James C Phillips

List of Publications by Year
in descending order

102 papers	5,211 citations	279798 23 h-index	82547 72 g-index
104 all docs	104 docs citations	104 times ranked	2689 citing authors

#	Article	IF	Citations
1	Topology of covalent non-crystalline solids I: Short-range order in chalcogenide alloys. Journal of Non-Crystalline Solids, 1979, 34, 153-181.	3.1	1,758
2	Stretched exponential relaxation in molecular and electronic glasses. Reports on Progress in Physics, 1996, 59, 1133-1207.	20.1	798
3	Topology of covalent non-crystalline solids II: Medium-range order in chalcogenide alloys and Aî—,Si(Ge). Journal of Non-Crystalline Solids, 1981, 43, 37-77.	3.1	753
4	Self-organization in network glasses. Journal of Non-Crystalline Solids, 2000, 266-269, 859-866.	3.1	243
5	Self-organization and the physics of glassy networks. Philosophical Magazine, 2005, 85, 3823-3838.	1.6	149
6	Rings and rigidity transitions in network glasses. Physical Review B, 2003, 67, .	3.2	132
7	Giant defect-enhanced electron-phonon interactions in ternary copper oxide superconductors. Physical Review Letters, 1987, 59, 1856-1859.	7.8	87
8	Quantitative principles of silicate glass chemistry. Solid State Communications, 2000, 117, 47-51.	1.9	77
9	Pseudogaps, dopants, and strong disorder in cuprate high-temperature superconductors. Reports on Progress in Physics, 2003, 66, 2111-2182.	20.1	77
10	Global multinary structural chemistry of stable quasicrystals, high-TCferroelectrics, and high-Tcsuperconductors. Physical Review B, 1992, 45, 7650-7676.	3.2	69
11	Topological derivation of shape exponents for stretched exponential relaxation. Journal of Chemical Physics, 2005, 122, 074510.	3.0	69
12	Universal Intermediate Phases of Dilute Electronic and Molecular Glasses. Physical Review Letters, 2002, 88, 216401.	7.8	63
13	Onset of rigidity in glasses: From random to self-organized networks. Journal of Non-Crystalline Solids, 2007, 353, 1732-1740.	3.1	63
14	Microscopic aspects of Stretched Exponential Relaxation (SER) in homogeneous molecular and network glasses and polymers. Journal of Non-Crystalline Solids, 2011, 357, 3853-3865.	3.1	47
15	Scaling and self-organized criticality in proteins: Lysozyme<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>c</mml:mi></mml:math>. Physical Review E, 2009, 80, 051916.	2.1	40
16	Revealing the Effect of Irradiation on Cement Hydrates: Evidence of a Topological Self-Organization. ACS Applied Materials & Interfaces, 2017, 9, 32377-32385.	8.0	40
17	Slow dynamics in glasses: A comparison between theory and experiment. Physical Review B, 2006, 73, .	3.2	38
18	Self-organized networks and lattice effects in high-temperature superconductors. Physical Review B, 2007, 75, .	3.2	36

