

Roberto Car

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198
papers

41,068
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72
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202
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204
ext. papers

45,887
ext. citations

7.3
avg, IF

7.12
L-index

#	Paper	IF	Citations
198	QUANTUM ESPRESSO: a modular and open-source software project for quantum simulations of materials. <i>Journal of Physics Condensed Matter</i> , 2009 , 21, 395502	1.8	13251
197	Raman spectra of graphite oxide and functionalized graphene sheets. <i>Nano Letters</i> , 2008 , 8, 36-41	11.5	3540
196	Single Sheet Functionalized Graphene by Oxidation and Thermal Expansion of Graphite. <i>Chemistry of Materials</i> , 2007 , 19, 4396-4404	9.6	2986
195	Functionalized single graphene sheets derived from splitting graphite oxide. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 8535-9	3.4	2925
194	Car-Parrinello molecular dynamics with Vanderbilt ultrasoft pseudopotentials. <i>Physical Review B</i> , 1993 , 47, 10142-10153	3.3	1181
193	Accurate and efficient method for many-body van der Waals interactions. <i>Physical Review Letters</i> , 2012 , 108, 236402	7.4	920
192	Deep Potential Molecular Dynamics: A Scalable Model with the Accuracy of Quantum Mechanics. <i>Physical Review Letters</i> , 2018 , 120, 143001	7.4	488
191	Oxygen-driven unzipping of graphitic materials. <i>Physical Review Letters</i> , 2006 , 96, 176101	7.4	477
190	Theory of quantum annealing of an Ising spin glass. <i>Science</i> , 2002 , 295, 2427-30	33.3	403
189	Orbital formulation for electronic-structure calculations with linear system-size scaling. <i>Physical Review B</i> , 1993 , 47, 9973-9976	3.3	388
188	Implementation of ultrasoft pseudopotentials in ab initio molecular dynamics. <i>Physical Review B</i> , 1991 , 43, 6796-6799	3.3	382
187	Two-Dimensional Self-Assembly of Supramolecular Clusters and Chains. <i>Physical Review Letters</i> , 1999 , 83, 324-327	7.4	377
186	Metastable liquid-liquid transition in a molecular model of water. <i>Nature</i> , 2014 , 510, 385-8	50.4	356
185	Electronic and structural properties of sodium clusters. <i>Physical Review B</i> , 1985 , 31, 1804-1816	3.3	347
184	Report on the sixth blind test of organic crystal structure prediction methods. <i>Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials</i> , 2016 , 72, 439-59	1.8	338
183	Identification of Raman Defect Lines as Signatures of Ring Structures in Vitreous Silica. <i>Physical Review Letters</i> , 1998 , 80, 5145-5147	7.4	337
182	Ab initio molecular dynamics for d-electron systems: Liquid copper at 1500 K. <i>Physical Review Letters</i> , 1992 , 69, 1982-1985	7.4	333

181	Nuclear quantum effects in water. <i>Physical Review Letters</i> , 2008 , 101, 017801	7.4	324
180	First solvation shell of the Cu(II) aqua ion: evidence for fivefold coordination. <i>Science</i> , 2001 , 291, 856-9	33.3	314
179	The role of vacancy defects and holes in the fracture of carbon nanotubes. <i>Chemical Physics Letters</i> , 2004 , 390, 413-420	2.5	300
178	Fully Unconstrained Approach to Noncollinear Magnetism: Application to Small Fe Clusters. <i>Physical Review Letters</i> , 1998 , 80, 3622-3625	7.4	291
177	Structural and electronic properties of amorphous carbon. <i>Physical Review Letters</i> , 1989 , 62, 555-558	7.4	275
176	Equilibrium structures and finite temperature properties of silicon microclusters from ab initio molecular-dynamics calculations. <i>Physical Review Letters</i> , 1988 , 60, 271-274	7.4	258
175	Structural and electronic properties of liquid and amorphous SiO ₂ : An ab initio molecular dynamics study. <i>Physical Review Letters</i> , 1995 , 74, 4682-4685	7.4	251
174	Ab initio theory and modeling of water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 10846-10851	11.5	246
173	Quantum ESPRESSO toward the exascale. <i>Journal of Chemical Physics</i> , 2020 , 152, 154105	3.9	227
172	Ab initio calculation of properties of carbon in the amorphous and liquid states. <i>Physical Review B</i> , 1990 , 42, 7470-7482	3.3	225
171	The individual and collective effects of exact exchange and dispersion interactions on the ab initio structure of liquid water. <i>Journal of Chemical Physics</i> , 2014 , 141, 084502	3.9	223
170	Interface structure between silicon and its oxide by first-principles molecular dynamics. <i>Nature</i> , 1998 , 396, 58-60	50.4	209
169	Ab initio molecular dynamics study of first-order phase transitions: melting of silicon. <i>Physical Review Letters</i> , 1995 , 74, 1823-1826	7.4	207
168	Generalized-gradient approximations to density-functional theory: A comparative study for atoms and solids. <i>Physical Review B</i> , 1996 , 53, 1180-1185	3.3	204
167	Theory of Si 2p core-level shifts at the Si(001)-SiO ₂ interface. <i>Physical Review B</i> , 1996 , 53, 10942-10950	3.3	200
166	Structure and Hyperfine Parameters of E ₁ ' Centers in Quartz and in Vitreous SiO ₂ . <i>Physical Review Letters</i> , 1997 , 78, 887-890	7.4	194
165	Hydrogen bonds and van der waals forces in ice at ambient and high pressures. <i>Physical Review Letters</i> , 2011 , 107, 185701	7.4	181
164	Si 2p core-level shifts at the Si(001)-SiO ₂ interface: A first-principles study. <i>Physical Review Letters</i> , 1995 , 74, 1024-1027	7.4	174

