

Xi Zhang

List of Publications by Year in descending order

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86
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86
docs citations

86
times ranked

1971
citing authors

#	ARTICLE	IF	CITATIONS
1	Hydrogen-bond relaxation dynamics: Resolving mysteries of water ice. <i>Coordination Chemistry Reviews</i> , 2015, 285, 109-165.	18.8	136
2	Coordination-Resolved Electron Spectrometrics. <i>Chemical Reviews</i> , 2015, 115, 6746-6810.	47.7	121
3	Density and Phonon-Stiffness Anomalies of Water and Ice in the Full Temperature Range. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3238-3244.	4.6	116
4	Density, Elasticity, and Stability Anomalies of Water Molecules with Fewer than Four Neighbors. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 2565-2570.	4.6	115
5	The hidden force opposing ice compression. <i>Chemical Science</i> , 2012, 3, 1455.	7.4	80
6	Size, separation, structural order and mass density of molecules packing in water and ice. <i>Scientific Reports</i> , 2013, 3, 3005.	3.3	76
7	High-performance polarization-sensitive photodetectors on two-dimensional In_2Se_3 . <i>National Science Review</i> , 2022, 9, nwab098.	9.5	75
8	Superhydrophobic, photo-sterilize, and reusable mask based on graphene nanosheet-embedded carbon (GNEC) film. <i>Nano Research</i> , 2021, 14, 1110-1115.	10.4	69
9	Coulomb Repulsion at the Nanometer-Sized Contact: A Force Driving Superhydrophobicity, Superfluidity, Superlubricity, and Supersolidity. <i>Journal of Physical Chemistry C</i> , 2009, 113, 20009-20019.	3.1	67
10	Enhanced Piezoelectric Effect Derived from Grain Boundary in MoS_2 Monolayers. <i>Nano Letters</i> , 2020, 20, 201-207.	9.1	66
11	Hydrogen-bond memory and water-skin supersolidity resolving the Mpemba paradox. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 22995-23002.	2.8	65
12	Water's phase diagram: From the notion of thermodynamics to hydrogen-bond cooperativity. <i>Progress in Solid State Chemistry</i> , 2015, 43, 71-81.	7.2	63
13	A common supersolid skin covering both water and ice. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 22987-22994.	2.8	61
14	Abnormal N-Heterocyclic Carbene Gold(I) Complexes: Synthesis, Structure, and Catalysis in Hydration of Alkynes. <i>Organometallics</i> , 2013, 32, 164-171.	2.3	59
15	A Symmetry-Breaking Phase in Two-Dimensional FeTe_2 with Ferromagnetism above Room Temperature. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7893-7900.	4.6	59
16	Mediating relaxation and polarization of hydrogen-bonds in water by NaCl salting and heating. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 24666-24671.	2.8	56
17	Stability of Hydrogen-Bonded Supramolecular Architecture under High Pressure Conditions: Pressure-Induced Amorphization in Melamine-Boric Acid Adduct. <i>Langmuir</i> , 2009, 25, 4787-4791.	3.5	54
18	Hydrogen Bond Asymmetric Local Potentials in Compressed Ice. <i>Journal of Physical Chemistry B</i> , 2013, 117, 13639-13645.	2.6	48

