Bu Wang

List of Publications by Year
in descending order

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61 papers	1,813 citations	201385 27 h-index	276539 41 g-index
61 all docs	61 docs citations	61 times ranked	1813 citing authors

#	Article	IF	Citations
1	Surface Diffusion Is Controlled by Bulk Fragility across All Glass Types. Physical Review Letters, 2022, 128, 075501.	2.9	13
2	Process Simulations Reveal the Carbon Dioxide Removal Potential of a Process That Mineralizes Industrial Waste Streams via an Ion Exchange-Based Regenerable pH Swing. ACS Sustainable Chemistry and Engineering, 2022, 10, 6255-6264.	3.2	3
3	Direct Air Capture and Sequestration of CO₂ by Accelerated Indirect Aqueous Mineral Carbonation under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2022, 10, 7852-7861.	3.2	16
4	Anisotropic Molecular Organization at a Liquid/Vapor Interface Promotes Crystal Nucleation with Polymorph Selection. Journal of the American Chemical Society, 2022, 144, 11638-11645.	6.6	18
5	Understanding the Fragile-to-Strong Transition in Silica from Microscopic Dynamics. Physical Review Letters, 2022, 129, .	2.9	7
6	Investigating the microstructure of high-calcium fly ash-based alkali-activated material for aqueous Zn sorption. Environmental Research, 2021, 198, 110484.	3.7	15
7	Formation and stability of gismondineâ€type zeolite in cementitious systems. Journal of the American Ceramic Society, 2021, 104, 1513-1525.	1.9	9
8	Structural signatures for thermodynamic stability in vitreous silica: Insight from machine learning and molecular dynamics simulations. Physical Review Materials, 2021, 5, .	0.9	7
9	Selective sulfur removal from semi-dry flue gas desulfurization coal fly ash for concrete and carbon dioxide capture applications. Waste Management, 2021, 121, 117-126.	3.7	23
10	Comparison of Biotite Elastic Properties Recovered by Spherical Nanoindentations and Atomistic Simulations â€" Influence of Nanoâ€Scale Defects in Phyllosilicates. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021902.	1.4	3
11	Calcination-free production of calcium hydroxide at sub-boiling temperatures. RSC Advances, 2021, 11, 1762-1772.	1.7	8
12	Recycled concrete aggregate in base course applications: Review of field and laboratory investigations of leachate pH. Journal of Hazardous Materials, 2020, 385, 121562.	6.5	28
13	Particle Breakage and Fines Generation of Recycled Concrete Aggregates Subjected to Compaction. , 2020, , .		0
14	Implementation of Ion Exchange Processes for Carbon Dioxide Mineralization Using Industrial Waste Streams. Frontiers in Energy Research, 2020, 8, .	1.2	6
15	Formation and Transport Mechanisms of Hydrogenous Species in Mayenite. Journal of Physical Chemistry C, 2020, 124, 11150-11157.	1.5	2
16	Atomic picture of structural relaxation in silicate glasses. Applied Physics Letters, 2019, 114, .	1.5	26
17	Understanding Oxygen Nonstoichiometry in Mayenite: From Electride to Oxygen Radical Clathrate. Journal of Physical Chemistry C, 2019, 123, 11982-11992.	1.5	5
18	The effect of irradiation on the atomic structure and chemical durability of calcite and dolomite. Npj Materials Degradation, 2019, 3, .	2.6	17

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19	A printability index for linking slurry rheology to the geometrical attributes of 3D-printed components. Cement and Concrete Composites, 2019, 101, 32-43.	4.6	38
20	A new transferable interatomic potential for molecular dynamics simulations of borosilicate glasses. Journal of Non-Crystalline Solids, 2018, 498, 294-304.	1.5	121
21	Clinkering-free cementation by fly ash carbonation. Journal of CO2 Utilization, 2018, 23, 117-127.	3.3	55
22	New insights into the atomic structure of amorphous TiO2 using tight-binding molecular dynamics. Journal of Chemical Physics, 2018, 149, 094501.	1.2	11
23	Direct observation of pitting corrosion evolutions on carbon steel surfaces at the nano-to-micro-scales. Scientific Reports, 2018, 8, 7990.	1.6	36
24	The durability of cementitious composites containing microencapsulated phase change materials. Cement and Concrete Composites, 2017, 81, 66-76.	4.6	83
25	Irradiation- vs. vitrification-induced disordering: The case of ?-quartz and glassy silica. Journal of Chemical Physics, 2017, 146, 204502.	1.2	35
26	Irradiation-induced topological transition in SiO2: Structural signature of networks' rigidity. Journal of Non-Crystalline Solids, 2017, 463, 25-30.	1.5	43
27	Ion exchange strengthening and thermal expansion of glasses: Common origin and critical role of network connectivity. Journal of Non-Crystalline Solids, 2017, 455, 70-74.	1.5	36
28	Cooling rate effects in sodium silicate glasses: Bridging the gap between molecular dynamics simulations and experiments. Journal of Chemical Physics, 2017, 147, 074501.	1.2	107
29	Revealing the Effect of Irradiation on Cement Hydrates: Evidence of a Topological Self-Organization. ACS Applied Materials & Interfaces, 2017, 9, 32377-32385.	4.0	40
30	Topological Control on the Structural Relaxation of Atomic Networks under Stress. Physical Review Letters, 2017, 119, 035502.	2.9	51
31	Enthalpy Landscape Dictates the Irradiation-Induced Disordering of Quartz. Physical Review X, 2017, 7, .	2.8	27
32	Reactive Molecular Dynamics Simulations of Sodium Silicate Glasses â€" Toward an Improved Understanding of the Structure. International Journal of Applied Glass Science, 2017, 8, 276-284.	1.0	44
33	Irradiation-driven amorphous-to-glassy transition in quartz: The crucial role of the medium-range order in crystallization. Physical Review Materials, 2017, 1, .	0.9	27
34	Direct Experimental Evidence for Differing Reactivity Alterations of Minerals following Irradiation: The Case of Calcite and Quartz. Scientific Reports, 2016, 6, 20155.	1.6	46
35	Confined Water in Layered Silicates: The Origin of Anomalous Thermal Expansion Behavior in Calcium-Silicate-Hydrates. ACS Applied Materials & Interfaces, 2016, 8, 35621-35627.	4.0	43
36	Luminescence of delafossite-type CuAlO₂ fibers with Eu substitution for Al cations. Science and Technology of Advanced Materials, 2016, 17, 200-209.	2.8	31