163	Electronic properties of alkali trimers. <i>Journal of Chemical Physics</i> , 1983 , 78, 5646-5655	3.9	172
162	Bending properties of single functionalized graphene sheets probed by atomic force microscopy. <i>ACS Nano</i> , 2008 , 2, 2577-84	16.7	167
161	Why are water-hydrophobic interfaces charged?. <i>Journal of the American Chemical Society</i> , 2008 , 130, 3915-9	16.4	167
160	Model of vitreous SiO ₂ generated by an ab initio molecular-dynamics quench from the melt. <i>Physical Review B</i> , 1995 , 52, 12690-12695	3.3	163
159	Carbon phase diagram from ab initio molecular dynamics. <i>Physical Review Letters</i> , 2005 , 95, 185701	7.4	158
158	Active learning of uniformly accurate interatomic potentials for materials simulation. <i>Physical Review Materials</i> , 2019 , 3,	3.2	154
157	Order-N implementation of exact exchange in extended insulating systems. <i>Physical Review B</i> , 2009 , 79,	3.3	151
156	Dipolar correlations and the dielectric permittivity of water. <i>Physical Review Letters</i> , 2007 , 98, 247401	7.4	138
155	Calculation of near-edge x-ray-absorption fine structure at finite temperatures: spectral signatures of hydrogen bond breaking in liquid water. <i>Journal of Chemical Physics</i> , 2004 , 120, 8632-7	3.9	137
154	Microscopic theory of impurity-defect reactions and impurity diffusion in silicon. <i>Physical Review Letters</i> , 1985 , 54, 360-363	7.4	134
153	Dynamical Charge Tensors and Infrared Spectrum of Amorphous SiO ₂ . <i>Physical Review Letters</i> , 1997 , 79, 1766-1769	7.4	133
152	First-principles molecular-dynamics study of the (0001) α -quartz surface. <i>Physical Review B</i> , 2000 , 61, 13250-13255	3.3	126
151	Hydroxide diffuses slower than hydronium in water because its solvated structure inhibits correlated proton transfer. <i>Nature Chemistry</i> , 2018 , 10, 413-419	17.6	124
150	Nitrogen Incorporation at Si(001)/SiO ₂ Interfaces: Relation between N 1s Core-Level Shifts and Microscopic Structure. <i>Physical Review Letters</i> , 1997 , 79, 5174-5177	7.4	122
149	Origin of the High-Frequency Doublet in the Vibrational Spectrum of Vitreous SiO ₂ . <i>Science</i> , 1997 , 275, 1925-7	33.3	121
148	Intermolecular dynamical charge fluctuations in water: a signature of the H-bond network. <i>Physical Review Letters</i> , 2005 , 95, 187401	7.4	121
147	A comparison of methods for the calculation of NMR chemical shifts. <i>Journal of Chemical Physics</i> , 1999 , 111, 1815-1822	3.9	117
146	Density functional theory of the electrical conductivity of molecular devices. <i>Physical Review Letters</i> , 2005 , 94, 146803	7.4	114