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19	Discriminative generation and hydrogen modulation of the Dirac-Fermi polarons at graphene edges and atomic vacancies. <i>Carbon</i> , 2011, 49, 3615-3621.	10.3	47
20	Mapping plasmonic near-field profiles and interferences by surface-enhanced Raman scattering. <i>Scientific Reports</i> , 2013, 3, 3064.	3.3	47
21	Hydrogen bond network relaxation resolved by alcohol hydration (methanol, ethanol, and glycerol). <i>Journal of Raman Spectroscopy</i> , 2017, 48, 393-398.	2.5	41
22	Graphene nanoribbon band-gap expansion: Broken-bond-induced edge strain and quantum entrapment. <i>Nanoscale</i> , 2010, 2, 2160.	5.6	38
23	Nanosized graphene crystallite induced strong magnetism in pure carbon films. <i>Nanoscale</i> , 2015, 7, 4475-4481.	5.6	37
24	Nanobubble Skin Supersolidity. <i>Langmuir</i> , 2016, 32, 11321-11327.	3.5	37
25	Local structure relaxation, quantum trap depression, and valence charge polarization induced by the shorter-and-stronger bonds between under-coordinated atoms in gold nanostructures. <i>Nanoscale</i> , 2010, 2, 412-417.	5.6	36
26	Zone-selective photoelectronic measurements of the local bonding and electronic dynamics associated with the monolayer skin and point defects of graphite. <i>RSC Advances</i> , 2012, 2, 2377.	3.6	35
27	Water molecular structure-order in the NaX hydration shells(X=F, Cl, Br, I). <i>Journal of Molecular Liquids</i> , 2016, 221, 788-797.	4.9	32
28	Highly efficient and robust catalysts for the hydrogen evolution reaction by surface nano engineering of metallic glass. <i>Journal of Materials Chemistry A</i> , 2021, 9, 5415-5424.	10.3	32
29	Resolving H(Cl, Br, I) capabilities of transforming solution hydrogen-bond and surface-stress. <i>Chemical Physics Letters</i> , 2017, 678, 233-240.	2.6	31
30	Guanine binding to gold nanoparticles through nonbonding interactions. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 19284-19292.	2.8	29
31	Potential Paths for the Hydrogen-Bond Relaxing with (H ₂ O) _N Cluster Size. <i>Journal of Physical Chemistry C</i> , 2015, 119, 16962-16971.	3.1	28
32	Water Nanodroplet Thermodynamics: Quasi-Solid Phase-Boundary Dispersivity. <i>Journal of Physical Chemistry B</i> , 2015, 119, 5265-5269.	2.6	28
33	(H, Li)Br and LiOH Solvation Bonding Dynamics: Molecular Nonbond Interactions and Solute Extraordinary Capabilities. <i>Journal of Physical Chemistry B</i> , 2018, 122, 1228-1238.	2.6	28
34	Applications of density functional theory to iron-containing molecules of bioinorganic interest. <i>Frontiers in Chemistry</i> , 2014, 2, 14.	3.6	27
35	Base-hydration-resolved hydrogen-bond networking dynamics: Quantum point compression. <i>Journal of Molecular Liquids</i> , 2016, 223, 1277-1283.	4.9	26
36	The static and dynamic magnetic properties of monolayer iron dioxide and iron dichalcogenides. <i>RSC Advances</i> , 2016, 6, 31758-31761.	3.6	26

