Vassiliy Lubchenko

List of Publications by Year
in descending order

53 papers	2,123 citations	393982 19 h-index	233125 45 g-index
69 all docs	69 docs citations	69 times ranked	1562 citing authors

#	Article	IF	Citations
1	Theory of Structural Glasses and Supercooled Liquids. Annual Review of Physical Chemistry, 2007, 58, 235-266.	4.8	683
2	Theory of aging in structural glasses. Journal of Chemical Physics, 2004, 121, 2852-2865.	1.2	157
3	The origin of the boson peak and thermal conductivity plateau in low-temperature glasses. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 1515-1518.	3.3	141
4	Barrier softening near the onset of nonactivated transport in supercooled liquids: Implications for establishing detailed connection between thermodynamic and kinetic anomalies in supercooled liquids. Journal of Chemical Physics, 2003, 119, 9088-9105.	1.2	120
5	Origin of Anomalous Mesoscopic Phases in Protein Solutions. Journal of Physical Chemistry B, 2010, 114, 7620-7630.	1.2	95
6	Intrinsic Quantum Excitations of Low Temperature Glasses. Physical Review Letters, 2001, 87, 195901.	2.9	93
7	Mosaic Energy Landscapes of Liquids and the Control of Protein Conformational Dynamics by Glass-Forming Solvents. Journal of Physical Chemistry B, 2005, 109, 7488-7499.	1.2	73
8	Ostwald-Like Ripening of the Anomalous Mesoscopic Clusters in Protein Solutions. Journal of Physical Chemistry B, 2012, 116, 10657-10664.	1.2	61
9	Theory of the structural glass transition: a pedagogical review. Advances in Physics, 2015, 64, 283-443.	35.9	50
10	Lack of Dependence of the Sizes of the Mesoscopic Protein Clusters on Electrostatics. Biophysical Journal, 2015, 109, 1959-1968.	0.2	40
11	Shear thinning in deeply supercooled melts. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 11506-11510.	3.3	30
12	Anisotropy of the Coulomb Interaction between Folded Proteins: Consequences for Mesoscopic Aggregation of Lysozyme. Biophysical Journal, 2012, 102, 1934-1943.	0.2	28
13	A Universal Criterion of Meltingâ€. Journal of Physical Chemistry B, 2006, 110, 18779-18786.	1.2	26
14	Stress Distribution and the Fragility of Supercooled Melts. Journal of Physical Chemistry B, 2009, 113, 16337-16345.	1.2	25
15	Microscopically Based Calculations of the Free Energy Barrier and Dynamic Length Scale in Supercooled Liquids: The Comparative Role of Configurational Entropy and Elasticity. Journal of Physical Chemistry B, 2013, 117, 15204-15219.	1.2	22
16	Electronic structure and the glass transition in pnictide and chalcogenide semiconductor alloys. II. The intrinsic electronic midgap states. Journal of Chemical Physics, 2010, 133, 234504.	1.2	21
17	Electronic structure and the glass transition in pnictide and chalcogenide semiconductor alloys. I. The formation of theppÏƒ-network. Journal of Chemical Physics, 2010, 133, 234503.	1.2	21
18	An intrinsic formation mechanism for midgap electronic states in semiconductor glasses. Journal of Chemical Physics, 2010, 132, 044508.	1.2	19