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19	Bifurcation of stretched exponential relaxation in microscopically homogeneous glasses. Journal of Non-Crystalline Solids, 2012, 358, 893-897.	3.1	33
20	Scaling and self-organized criticality in proteins I. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 3107-3112.	7.1	32
21	Fractals and self-organized criticality in proteins. Physica A: Statistical Mechanics and Its Applications, 2014, 415, 440-448.	2.6	32
22	Direct evidence for the quantum interlayer defect-assisted percolation model of cuprate high-Tcsuperconductivity. Physical Review B, 1989, 39, 7356-7358.	3.2	25
23	Structure and function of window glass and Pyrex. Journal of Chemical Physics, 2008, 128, 174506.	3.0	25
24	Microscopic origin of collective exponentially small resistance states. Solid State Communications, 2003, 127, 233-236.	1.9	23
25	Scaling and self-organized criticality in proteins II. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 3113-3118.	7.1	23
26	Coherent resonant pinning, oxygen ordering, and high-temperature superconductivity in the multilayer cuprates. Physical Review Letters, 1994, 72, 3863-3866.	7.8	22
27	Nature and scaling properties of the intermediate phase of the impurity band metalâ€“insulator transition. Solid State Communications, 1999, 109, 301-304.	1.9	22
28	Why Aî²42 Is Much More Toxic than Aî²40. ACS Chemical Neuroscience, 2019, 10, 2843-2847.	3.5	22
29	Percolative theories of strongly disordered ceramic high-temperature superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1307-1310.	7.1	21
30	Ideally glassy hydrogen-bonded networks. Physical Review B, 2006, 73, .	3.2	20
31	Nanodomain structure and function of high-temperature superconductors. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2001, 81, 745-756.	0.6	19
32	Quantum percolation and lattice instabilities in high-Tccuprate superconductors. Physical Review B, 1989, 40, 8774-8779.	3.2	18
33	A stringent test for hydrophobicity scales: Two proteins with 88% sequence identity but different structure and function. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9233-9237.	7.1	18
34	Topological theory of electron-phonon interactions in high-temperature superconductors. Physical Review B, 2005, 71, .	3.2	15
35	Quantum percolation in cuprate high-temperature superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9917-9919.	7.1	15
36	Hydropathic Self-Organized Criticality: A Magic Wand for Protein Physics. Protein and Peptide Letters, 2012, 19, 1089-1093.	0.9	15

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37	Diffusion of knowledge and globalization in the web of twentieth century science. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 3995-4003.	2.6	13
38	Zigzag filamentary theory of longitudinal optical phonons in high-temperature superconductors. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2001, 81, 35-53.	0.6	12
39	A new class of intermediate phases in non-crystalline films based on a confluent double percolation mechanism. Journal of Physics Condensed Matter, 2007, 19, 455219.	1.8	12
40	Ineluctable Complexity of High Temperature Superconductivity Elucidated. Journal of Superconductivity and Novel Magnetism, 2014, 27, 345-347.	1.8	12
41	Self-organized networks: Darwinian evolution of dynein rings, stalks, and stalk heads. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7799-7802.	7.1	12
42	Thermodynamic Description of Beta Amyloid Formation Using Physicochemical Scales and Fractal Bioinformatic Scales. ACS Chemical Neuroscience, 2015, 6, 745-750.	3.5	11
43	Is there an ideal phase diagram for high-temperature superconductors?. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1999, 79, 527-536.	0.6	10
44	Self-organized criticality and color vision: A guide to waterâ€“protein landscape evolution. Physica A: Statistical Mechanics and Its Applications, 2013, 392, 468-473.	2.6	10
45	A note on compacted networks. Physics Today, 2013, 66, 10-11.	0.3	9
46	Fractals and self-organized criticality in anti-inflammatory drugs. Physica A: Statistical Mechanics and Its Applications, 2014, 415, 538-543.	2.6	9
47	High temperature cuprate-like superconductivity. Chemical Physics Letters, 2009, 473, 274-278.	2.6	8
48	Evolution of the ubiquitin-activating enzyme Uba1 (E1). Physica A: Statistical Mechanics and Its Applications, 2017, 483, 456-461.	2.6	8
49	Anomalous glass transitions and stretched exponential relaxation in fused salts and polar organic compounds. Physical Review E, 1996, 53, 1732-1739.	2.1	7
50	Allometric scaling in evolutionary biology: Implications for the metal-insulator and network glass stiffness transitions and high-temperature superconductivity, and the converse. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2000, 80, 1773-1787.	0.6	7
51	Percolative model of nanoscale phase separation in high-temperature superconductors. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 783-790.	0.6	6
52	Frequencyâ€“rank correlations of rhodopsin mutations with tuned hydropathic roughness based on self-organized criticality. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 5473-5478.	2.6	6
53	Self-organized criticality in proteins: Hydropathic roughening profiles of G-protein-coupled receptors. Physical Review E, 2013, 87, .	2.1	6
54	Punctuated Evolution of Influenza Virus Neuraminidase (A/H1N1) under Opposing Migration and Vaccination Pressures. BioMed Research International, 2014, 2014, 1-14.	1.9	6

