P Boolchand

List of Publications by Year
in descending order

112 papers	5,096 citations	71102 41 h-index	91884 69 g-index
114 all docs	114 docs citations	114 times ranked	1886 citing authors

#	Article	IF	Citations
1	Melt dynamics, nature of glass transition and topological phases of equimolar GexAsxS100â^’2x ternary glasses. Journal of Alloys and Compounds, 2021, 868, 159101.	5.5	6
2	Evidence for 3-D network of P-centered pyramidal P(Se1/2)3 and quasi-tetrahedral Se P(Se1/2)3 local structures and their 3-membered ring super structure counterparts decoupled from quasi 1D-ethylene-like P2Se2+x (xÂ=Â2,1,0) chains in PxSe100â^’x glasses. Journal of Alloys and Compounds, 2021, 895, 162645.	5.5	3
3	Response to â€œComment on â€˜Molecular origin of aging of pure Se glass: Growth of inter-chain structural correlations, network compaction, and partial orderingâ€™â€•[J. Chem. Phys. 148, 157101 (2018)]. Journal of Chemical Physics, 2018, 148, 157102.	3.0	0
4	119Sn MÃ¶ssbauer spectroscopy of the time-resolved evolution of SnCl3â^’ ligand structure on the surface of growing platinum nanoparticles. Applied Surface Science, 2018, 448, 362-368.	6.1	3
5	Glassy materials with enhanced thermal stability. MRS Bulletin, 2017, 42, 23-28.	3.5	22
6	Molecular origin of aging of pure Se glass: Growth of inter-chain structural correlations, network compaction, and partial ordering. Journal of Chemical Physics, 2017, 146, 224506.	3.0	22
7	Structural properties of Ge-S amorphous networks in relationship with rigidity transitions: An<i>ab initio</i>molecular dynamics study. Physical Review B, 2017, 96, .	3.2	20
8	Local- and intermediate-range structures of Asâ€“Se glasses from the stoichiometric to the stiffness transition region. Journal of Non-Crystalline Solids, 2016, 431, 31-35.	3.1	10
9	Structural singularities in GexTe100â^’x films. Journal of Chemical Physics, 2015, 143, 074502.	3.0	22
10	Rigidity transitions in glasses driven by changes in network dimensionality and structural groupings. Europhysics Letters, 2014, 108, 56001.	2.0	18
11	Effect of mixed Ge/Si cross-linking on the physical properties of amorphous Ge-Si-Te networks. Journal of Applied Physics, 2014, 115, .	2.5	24
12	Topology and glass structure evolution in (BaO)x((B2O3)32(SiO2)68)100 â^’ x ternaryâ€”Evidence of rigid, intermediate, and flexible phases. Journal of Chemical Physics, 2014, 140, 144506.	3.0	11
13	Designing heavy metal oxide glasses with threshold properties from network rigidity. Journal of Chemical Physics, 2014, 140, 014503.	3.0	14
14	Fragility and molar volumes of non-stoichiometric chalcogenides: The crucial role of melt/glass homogenization. Physica Status Solidi (B): Basic Research, 2014, 251, 1322-1329.	1.5	21
15	Crucial effect of melt homogenization on the fragility of non-stoichiometric chalcogenides. Journal of Chemical Physics, 2014, 140, 134501.	3.0	38
16	Topological Origin of Fragility, Network Adaptation, and Rigidity and Stress Transitions in Especially Homogenized Nonstoichiometric Binary Ge_{<i>x</i>}S_{100â€“<i>x</i>} Glasses. Journal of Physical Chemistry B, 2014, 118, 2249-2263.	2.6	42
17	Elastic Phases of Ge_{<i>x</i>}Sb_{<i>x</i>}Se_{100â€“2<i>x</i>} Ternary Glasses Driven by Topology. Journal of Physical Chemistry B, 2013, 117, 10027-10034.	2.6	20
18	Superstrong nature of covalently bonded glass-forming liquids at select compositions. Journal of Chemical Physics, 2013, 139, 164511.	3.0	53

