microscopic description of flow near the jamming threshold. Europhysics Letters, 2012, 99, 58003.	0.7	36
64	Direct estimate of the static length-scale accompanying the glass transition. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 1001-1008.	1.2	59
65	Do athermal amorphous solids exist?. Physical Review E, 2011, 83, 061101.	0.8	96
66	Effect of the interparticle potential on the yield stress of amorphous solids. Physical Review E, 2011, 83, 046106.	0.8	21
67	Plasticity-induced anisotropy in amorphous solids: The Bauschinger effect. Physical Review E, 2010, 82, 026104.	0.8	19
68	Size of Plastic Events in Strained Amorphous Solids at Finite Temperatures. Physical Review Letters, 2010, 104, 025501.	2.9	49
69	Statistical physics of the yielding transition in amorphous solids. Physical Review E, 2010, 82, 055103.	0.8	135
70	Predicting Plastic Flow Events in Athermal Shear-Strained Amorphous Solids. Physical Review Letters, 2010, 104, 215502.	2.9	48
71	Athermal nonlinear elastic constants of amorphous solids. Physical Review E, 2010, 82, 026105.	0.8	48
72	Statistical physics of elastoplastic steady states in amorphous solids: Finite temperatures and strain rates. Physical Review E, 2010, 82, 031301.	0.8	67

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73	Quantitative theory of a time-correlation function in a one-component glass-forming liquid with anisotropic potential. Physical Review E, 2009, 79, 031501.	0.8	11
74	Relations between material mechanical parameters and interparticle potential in amorphous solids. Physical Review B, 2009, 79, .	1.1	6
75	Scaling theory for steady-state plastic flows in amorphous solids. Physical Review E, 2009, 80, 026128.	0.8	26
76	Locality and nonlocality in elastoplastic responses of amorphous solids. Physical Review E, 2009, 79, 066109.	0.8	104
77	Statistical Mechanics and Dynamics of a Three-Dimensional Glass-Forming System. Physical Review Letters, 2009, 102, 125701.	2.9	38
78	Predictive statistical mechanics for glass forming systems. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P11010.	0.9	9
79	Quantitative theory of a relaxation function in a glass-forming system. Physical Review E, 2008, 78, 020501.	0.8	8
80	Statistical Mechanics of the Glass Transition in One-Component Liquids with an Anisotropic Potential. Physical Review Letters, 2007, 99, 135702.	2.9	16