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55	Electron-phonon interactions cause high-temperature superconductivity. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 931-942.	0.6	5
56	Superconductive excitations and the infrared vibronic spectra of BSCCO. Physica Status Solidi (B): Basic Research, 2005, 242, 51-57.	1.5	5
57	Hard-Wired Dopant Networks and the Prediction of High Transition Temperatures in Ceramic Superconductors. Advances in Condensed Matter Physics, 2010, 2010, 1-13.	1.1	5
58	Oxygen channels and fractal waveâ€“particle duality in the evolution of myoglobin and neuroglobin. Physica A: Statistical Mechanics and Its Applications, 2016, 463, 1-11.	2.6	5
59	Thermodynamic Scaling of Interfering Hemoglobin Strain Field Waves. Journal of Physical Chemistry B, 2018, 122, 9324-9330.	2.6	5
60	Synchronized attachment and the Darwinian evolution of coronaviruses CoV-1 and CoV-2. Physica A: Statistical Mechanics and Its Applications, 2021, 581, 126202.	2.6	5
61	Nanoscopic filters as the origin of d-wave energy gaps. Philosophical Magazine, 2003, 83, 3255-3265.	1.6	4
62	Why are cuprates the only high-temperature superconductors?. Philosophical Magazine, 2005, 85, 931-947.	1.6	4
63	Is there a lowest upper bound for superconductive transition temperatures?. Chemical Physics Letters, 2008, 451, 98-101.	2.6	4
64	Nanostructural model of metal-insulator transition in layeredLixZrNClsuperconductors. Physical Review B, 2008, 77, .	3.2	4
65	Universal non-Landau, self-organized, lattice disordering percolative dopant network sub-T _c phase transition in ceramic superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15534-15537.	7.1	4
66	Hard-Wired Dopant Networks and the Prediction ofÂHigh Transition Temperatures in Ceramic Superconductors. Journal of Superconductivity and Novel Magnetism, 2010, 23, 1267-1279.	1.8	4
67	Phase transitions in the web of science. Physica A: Statistical Mechanics and Its Applications, 2015, 428, 173-177.	2.6	4
68	Electron-phonon interactions cause high-temperature superconductivity. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 931-942.	0.6	4
69	Fractal nature and scaling exponents of non-Drude currents in non-Fermi liquids. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2001, 81, 757-770.	0.6	3
70	Zigzag filamentary theory of broken symmetry of neutron and infrared vibronic spectra of YBa2Cu3O6+x. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 1163-1200.	0.6	3
71	Universal Intermediate Phases and Nanostructures of High-Temperature Superconductors. Journal of Superconductivity and Novel Magnetism, 2002, 15, 393-398.	0.5	3
72	Network topology and subgap resonances observed by Fourier transform scanning tunnelling microscopy of cuprate high-temperature superconductors. Philosophical Magazine, 2003, 83, 3267-3281.	1.6	3