145	A microscopic model for surface-induced diamond-to-graphite transitions. <i>Nature</i> , 1996 , 379, 523-526	50.4	109
144	On the accuracy of van der Waals inclusive density-functional theory exchange-correlation functionals for ice at ambient and high pressures. <i>Journal of Chemical Physics</i> , 2013 , 139, 154702	3.9	107
143	Structurally relaxed models of the Si(001)/SiO ₂ interface. <i>Applied Physics Letters</i> , 1996 , 68, 625-627	3.4	104
142	Electronic structure and reactivity of isomeric oxo-Mn(V) porphyrins: effects of spin-state crossing and pK _a modulation. <i>Inorganic Chemistry</i> , 2006 , 45, 4268-76	5.1	101
141	Carbon: The nature of the liquid state. <i>Physical Review Letters</i> , 1989 , 63, 988-991	7.4	101
140	Combined Effects of Functional Groups, Lattice Defects, and Edges in the Infrared Spectra of Graphene Oxide. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 18167-18176	3.8	97
139	Dangling bond defects at Si-SiO ₂ interfaces: atomic structure of the P(b1) center. <i>Physical Review Letters</i> , 2000 , 85, 2773-6	7.4	93
138	Dynamic structure factor of vitreous silica from first principles: Comparison to neutron-inelastic-scattering experiments. <i>Physical Review B</i> , 1998 , 57, 14133-14140	3.3	88
137	Structural and electronic properties of small copper clusters: a first principles study. <i>Chemical Physics Letters</i> , 1995 , 238, 215-221	2.5	87
136	Structure, growth, and bonding nature of Mg clusters. <i>Physical Review B</i> , 1991 , 44, 8243-8255	3.3	87
135	DeePCG: Constructing coarse-grained models via deep neural networks. <i>Journal of Chemical Physics</i> , 2018 , 149, 034101	3.9	85
134	Local structure analysis in ab initio liquid water. <i>Molecular Physics</i> , 2015 , 113, 2829-2841	1.7	83
133	Simple, unambiguous theoretical approach to oxidation state determination via first-principles calculations. <i>Inorganic Chemistry</i> , 2011 , 50, 10259-67	5.1	83
132	Pressure-induced structural changes in liquid SiO ₂ from Ab initio simulations. <i>Physical Review Letters</i> , 2002 , 89, 245504	7.4	83
131	Reliable and practical computational description of molecular crystal polymorphs. <i>Science Advances</i> , 2019 , 5, eaau3338	14.3	83
130	Deep Potential: A General Representation of a Many-Body Potential Energy Surface. <i>Communications in Computational Physics</i> , 2018 , 23,	2.4	82
129	X-ray absorption signatures of the molecular environment in water and ice. <i>Physical Review Letters</i> , 2010 , 105, 017802	7.4	79
128	Short- and intermediate-range structure of liquid GeSe ₂ . <i>Physical Review B</i> , 2001 , 64,	3.3	75