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19	Midgap states, Raman scattering, glass homogeneity, percolative rigidity and stress transitions in chalcogenides. Physica Status Solidi (B): Basic Research, 2012, 249, 2013-2018.	1.5	16
20	Unexpected Behavior of Copper in Modified Ferrites during High Temperature WGS Reactionâ€"Aspects of Fe³⁺ â†” Fe²⁺ Redox Chemistry from MÃ¶ssbauer and XPS Studies. Journal of Physical Chemistry C, 2012, 116, 11019-11031.	3.1	131
21	Meeting experimental challenges to physics of network glasses: Assessing the role of sample homogeneity. Solid State Communications, 2011, 151, 1851-1855.	1.9	44
22	Long term aging of selenide glasses: evidence of sub-<i>T</i>_gendotherms and pre-<i>T</i>_gexotherms. Journal of Physics Condensed Matter, 2010, 22, 065104.	1.8	46
23	Fast-ion conduction and flexibility and rigidity of solid electrolyte glasses. Physical Review B, 2009, 80, .	3.2	34
24	Elastic flexibility, fast-ion conduction, boson and floppy modes in AgPO₃â€"AgI glasses. Journal of Physics Condensed Matter, 2009, 21, 205106.	1.8	29
25	The effects of thermal annealing on the obliquely deposited Agâ€"Geâ€"S thin films. Journal of Physics and Chemistry of Solids, 2009, 70, 978-981.	4.0	5
26	Intermediate Phases, structural variance and network demixing in chalcogenides: The unusual case of group V sulfides. Journal of Non-Crystalline Solids, 2009, 355, 1773-1785.	3.1	44
27	Slab waveguides and nanoscale patterning of pulsed laser-deposited Ge0.2Se0.8 chalcogenide films. Applied Physics Letters, 2008, 93, .	3.3	17
28	Intermediate phase, network demixing, boson and floppy modes, and compositional trends in glass transition temperatures of binary<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>As</mml:mtext></mml:mrow><mml:mi>x</mml:mi></mml:msub> Physical Review B, 2008, 78, .	3.2	88
29	Origin of giant photocontraction in obliquely deposited amorphous<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Ge</mml:mtext></mml:mrow><mml:mi>x</mml:mi></mml:msub films and the intermediate phase. Physical Review B, 2008, 78, .	3.2	15
30	Abrupt boundaries of intermediate phases and space filling in oxide glasses. Journal of Physics Condensed Matter, 2008, 20, 202101.	1.8	46
31	Chemical alloying and light-induced collapse of intermediate phases in chalcohalide glasses. Journal of Physics Condensed Matter, 2007, 19, 226201.	1.8	12
32	Fast-Ion Conduction and Flexibility of Glassy Networks. Physical Review Letters, 2007, 98, 195501.	7.8	59
33	Origin of Conductivity Threshold in the Solid Electrolyte Glass System: $(hbox{Ag}_{2}) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	2.0	12
34	Raman scattering as a probe of intermediate phases in glassy networks. Journal of Raman Spectroscopy, 2007, 38, 660-672.	2.5	42
35	129I and 119Sn MÃ¶ssbauer spectroscopy, reversibility window and nanoscale phase separation in binary GexSe1â^'x glasses. Physica B: Condensed Matter, 2007, 389, 18-28.	2.7	24
36	Raman spectroscopy study of the influence of processing conditions on the structure of polycrystalline diamond films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 179-189.	2.1	30

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37	Reversibility window in as-quenched Geâ€“Asâ€“S glasses. Journal of Physics and Chemistry of Solids, 2005, 66, 185-189.	4.0	15