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73	Similarity is not enough: Tipping points of Ebola Zaire mortalities. Physica A: Statistical Mechanics and Its Applications, 2015, 427, 277-281.	2.6	3
74	Autoantibody recognition mechanisms of p53 epitopes. Physica A: Statistical Mechanics and Its Applications, 2016, 451, 162-170.	2.6	3
75	Why Ubiquitin Has Not Evolved. International Journal of Molecular Sciences, 2017, 18, 1995.	4.1	3
76	Network topology and dispersive kinks observed by high-resolution photoemission spectroscopy in cuprate high-temperature superconductors. Philosophical Magazine, 2003, 83, 1949-1962.	1.6	2
77	Hierarchical space-filling in network and molecular glasses. Journal of Physics Condensed Matter, 2007, 19, 455213.	1.8	2
78	Chemical self-organization length scales in non- and nano-crystalline thin films. Solid-State Electronics, 2007, 51, 1308-1318.	1.4	2
79	Is there a lowest upper bound for superconductive transition temperatures?. Journal of Physics: Conference Series, 2008, 108, 012033.	0.4	2
80	Chemical Bonding Self-Organizations and Percolation Theory Applied to Minimization of Macroscopic Strain: Internal Interfaces in Non-Crystalline and Nano-Crystalline Thin Films. E-Journal of Surface Science and Nanotechnology, 2009, 7, 375-380.	0.4	2
81	Giant hub Src and Syk tyrosine kinase thermodynamic profiles recapitulate evolution. Physica A: Statistical Mechanics and Its Applications, 2017, 483, 330-336.	2.6	2
82	Hydropathic wave ordering of alpha crystallinâ€"Membrane interactions enhances human lens transparency and resists cataracts. Physica A: Statistical Mechanics and Its Applications, 2019, 514, 573-579.	2.6	2
83	Ted Geballe and HTSC. Journal of Superconductivity and Novel Magnetism, 2020, 33, 11-13.	1.8	2
84	Phase transitions may explain why SARS-CoV-2 spreads so fast and why new variants are spreading faster. Physica A: Statistical Mechanics and Its Applications, 2022, 598, 127318.	2.6	2
85	Phillips Replies:. Physical Review Letters, 2003, 90, .	7.8	1
86	Internal stresses and formation of switchable nanowires at thin silica film edges. Journal of Applied Physics, 2011, 109, 034312.	2.5	1
87	Vaccine escape in 2013â€"4 and the hydropathic evolution of glycoproteins of A/H3N2 viruses. Physica A: Statistical Mechanics and Its Applications, 2016, 455, 38-43.	2.6	1
88	Hidden thermodynamic information in protein amino acid mutation tables. Physica A: Statistical Mechanics and Its Applications, 2017, 469, 676-680.	2.6	1
89	Autoantibody recognition mechanisms of MUC1. Physica A: Statistical Mechanics and Its Applications, 2017, 469, 244-249.	2.6	1
90	Prediction (early recognition) of emerging flu strain clusters. Physica A: Statistical Mechanics and Its Applications, 2017, 479, 371-378.	2.6	1

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91	Modern discovery in soft-matter physics. Physics Today, 2020, 73, 11-11.	0.3	1
92	Filamentary model of vibronic spectra of YBa2Cu3O6.95. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 1703-1714.	0.6	0
93	A new approach to gate stack integrity based on mechanical and electrostatic strain relief in self-organized interfacial suboxide transition regions. , 0, , .		0
94	Suppression of chemical phase separation in high-k zirconium an hafnium nitro-silicate and alumino-silicate alloys for CMOS applications. , 0, , .		0
95	Microscopic description of strainâ€reducing chemical bonding selfâ€organizations in nonâ€crystalline alloys. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 885-891.	1.8	0
96	A microscopic bonding model for the compositional dependence of the first sharp diffraction peak (FSDP) in GexSe1-xalloys. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	0
97	Proteinquakes in the Evolution of Influenza Virus Hemagglutinin (A/H1N1) under Opposing Migration and Vaccination Pressures. BioMed Research International, 2015, 2015, 1-9.	1.9	0
98	Bioinformatic scaling of allosteric interactions in biomedical isozymes. Physica A: Statistical Mechanics and Its Applications, 2016, 457, 289-294.	2.6	0
99	Why human milk is more nutritious than cow milk. Physica A: Statistical Mechanics and Its Applications, 2018, 497, 302-309.	2.6	0
100	Configuration interaction of hydropathic waves enables ubiquitin functionality. Physica A: Statistical Mechanics and Its Applications, 2018, 491, 377-381.	2.6	0
101	Reply to Koonin et al.: Evolution of proteins is Darwinian. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19641-19642.	7.1	0
102	Darwinian Evolution of Intelligence. Frontiers in Bioinformatics, 2022, 2, .	2.1	0