127	Equilibrium Geometries and Electronic Structures of Small Sodium Clusters. <i>Physical Review Letters</i> , 1984 , 53, 655-658	7.4	75
126	Electronic properties of molecules and surfaces with a self-consistent interatomic van der Waals density functional. <i>Physical Review Letters</i> , 2015 , 114, 176802	7.4	72
125	Enhanced thermal decomposition of nitromethane on functionalized graphene sheets: ab initio molecular dynamics simulations. <i>Journal of the American Chemical Society</i> , 2012 , 134, 19011-6	16.4	72
124	Microscopic Structure of Liquid GeSe ₂ : The Problem of Concentration Fluctuations over Intermediate Range Distances. <i>Physical Review Letters</i> , 1998 , 80, 2342-2345	7.4	72
123	The liquid-liquid transition in supercooled ST2 water: a comparison between umbrella sampling and well-tempered metadynamics. <i>Faraday Discussions</i> , 2013 , 167, 77-94	3.6	71
122	Hydrophobic interaction and hydrogen-bond network for a methane pair in liquid water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 2626-30	11.5	67
121	Proton momentum distribution in water: an open path integral molecular dynamics study. <i>Journal of Chemical Physics</i> , 2007 , 126, 234504	3.9	64
120	Ab initio study of positron trapping at a vacancy in GaAs. <i>Physical Review Letters</i> , 1994 , 72, 3214-3217	7.4	64
119	Tunneling and delocalization effects in hydrogen bonded systems: a study in position and momentum space. <i>Journal of Chemical Physics</i> , 2009 , 130, 204511	3.9	62
118	Interatomic potential for vanadium suitable for radiation damage simulations. <i>Journal of Applied Physics</i> , 2003 , 93, 3328-3335	2.5	61
117	First-principles study of excitonic self-trapping in diamond. <i>Physical Review Letters</i> , 1995 , 75, 3166-3169	7.4	61
116	First principles study of photoelectron spectra of Cu _n - clusters. <i>Physical Review Letters</i> , 1995 , 75, 2104-2107	7.4	61
115	Free energy of proton transfer at the water-TiO interface from deep potential molecular dynamics. <i>Chemical Science</i> , 2020 , 11, 2335-2341	9.4	60
114	Role of dipolar correlations in the infrared spectra of water and ice. <i>Physical Review B</i> , 2008 , 77,	3.3	59
113	Intermediate Range Order and Bonding Character in Disordered Network-Forming Systems. <i>Journal of the American Chemical Society</i> , 1999 , 121, 2943-2944	16.4	57
112	Current in open quantum systems. <i>Physical Review Letters</i> , 2004 , 93, 160404	7.4	56
111	Tuning the photoinduced O ₂ -evolving reactivity of Mn ₄ O ₄ ⁷⁺ , Mn ₄ O ₄ ⁶⁺ , and Mn ₄ O ₃ (OH) ₆ ⁶⁺ manganese-oxo cubane complexes. <i>Inorganic Chemistry</i> , 2006 , 45, 189-95	5.1	54
110	Diffusion mechanism of Cu adatoms on a Cu(001) surface. <i>Surface Science</i> , 1994 , 306, L575-L578	1.8	54

109	Energy-gap reduction in heavily doped silicon: Causes and consequences. <i>Solid-State Electronics</i> , 1985 , 28, 17-24	1.7	54
108	On the Mechanisms of OH Radical Induced DNA-Base Damage: A Comparative Quantum Chemical and CarParrinello Molecular Dynamics Study <i>Journal of Physical Chemistry A</i> , 2004 , 108, 2922-2929	2.8	51
107	Structure, Polarization, and Sum Frequency Generation Spectrum of Interfacial Water on Anatase TiO. <i>Journal of Physical Chemistry Letters</i> , 2018 , 9, 6716-6721	6.4	51
106	Comment on "The putative liquid-liquid transition is a liquid-solid transition in atomistic models of water" [I and II: J. Chem. Phys. 135, 134503 (2011); J. Chem. Phys. 138, 214504 (2013)]. <i>Journal of Chemical Physics</i> , 2018 , 148, 137101	3.9	50
105	Closing of the nucleotide pocket of kinesin-family motors upon binding to microtubules. <i>Science</i> , 2003 , 300, 798-801	33.3	50
104	Quantum chemical evaluation of protein control over heme ligation: CO/O ₂ discrimination in myoglobin. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 3065-70	3.4	49
103	Ab initio molecular dynamics with maximally localized Wannier functions. <i>International Journal of Quantum Chemistry</i> , 2003 , 95, 821-829	2.1	49
102	Roles of quantum nuclei and inhomogeneous screening in the x-ray absorption spectra of water and ice. <i>Physical Review B</i> , 2012 , 86,	3.3	48
101	Topological Nonsymmorphic Metals from Band Inversion. <i>Physical Review X</i> , 2016 , 6,	9.1	48
100	Displaced path integral formulation for the momentum distribution of quantum particles. <i>Physical Review Letters</i> , 2010 , 105, 110602	7.4	47
99	Signatures of a liquid-liquid transition in an ab initio deep neural network model for water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 26040-26046 ^{11.5}		45
98	Raman spectrum and polarizability of liquid water from deep neural networks. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 10592-10602	3.6	43
97	Prediction of a magnetic Weyl semimetal without spin-orbit coupling and strong anomalous Hall effect in the Heusler compensated ferrimagnet Ti ₂ MnAl. <i>Physical Review B</i> , 2018 , 97,	3.3	43
96	Influence of asymmetry on bias behavior of spin torque. <i>Physical Review B</i> , 2010 , 81,	3.3	43
95	Use of dielectric functions in the theory of dispersion forces. <i>Physical Review B</i> , 2005 , 71,	3.3	43
94	Fast algorithm for extracting the diagonal of the inverse matrix with application to the electronic structure analysis of metallic systems. <i>Communications in Mathematical Sciences</i> , 2009 , 7, 755-777	1	41
93	86 PFLOPS Deep Potential Molecular Dynamics simulation of 100 million atoms with ab initio accuracy. <i>Computer Physics Communications</i> , 2021 , 259, 107624	4.2	41
92	The phase diagram of high-pressure superionic ice. <i>Nature Communications</i> , 2015 , 6, 8156	17.4	39