38	Ageing, fragility and the reversibility window in bulk alloy glasses. Journal of Physics Condensed Matter, 2005, 17, L1-L7.	1.8	106
39	Direct evidence of rigidity loss and self-organization in silicate glasses. Journal of Physics Condensed Matter, 2005, 17, 4889-4896.	1.8	70
40	Shift in elastic phase boundaries due to nanoscale phase separation in network glasses: the case of GexAsxS1â€‰âˆ’â€‰2x. Philosophical Magazine, 2005, 85, 875-884.	1.6	35
41	Self-organization and the physics of glassy networks. Philosophical Magazine, 2005, 85, 3823-3838.	1.6	149
42	Pressure Raman effects and internal stress in network glasses. Physical Review B, 2005, 71, .	3.2	121
43	The thermally reversing window in ternary GexPxS1Â2xglasses. Journal of Physics Condensed Matter, 2004, 16, S5121-S5138.	1.8	17
44	Light-Induced Giant Softening of Network Glasses Observed near the Mean-Field Rigidity Transition. Physical Review Letters, 2004, 92, 245501.	7.8	63
45	Intrinsic nanoscale phase separation of bulk As2S3glass. Philosophical Magazine, 2003, 83, 2941-2953.	1.6	87
46	Evidence for nanoscale phase separation of stressedâ€“rigid glasses. Journal of Physics Condensed Matter, 2003, 15, S2397-S2411.	1.8	61
47	Comment on â€œMicroscopic Theory of Network Glassesâ€ Physical Review Letters, 2003, 91, 159601; author repy 159602.	7.8	4
48	Macroscopic phase separation of Se-rich (x< 1/3) ternary Agy(GexSe1Âx)1Âyglasses. Journal of Physics Condensed Matter, 2003, 15, S1573-S1584.	1.8	37
49	The self-organized phase of bulk P x Se 1 âˆ’ x glasses. Europhysics Letters, 2003, 62, 49-55.	2.0	42
50	Evidence for the Intermediate Phase in Chalcogenide Glasses. , 2002, , 65-84.		2
51	Nanoscale phase separation of GeS₂glass. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 1649-1657.	0.6	3
52	Rigidity Transition in Chalcogenide Glasses. , 2002, , 279-295.		2
53	The Intermediate Phase in Ternary Ge_xAs_xSe_{1â€“2x} Glasses. Materials Research Society Symposia Proceedings, 2002, 754, 1.	0.1	14
54	Nuclear quadrupole resonance study of the glassy AsxSe1âˆ’x system. Journal of Non-Crystalline Solids, 2002, 299-302, 958-962.	3.1	22

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55	Rigidity transitions in binary Geâ€“Se glasses and the intermediate phase. Journal of Non-Crystalline Solids, 2001, 293-295, 348-356.	3.1	181
56	Mobile silver ions and glass formation in solid electrolytes. Nature, 2001, 410, 1070-1073.	27.8	164
57	Growth and characterization of rare-earth monosulfides for cold cathode applications. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 1958.	1.6	19
58	Sharp Rigid to Floppy Phase Transition Induced by Dangling Ends in a Network Glass. Physical Review Letters, 2001, 87, .	7.8	64
59	Glass structure, rigidity transitions and the intermediate phase in the Geâ€“Asâ€“Se ternary. Europhysics Letters, 2000, 52, 633-639.	2.0	107
60	Vibrational Excitations in Glasses â€” B. VIBRATIONAL EXCITATIONS IN GLASSES: RIGIDITY TRANSITION AND LAMB-MÃ–SSBAUER FACTORS. Series on Directions in Condensed Matter Physics, 2000, , 369-414.	0.1	5
61	The structural origin of broken chemical order in GeSe₂ glass. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2000, 80, 1757-1772.	0.6	92
62	Glass Structure by Scattering Methods and Spectroscopy â€” B. MÃ–SSBAUER SPECTROSCOPY. Series on Directions in Condensed Matter Physics, 2000, , 191-247.	0.1	12