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37	From ice superlubricity to quantum friction: Electronic repulsivity and phononic elasticity. <i>Friction</i> , 2015, 3, 294-319.	6.4	24
38	Ice Regulation: Hydrogen-bond extraordinary recoverability and water quasisolid-phase-boundary dispersivity. <i>Scientific Reports</i> , 2015, 5, 13655.	3.3	22
39	Interfacial icelike water local doping of graphene. <i>Nanoscale</i> , 2019, 11, 19334-19340.	5.6	22
40	HCl, KCl and KOH solvation resolved solute-solvent interactions and solution surface stress. <i>Applied Surface Science</i> , 2017, 422, 475-481.	6.1	20
41	Low-energy electron excitation effect on formation of graphene nanocrystallites during carbon film growth process. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	20
42	Magnetism induced by excess electrons trapped at diamagnetic edge-quantum well in multi-layer graphene. <i>Applied Physics Letters</i> , 2014, 105, 042402.	3.3	18
43	Unveiling the Stimulated Robust Carrier Lifetime of Surface-Bound Excitons and Their Photoresponse in InSe. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900171.	3.7	18
44	Unprecedented thermal stability of water supersolid skin. <i>Journal of Molecular Liquids</i> , 2016, 220, 865-869.	4.9	17
45	Hydration of Hofmeister ions. <i>Advances in Colloid and Interface Science</i> , 2019, 268, 1-24.	14.7	17
46	Ultra-strong anisotropic photo-responsivity of bilayer tellurene: a quantum transport and time-domain first principle study. <i>Nanophotonics</i> , 2020, 9, 1931-1940.	6.0	16
47	(Li, Na, K)OH hydration bonding thermodynamics: Solution self-heating. <i>Chemical Physics Letters</i> , 2018, 696, 139-143.	2.6	14
48	Number-of-layer resolved (Mo, W) (S ₂ , Se ₂) phonon relaxation. <i>Journal of Raman Spectroscopy</i> , 2017, 48, 592-595.	2.5	11
49	Monolayer InSe photodetector with strong anisotropy and surface-bound excitons. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 6075-6083.	2.8	11
50	XPS revelation of tungsten edges as a potential donor-type catalyst. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 12640.	2.8	10
51	Hydrogen-bond potential for ice VIII-X phase transition. <i>Scientific Reports</i> , 2016, 6, 37161.	3.3	10
52	Bias-Modulated High Photoelectric Response of Graphene-Nanocrystallite Embedded Carbon Film Coated on n-Silicon. <i>Nanomaterials</i> , 2019, 9, 327.	4.1	10
53	Full quantum search for high χ two-dimensional van der Waals ferromagnetic semiconductors. <i>Nanoscale</i> , 2021, 13, 8137-8145.	5.6	10
54	NaX solvation bonding dynamics:hydrogen bond and surface stress transition (X = HSO ₄ , NO ₃ , ClO ₄), <i>Tj ETQq0 0 0 rgBT /Overlock 10 T</i>	4.9	9

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55	Fraction and stiffness transition from the H O vibrational mode of ordinary water to the HI, NaI, and NaOH hydration states. <i>Journal of Molecular Liquids</i> , 2017, 244, 415-421.	4.9	9
56	Hydrogen bond and surface stress relaxation by aldehydic and formic acidic molecular solvation. <i>Journal of Molecular Liquids</i> , 2018, 249, 494-500.	4.9	9
57	Unexpected Solute Occupancy and Anisotropic Polarizability in Lewis Basic Solutions. <i>Journal of Physical Chemistry B</i> , 2019, 123, 8512-8518.	2.6	9
58	Edge-State-Enhanced Ultrahigh Photoresponsivity of Graphene Nanosheet-Embedded Carbon Film/Silicon Heterojunction. <i>Advanced Materials Interfaces</i> , 2019, 6, 1802062.	3.7	9
59	High-response heterojunction phototransistor based on vertically grown graphene nanosheets film. <i>Carbon</i> , 2021, 172, 720-728.	10.3	9
60	Skin-resolved local bond contraction, core electron entrapment, and valence charge polarization of Ag and Cu nanoclusters. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 8940.	2.8	8
61	Number-of-layer, pressure, and temperature resolved bond-phonon-photon cooperative relaxation of layered black phosphorus. <i>Journal of Raman Spectroscopy</i> , 2016, 47, 1304-1309.	2.5	8
62	Exploring the physical origin of the electrocatalytic performance of an amorphous alloy catalyst <i>via</i> machine learning accelerated DFT study. <i>Nanoscale</i> , 2022, 14, 2660-2667.	5.6	8
63	Coordination-resolved local bond contraction and electron binding-energy entrapment of Si atomic clusters and solid skins. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	7
64	Antimonene nanoribbon band-gap expansion: Bond contraction and edge quantum entrapment. <i>Materials Chemistry and Physics</i> , 2018, 211, 414-419.	4.0	7
65	Arsenene nanoribbon edge-resolved strong magnetism. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 25716-25721.	2.8	7
66	Water ice compression: Principles and applications. <i>Journal of Molecular Liquids</i> , 2020, 315, 113750.	4.9	7
67	Physically Compatible Machine Learning Study on the Pt-Ni Nanoclusters. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 1573-1580.	4.6	7
68	Catalytic enhancement of gold nanocages induced by undercoordination-charge-polarization. <i>APL Materials</i> , 2017, 5, 053501.	5.1	6
69	Dynamics of broadband photoinduced species and enabled photodetection in MXenes. <i>Nanophotonics</i> , 2022, 11, 3139-3148.	6.0	6
70	Under-coordinated atoms induced local strain, quantum trap depression and valence charge polarization at W stepped surfaces. <i>Physica B: Condensed Matter</i> , 2012, 407, 49-53.	2.7	5
71	Atomic under-coordination fascinated catalytic and magnetic behavior of Pt and Rh nanoclusters. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 20537-20547.	2.8	5
72	Catalytic nature of under- and hetero-coordinated atoms resolved using zone-selective photoelectron spectroscopy (ZPS). <i>Vacuum</i> , 2014, 100, 87-91.	3.5	5