91	Hybrid density functional calculations of the band gap of GaIn _{1-x} N. <i>Physical Review B</i> , 2009 , 80,	3.3	39
90	Testing the TPSS meta-generalized-gradient-approximation exchange-correlation functional in calculations of transition states and reaction barriers. <i>Journal of Chemical Physics</i> , 2006 , 125, 234104	3.9	39
89	Role of ligand bending in the photodissociation of O ₂ vs CO-heme: a time-dependent density functional study. <i>Journal of the American Chemical Society</i> , 2003 , 125, 15710-1	16.4	38
88	Spherosiloxane H ₈ Si ₈ O ₁₂ clusters on Si(001): First-principles calculation of Si 2p core-level shifts. <i>Physical Review B</i> , 1996 , 54, R2339-R2342	3.3	38
87	Correlated Tunneling in Hydrogen Bonds. <i>Journal of Statistical Physics</i> , 2011 , 145, 365-384	1.5	37
86	From Colossal to Zero: Controlling the Anomalous Hall Effect in Magnetic Heusler Compounds via Berry Curvature Design. <i>Physical Review X</i> , 2018 , 8,	9.1	37
85	Isotope effects in liquid water via deep potential molecular dynamics. <i>Molecular Physics</i> , 2019 , 117, 3269-3281	3.7	35
84	A classical and ab initio study of the interaction of the myosin triphosphate binding domain with ATP. <i>Biophysical Journal</i> , 2002 , 82, 660-75	2.9	33
83	Assessment of the Tao-Mo nonempirical semilocal density functional in applications to solids and surfaces. <i>Physical Review B</i> , 2017 , 95,	3.3	32
82	Momentum distribution, vibrational dynamics, and the potential of mean force in ice. <i>Physical Review B</i> , 2011 , 83,	3.3	32
81	Dynamics of structural relaxation upon Rydberg excitation of an impurity in an Ar crystal. <i>Chemical Physics</i> , 1998 , 233, 343-352	2.3	32
80	Band alignment in molecular devices: Influence of anchoring group and metal work function. <i>Physical Review B</i> , 2008 , 77,	3.3	32
79	Deep neural network for the dielectric response of insulators. <i>Physical Review B</i> , 2020 , 102,	3.3	32
78	Large-Scale Structure and Hyperuniformity of Amorphous Ices. <i>Physical Review Letters</i> , 2017 , 119, 136002	7.4	31
77	Local-order metric for condensed-phase environments. <i>Physical Review B</i> , 2018 , 97,	3.3	31
76	Anisotropic adsorption of molecular assemblies on crystalline surfaces. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 16624-32	3.4	31
75	Chemistry between magnesium and multiple molecules in tris(8-hydroxyquinoline) aluminum films. <i>Journal of the American Chemical Society</i> , 2003 , 125, 7808-9	16.4	31
74	Theory of electronically stimulated defect migration in semiconductors. <i>Physical Review B</i> , 1984 , 30, 2260-2262	3.3	31