63	Stiffness transitions inSixSe1â^’xglasses from Raman scattering and temperature-modulated differential scanning calorimetry. Physical Review B, 2000, 61, 15061-15076.	3.2	173
64	Rigidity transitions and molecular structure ofAsxSe1â^’xglasses. Physical Review B, 2000, 62, R9228-R9231.	3.2	188
65	Dual Chemical Role of Ag as an Additive in Chalcogenide Glasses. Physical Review Letters, 1999, 83, 3848-3851.	7.8	152
66	Thermally reversing window and stiffness transitions in chalcogenide glasses. Solid State Communications, 1999, 111, 619-624.	1.9	80
67	Towards the Realization of a INP/CDS/LAS Cold Cathode. Materials Research Society Symposia Proceedings, 1999, 558, 545.	0.1	0
68	Microscopic origin of the glass forming tendency in chalcohalides and constraint theory. Journal of Non-Crystalline Solids, 1998, 240, 1-21.	3.1	35
69	Direct Evidence for Stiffness Threshold in Chalcogenide Glasses. Physical Review Letters, 1997, 78, 4422-4425.	7.8	277
70	Role of network connectivity on the elastic, plastic and thermal behavior of covalent glasses. Journal of Non-Crystalline Solids, 1997, 222, 137-143.	3.1	18
71	Medium range structure in a network glass established by a local probe. Journal of Non-Crystalline Solids, 1996, 195, 170-175.	3.1	10
72	Molecular Origin of Glass Forming Tendency in Ternary Te-Se-Br(Cl) Chalcohalide Glasses. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1996, 51, 373-380.	1.5	3

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73	Nuclear Quadrupole Interactions as a Probe of Glass Molecular Structure. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1996, 51, 572-584.	1.5	2
74	Influence of one-fold-coordinated atoms on mechanical properties of covalent networks. Physical Review B, 1996, 53, 11488-11494.	3.2	56
75	Lamb-MÃ¶ssbauer factors as a local probe of floppy modes in network glasses. Journal of Non-Crystalline Solids, 1995, 182, 143-154.	3.1	39
76	Scientific Instruments, 1995, 66, 3051-3057.	1.3	11
77	<i>Response</i> : Broken Bond-Bending Constraints and Glass Formation in the Oxides. Science, 1995, 268, 1510-1511.	12.6	1
78	Glass-forming tendency, percolation of rigidity, and onefold-coordinated atoms in covalent networks. Physical Review B, 1994, 50, 10366-10368.	3.2	107
79	The Central Role of Broken Bond-Bending Constraints in Promoting Glass Formation in the Oxides. Science, 1994, 266, 1355-1357.	12.6	73
80	A MÃ¶ssbauer spectroscopy study of nanoscale Geâ€"Sn dispersions prepared by ball milling. Journal of Materials Research, 1992, 7, 2876-2883.	2.6	17
81	Comparison of transport and magnetization critical currents incâ€axisâ€oriented Y1Ba2Cu3O7â^'Î´thin films. Journal of Applied Physics, 1992, 72, 1021-1029.	2.5	12
82	Comment on â€˜â€˜Structure of covalently bonded glass-forming melts: A full partial-structure-factor analysis of liquidGeSe2â€™â€™. Physical Review Letters, 1992, 68, 252-252.	7.8	12
83	Variation of glass transition temperature, Tg, with average coordination number, ã€‰mã€ˆ, in network glasses: evidence of a threshold behavior in the slope |dTg/dã€‰mã€ˆ| at the rigidity percolation threshold (ã€‰mã€ˆ = 2.4). Journal of Non-Crystalline Solids, 1992, 151, 149-154.	3.1	46
84	Vibrational densities of states and network rigidity in chalcogenide glasses. Physical Review B, 1991, 44, 94-100.	3.2	150