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73	Edge-Corrected Mean-Field Hubbard Model: Principle and Applications in 2D Materials. <i>Frontiers in Physics</i> , 2017, 5, .	2.1	5
74	H_2O and HO^+ Solvation Dynamics: Solute Capabilities and Solute-Solvent Molecular Interactions. <i>ChemistrySelect</i> , 2017, 2, 8517-8523.	1.5	4
75	Edge Effect on the Photodetection Ability of the Graphene Nanocrystallites Embedded Carbon Film Coated on Silicon. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, .	2.4	4
76	C-H oxidation enhancement on a gold nanoisland by atomic-undercoordination induced polarization. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 14458-14464.	2.8	4
77	Fast semi-analytical method for precise prediction of ion energy distribution functions and sheath electric field in multi-frequency capacitively coupled plasmas. <i>Applied Physics Express</i> , 2018, 11, 056201.	2.4	3
78	Hydrogen-bond transition from the vibration mode of ordinary water to the (H, Na)I hydration states: Molecular interactions and solution viscosity. <i>Vibrational Spectroscopy</i> , 2018, 94, 31-36.	2.2	3
79	Effect of atomic under-coordination on the properties of Ag and Cu nanoclusters. , 2014, , .		2
80	Catalytic and Magnetic Behaviors of Excessively Charged Silver, Copper, Platinum, and Rhodium Atomic Clusters. <i>Journal of Physical Chemistry C</i> , 2016, 120, 17527-17536.	3.1	2
81	Supersolid Skin Mechanics of Water and Ice. <i>Procedia IUTAM</i> , 2017, 21, 102-110.	1.2	2
82	High Photoresponsivity of Vertical Graphene Nanosheets/P-Si Enhanced by Electron Trapping at Edge Quantum Wells. <i>Journal of Physical Chemistry C</i> , 2021, 125, 5392-5398.	3.1	2
83	The valence charge polarization induced by the shorter and stronger bonds between under-coordinated gold atoms. , 2010, , .		0
84	Potential Paths for the Hydrogen-Bond Relaxing With $(H_2O)_N$ Cluster Size. <i>Journal of Physical Chemistry A</i> , 0, , 150629002906004.	2.5	0
85	Ultrasensitive Photodetector: Edge-State-Enhanced Ultrahigh Photoresponsivity of Graphene Nanosheet-Embedded Carbon Film/Silicon Heterojunction (<i>Adv. Mater. Interfaces</i> 11/2019). <i>Advanced Materials Interfaces</i> , 2019, 6, 1970073.	3.7	0
86	Bias-modulated van der Waals heterojunction photodetector of graphene nanosheets embedded carbon film/n-Si. <i>Thin Solid Films</i> , 2021, 734, 138834.	1.8	0