73	Density functional theory: Fixing Jacob's ladder. <i>Nature Chemistry</i> , 2016 , 8, 820-1	17.6	30
72	Simulation of electrocatalytic hydrogen production by a bioinspired catalyst anchored to a pyrite electrode. <i>Journal of the American Chemical Society</i> , 2010 , 132, 8593-601	16.4	30
71	Quantization of the dipole moment and of the end charges in push-pull polymers. <i>Journal of Chemical Physics</i> , 2007 , 127, 194902	3.9	30
70	Role of molecular conjugation in the surface radical reaction of aldehydes with H-Si(111): first principles study. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 18889-94	3.4	30
69	Reconstruction of frozen-core all-electron orbitals from pseudo-orbitals. <i>Journal of Chemical Physics</i> , 2001 , 115, 5791-5795	3.9	30
68	Analytical nuclear gradients for the range-separated many-body dispersion model of noncovalent interactions. <i>Chemical Science</i> , 2016 , 7, 1712-1728	9.4	29
67	Searching for crystal-ice domains in amorphous ices. <i>Physical Review Materials</i> , 2018 , 2,	3.2	29
66	Pushing the Limit of Molecular Dynamics with Ab Initio Accuracy to 100 Million Atoms with Machine Learning 2020 ,		29
65	Oxidation state changes and electron flow in enzymatic catalysis and electrocatalysis through Wannier-function analysis. <i>Chemistry - A European Journal</i> , 2011 , 17, 12136-43	4.8	28
64	Auxiliary-field quantum Monte Carlo calculations for systems with long-range repulsive interactions. <i>Physical Review Letters</i> , 1993 , 71, 1148-1151	7.4	28
63	Phase Diagram of a Deep Potential Water Model. <i>Physical Review Letters</i> , 2021 , 126, 236001	7.4	27
62	Resolving the CO/CN ligand arrangement in CO-inactivated [FeFe] hydrogenase by first principles density functional theory calculations. <i>Inorganic Chemistry</i> , 2006 , 45, 5715-7	5.1	26
61	When do short-range atomistic machine-learning models fall short?. <i>Journal of Chemical Physics</i> , 2021 , 154, 034111	3.9	26
60	First-principles electronic structure study of Ti-PTCDA contacts. <i>Physical Review B</i> , 2002 , 65,	3.3	25
59	Interpretation of photoelectron spectra in Cu _n - clusters including thermal and final-state effects: The case of Cu ₇ -. <i>Physical Review B</i> , 1996 , 54, 8913-8918	3.3	25
58	Theoretical studies of [FeFe]-hydrogenase: structure and infrared spectra of synthetic models. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 7049-57	3.4	23
57	Performance of a nonempirical density functional on molecules and hydrogen-bonded complexes. <i>Journal of Chemical Physics</i> , 2016 , 145, 234306	3.9	23
56	Tunneling conductance of amine-linked alkyl chains. <i>Nano Letters</i> , 2008 , 8, 1771-7	11.5	22

55	Berry phase approach to longitudinal dipole moments of infinite chains in electronic-structure methods with local basis sets. <i>Journal of Chemical Physics</i> , 2007 , 126, 234101	3.9	22
54	Longitudinal polarizability of long polymeric chains: quasi-one-dimensional electrostatics as the origin of slow convergence. <i>Journal of Chemical Physics</i> , 2005 , 122, 134907	3.9	21
53	A theoretical study of biotin chemisorption on Si-SiC(001) surfaces. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 13656-62	3.4	19
52	Mapping potential energy surfaces. <i>Journal of Chemical Physics</i> , 2004 , 121, 1193-200	3.9	19
51	Self-interstitial transport in vanadium. <i>Acta Materialia</i> , 2005 , 53, 1985-1994	8.4	18
50	In situ Characterization of Nanoparticles Using Rayleigh Scattering. <i>Scientific Reports</i> , 2017 , 7, 40230	4.9	17
49	Structure and electronic properties of amorphous indium phosphide from first principles. <i>Physical Review B</i> , 1998 , 57, 1594-1606	3.3	17
48	Cu ⁺⁺ and Li ⁺ interaction with polyethylene oxide by ab initio molecular dynamics. <i>Journal of Chemical Physics</i> , 1998 , 108, 9933-9936	3.9	15
47	Palmer et al. reply. <i>Nature</i> , 2016 , 531, E2-3	50.4	14
46	Concentration fluctuations on intermediate range distances in liquid GeSe ₂ : the critical role of ionicity. <i>Computational Materials Science</i> , 2000 , 17, 115-121	3.2	14
45	First-principles free-energy calculations on condensed-matter systems: Lattice vacancy in silicon. <i>Physical Review B</i> , 1996 , 53, 9760-9763	3.3	14
44	Thermal expansion in dispersion-bound molecular crystals. <i>Physical Review Materials</i> , 2018 , 2,	3.2	14
43	Phase Equilibrium of Water with Hexagonal and Cubic Ice Using the SCAN Functional. <i>Journal of Chemical Theory and Computation</i> , 2021 , 17, 3065-3077	6.4	14
42	Root-growth of boron nitride nanotubes: experiments and ab initio simulations. <i>Nanoscale</i> , 2018 , 10, 22223-22230	7.7	14
41	Enabling Large-Scale Condensed-Phase Hybrid Density Functional Theory Based Molecular Dynamics. 1. Theory, Algorithm, and Performance. <i>Journal of Chemical Theory and Computation</i> , 2020 , 16, 3757-3785	6.4	13
40	Designer spin systems via inverse statistical mechanics. <i>Physical Review B</i> , 2013 , 88,	3.3	13
39	Theoretical Design by First Principles Molecular Dynamics of a Bioinspired Electrode-Catalyst System for Electrocatalytic Hydrogen Production from Acidified Water. <i>Journal of Chemical Theory and Computation</i> , 2010 , 6, 3490-502	6.4	13
38	Phase equilibrium of liquid water and hexagonal ice from enhanced sampling molecular dynamics simulations. <i>Journal of Chemical Physics</i> , 2020 , 152, 204116	3.9	12