85	Insitupreparation of superconducting Y1Ba2Cu3O7â^'Î´thin films by onâ€axis rf magnetron sputtering from a stoichiometric target. Applied Physics Letters, 1991, 58, 2036-2038.	3.3	24
86	Vibrational thresholds in covalent networks. Solid State Ionics, 1990, 39, 81-89.	2.7	49
87	Onset of rigidity inSe1â^'xGexglasses: Ultrasonic elastic moduli. Physical Review B, 1989, 39, 8702-8706.	3.2	55
88	STRUCTURAL ORIGIN OF GLASS FORMATION IN GROUP IV DISELENIDES. Phosphorous and Sulfur and the Related Elements, 1988, 38, 305-316.	0.2	2
89	Molecular structure and crystallization behavior of chalcogenide glasses. Journal of Non-Crystalline Solids, 1987, 91, 1-7.	3.1	3
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91	Coordination-number-induced morphological structural transition in a network glass. Physical Review B, 1987, 36, 8109-8114.	3.2	35
92	Vibrational densities of states for glassy se-ge alloys by neutron scattering. , 1987, , .		0
93	Ultrasonic search for the floppy-rigid transition in bulk se_{1â€“x} ge_x glasses. , 1987, , .		0
94	GeSnSe3 glass â€” A novel exception to the Ioffe-Regel rule. Solid State Communications, 1987, 62, 197-200.	1.9	4
95	Structure of GeSsub2glass: Spectroscopic evidence for broken chemical order. Physical Review B, 1986, 33, 5421-5434.	3.2	123
96	Structural principles in network glasses. Hyperfine Interactions, 1986, 27, 3-14.	0.5	20
97	The molecular structure of As2Se3 glass. Hyperfine Interactions, 1986, 27, 385-388.	0.5	17
98	Molecular phase separation and cluster size in GeSe2 glass. Hyperfine Interactions, 1986, 27, 389-392.	0.5	8
99	Comment on â€˜â€˜Rigidity percolation in the germanium-arsenic-selenium alloy systemâ€™â€™. Physical Review Letters, 1986, 57, 3233-3233.	7.8	30
100	Rigidity Percolation and Molecular Clustering in Network Glasses. Physical Review Letters, 1986, 56, 2493-2496.	7.8	132
101	MÃ¶ssbauer Spectroscopy â€“ A Local Probe of Short and Medium Range Order in Network Glasses. Materials Research Society Symposia Proceedings, 1985, 61, 57.	0.1	0
102	Origin of glass formation. Physical Review Letters, 1985, 55, 242-245.	7.8	27
103	Molecular phase separation in stoichiometric chalcogenide glasses. Journal of Non-Crystalline Solids, 1985, 72, 1-22.	3.1	22
104	Universal structural phase transition in network glasses. Physical Review B, 1985, 31, 981-991.	3.2	62
105	Evidence for isoelectronic Sn for Ge substitution in crystalline and glassy GeSe2. Physical Review B, 1984, 29, 1-7.	3.2	28
106	Broken chemical order and phase separation in GexSe1âˆ’x glasses. Solid State Communications, 1983, 45, 183-185.	1.9	75
107	Universal structural phase transition in network glasses. Solid State Communications, 1983, 47, 199-202.	1.9	48
108	Direct evidence for intrinsically broken 8 -Ncoordination rule in melt-quenched glasses by a novel method. Physical Review B, 1982, 25, 2971-2974.	3.2	27

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109	Structural origin of broken chemical order in a GeSe2glass. Physical Review B, 1982, 25, 2975-2978.	3.2	114
110	Direct evidence for intrinsically broken chalcogen chemical order in GeSe2xTe2â^'2x alloy glasses. Nuclear Instruments & Methods in Physics Research, 1982, 199, 295-299.	0.9	5
111	Direct Evidence for Intrinsically Broken Chemical Ordering in Melt-Quenched Glasses. Physical Review Letters, 1981, 46, 1689-1692.	7.8	95
112	MÃ¶ssbauer Spectroscopy of 125Te â€" Some New Results and Applications. , 1974, , 53-80.		13