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19	â€˜â€˜False tunnelingâ€™â€™ and multirelaxation time nonexponential kinetics of electron transfer in polar glasses. Journal of Chemical Physics, 1996, 104, 1875-1885.	1.2	18
20	Aging, Jamming, and the Limits of Stability of Amorphous Solids. Journal of Physical Chemistry B, 2018, 122, 3280-3295.	1.2	18
21	A mechanism for reversible mesoscopic aggregation in liquid solutions. Nature Communications, 2019, 10, 2381.	5.8	17
22	Charge and momentum transfer in supercooled melts: Why should their relaxation times differ?. Journal of Chemical Physics, 2007, 126, 174503.	1.2	15
23	Control of the nucleation of sickle cell hemoglobin polymers by free hematin. Faraday Discussions, 2012, 159, 87.	1.6	15
24	Liquid State Elasticity and the Onset of Activated Transport in Glass Formers. Journal of Physical Chemistry B, 2012, 116, 5729-5737.	1.2	15
25	Universality of the onset of activated transport in Lennard-Jones liquids with tunable coordination: Implications for the effects of pressure and directional bonding on the crossover to activated transport, configurational entropy, and fragility of glassforming liquids. Journal of Chemical Physics, 2012, 136, 084504.	1.2	15
26	On the Mechanism of Activated Transport in Glassy Liquids. Journal of Physical Chemistry B, 2014, 118, 13744-13759.	1.2	14
27	Light Absorption in Strongly Irradiated Long Range Polar Electron Transfer Systems. Physical Review Letters, 1996, 77, 2917-2920.	2.9	13
28	Electrodynamics of amorphous media at low temperatures. Molecular Physics, 2006, 104, 1325-1335.	0.8	12
29	Microscopic calculation of the free energy cost for activated transport in glass-forming liquids. Journal of Chemical Physics, 2013, 138, 12A534.	1.2	12
30	Competing interactions create functionality through frustration. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10635-10636.	3.3	10
31	Self-consistent elastic continuum theory of degenerate, equilibrium aperiodic solids. Journal of Chemical Physics, 2014, 141, 174502.	1.2	10
32	The chemical bond as an emergent phenomenon. Journal of Chemical Physics, 2017, 146, 174502.	1.2	9
33	Amorphous chalcogenides as random octahedrally bonded solids: I. Implications for the first sharp diffraction peak, photodarkening, and Boson peak. Journal of Chemical Physics, 2017, 147, 114505.	1.2	9
34	Low-temperature anomalies in disordered solids: a cold case of contested relics?. Advances in Physics: X, 2018, 3, 1510296.	1.5	9
35	The effect of charged impurities on a glass transition in a polar medium. Journal of Chemical Physics, 1996, 104, 664-668.	1.2	8
36	Quantum Phenomena in Structural Glasses: The Intrinsic Origin of Electronic and Cryogenic Anomalies. Journal of Physical Chemistry Letters, 2012, 3, 1-7.	2.1	8

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37	Pressure in the Landau-Ginzburg functional: Pascalâ€™s law, nucleation in fluid mixtures, a meanfield theory of amphiphilic action, and interface wetting in glassy liquids. Journal of Chemical Physics, 2015, 143, 124502.	1.2	8
38	Glass Dynamics Deep in the Energy Landscape. Journal of Physical Chemistry B, 2021, 125, 9052-9068.	1.2	8
39	Random First-Order Phase Transition Theory of the Structural Glass Transition. , 2012, , 223-236.		7
40	Spectral diffusion and drift: Single chromophore and en masse. Journal of Chemical Physics, 2007, 126, 064701.	1.2	6
41	Structural Origin of the Midgap Electronic States and the Urbach Tail in Pnictogen-Chalcogenide Glasses. Journal of Physical Chemistry B, 2018, 122, 8082-8097.	1.2	6
42	Quantitative theory of structural relaxation in supercooled liquids and folded proteins. Journal of Non-Crystalline Solids, 2006, 352, 4400-4409.	1.5	5
43	Glass transition imminent, resistance is futile. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3289-3291.	3.3	5
44	Photon Activation of Glassy Dynamics: A Mechanism for Photoinduced Fluidization, Aging, and Information Storage in Amorphous Materials. Journal of Physical Chemistry B, 2020, 124, 8434-8453.	1.2	5
45	Interrupted escape and the emergence of exponential relaxation. Journal of Chemical Physics, 2004, 121, 5958-5976.	1.2	4
46	Multiphoton absorption by metalâ€“metal long distance chargeâ€transfer complexes in polar solvents. Journal of Chemical Physics, 1996, 105, 9441-9453.	1.2	3
47	Long-range electron transfer driven by two lasers: Induced irradiance. Journal of Chemical Physics, 1998, 109, 691-703.	1.2	3
48	Temperature-driven narrowing of the insulating gap as a precursor of the insulator-to-metal transition: Implications for the electronic structure of solids. Journal of Chemical Physics, 2019, 150, 244502.	1.2	3
49	Control of Chemical Equilibrium by Noiseâ€. Journal of Physical Chemistry B, 2004, 108, 19852-19858.	1.2	2
50	Molecular Binoculars: How to Spatially Resolve Environmental Fluctuations by Following Two or More Single-Molecule Spectral Trails at a Time. Journal of Physical Chemistry B, 2013, 117, 12734-12741.	1.2	1
51	Response to â€˜â€˜Comment on â€˜The effect of charged impurities on a glass transition in a polar mediumâ€™â€‰â€™â€™ [J. Chem. Phys. 105, 8979 (1996)]. Journal of Chemical Physics, 1996, 105, 8981-8982.	1.2	0
52	Correction to â€œQuantum Phenomena in Structural Glasses: The Intrinsic Origin of Electronic and Cryogenic Anomaliesâ€ Journal of Physical Chemistry Letters, 2012, 3, 1745-1745.	2.1	0
53	Tribute to Peter G. Wolynes. Journal of Physical Chemistry B, 2013, 117, 12669-12671.	1.2	0