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37	Misfit Stresses Caused by Atomic Size Mismatch: The Origin of Doping-Induced Destabilization of Dicalcium Silicate. Crystal Growth and Design, 2016, 16, 3124-3132.	1.4	31
38	Revisiting silica with ReaxFF: Towards improved predictions of glass structure and properties via reactive molecular dynamics. Journal of Non-Crystalline Solids, 2016, 443, 148-154.	1.5	97
39	Theoretical analysis and experiment on Eu reduction in alumina optical materials. Optical Materials Express, 2016, 6, 2404.	1.6	12
40	Fracture toughness anomalies: Viewpoint of topological constraint theory. Acta Materialia, 2016, 121, 234-239.	3.8	84
41	Nanoductility in silicate glasses is driven by topological heterogeneity. Physical Review B, 2016, 93, .	1.1	47
42	Crucial effect of angular flexibility on the fracture toughness and nano-ductility of aluminosilicate glasses. Journal of Non-Crystalline Solids, 2016, 454, 46-51.	1.5	20
43	The local structure of Fe in Li(Al, Fe)Si2O6 glasses from molecular dynamics simulations. Journal of Non-Crystalline Solids, 2016, 444, 16-22.	1.5	11
44	Enhancement of binding kinetics on affinity substrates by laser point heating induced transport. Analyst, The, 2016, 141, 1807-1813.	1.7	8
45	Stretched Exponential Relaxation of Glasses at Low Temperature. Physical Review Letters, 2015, 115, 165901.	2.9	53
46	Nature of radiation-induced defects in quartz. Journal of Chemical Physics, 2015, 143, 024505.	1.2	38
47	Intrinsic Nano-Ductility of Glasses: The Critical Role of Composition. Frontiers in Materials, 2015, 2, .	1.2	55
48	Electronic Origin of Doping-Induced Enhancements of Reactivity: Case Study of Tricalcium Silicate. Journal of Physical Chemistry C, 2015, 119, 25991-25999.	1.5	32
49	Simulations of ceria nanoparticles. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150218.	1.0	7
50	Fracture Toughness of Silicate Glasses: Insights from Molecular Dynamics Simulations. Materials Research Society Symposia Proceedings, 2015, 1757, 47.	0.1	9
51	Maintenance and Neuronal Cell Differentiation of Neural Stem Cells C17.2 Correlated to Medium Availability Sets Design Criteria in Microfluidic Systems. PLoS ONE, 2014, 9, e109815.	1.1	21
52	Chemical Strain and Point Defect Configurations in Reduced Ceria. Chemistry of Materials, 2014, 26, 3687-3692.	3.2	38
53	Molecular dynamics simulations of Mg-doped betaâ€³-alumina with potential models fitted for accurate structural response to thermal vibrations. Solid State Ionics, 2014, 263, 9-14.	1.3	8
54	Strain Modulation of Defect Structure in Gadolinia-Doped Ceria. Journal of Physical Chemistry C, 2013, 117, 146-151.	1.5	13

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55	Effect of Surface Nanotopography on Immunoaffinity Cell Capture in Microfluidic Devices. Langmuir, 2011, 27, 11229-11237.	1.6	33
56	Computer simulations of large-scale defect clustering and nanodomain structure in gadolinia-doped ceria. Acta Materialia, 2011, 59, 2035-2045.	3.8	49
57	Atomistic simulation of B-typeâ€“fluorite structural relationship and B-type large defect clusters in gadolinia-doped ceria. Solid State Ionics, 2011, 182, 8-12.	1.3	10
58	Modeling and characterization of two-phase composites by Voronoi diagram in the Laguerre geometry based on random close packing of spheres. Computational Materials Science, 2010, 47, 951-961.	1.4	39
59	Preparation of Pb(Zr,Ti)O3â€“Pb(Mg1/3Nb2/3)O3 piezoelectric ceramics by dryâ€“dry method. Journal of Materials Science, 2007, 42, 221-227.	1.7	1
60	Rapid Elemental Extraction from Ordered and Disordered Solutes by Acoustically-Stimulated Dissolution. ACS Engineering Au, 0, , .	2.3	1
61	Rate controls on silicate dissolution in cementitious environments. RILEM Technical Letters, 0, 2, 67-73.	0.0	16