37	Inverse design of disordered stealthy hyperuniform spin chains. <i>Physical Review B</i> , 2016 , 93,	3.3	12
36	Structures, Interactions, and Ferromagnetism of Fe-Carbon Nanotube Systems. <i>Journal of Physical Chemistry C</i> , 2008 , 112, 8400-8407	3.8	12
35	Theoretical studies of [FeFe]-hydrogenase: infrared fingerprints of the dithiol-bridging ligand in the active site. <i>Inorganic Chemistry</i> , 2007 , 46, 1153-61	5.1	12
34	Minimization of the potential energy surface of Lennard-Jones clusters by quantum optimization. <i>Chemical Physics Letters</i> , 2005 , 412, 125-130	2.5	12
33	Theory of tunneling transport in periodic chains. <i>Physical Review B</i> , 2009 , 80,	3.3	11
32	A well-scaling natural orbital theory. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 12913-12918	11.5	10
31	Hydrogen production by the naked active site of the di-iron hydrogenases in water. <i>Journal of Physical Chemistry B</i> , 2009 , 113, 13096-106	3.4	10
30	Charge transfer in partition theory. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 2183-92	2.8	10
29	Mechanism of H ₂ production by the [FeFe]H subcluster of di-iron hydrogenases: implications for abiotic catalysts. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 13381-90	3.4	10
28	Free energy profile along a discretized reaction path via the hyperplane constraint force and torque. <i>Journal of Chemical Physics</i> , 2005 , 122, 114108	3.9	10
27	Migration of a carbon adatom on a charged single-walled carbon nanotube. <i>Carbon</i> , 2017 , 116, 174-180	10.4	9
26	Variational Approach to Monte-Carlo Renormalization Group. <i>Physical Review Letters</i> , 2017 , 119, 220602	7.4	9
25	Forces in pseudopotential molecular calculations. <i>Journal of Chemical Physics</i> , 1984 , 80, 1525-1528	3.9	8
24	Low- and high-temperature phases of a Pb monolayer on Ge(111) from ab initio molecular dynamics. <i>Physical Review B</i> , 1994 , 50, 15158-15165	3.3	7
23	Manifestations of metastable criticality in the long-range structure of model water glasses. <i>Nature Communications</i> , 2021 , 12, 3398	17.4	7
22	A deep potential model with long-range electrostatic interactions.. <i>Journal of Chemical Physics</i> , 2022 , 156, 124107	3.9	7
21	Oxygen tolerance of an in silico-designed bioinspired hydrogen-evolving catalyst in water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 2017-22	11.5	6
20	Electron transport with dissipation: A quantum kinetic approach. <i>International Journal of Quantum Chemistry</i> , 2005 , 101, 564-571	2.1	6

19	Hydrogen Dynamics in Supercritical Water Probed by Neutron Scattering and Computer Simulations. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 9461-9467	6.4	6
18	Band Engineering of Dirac Semimetals Using Charge Density Waves. <i>Advanced Materials</i> , 2021 , 33, e2101591	5.1	6
17	Electrocatalyst design from first principles: A hydrogen-production catalyst inspired by nature. <i>Catalysis Today</i> , 2011 , 165, 160-170	5.3	5
16	Influence of point defects on the electronic and topological properties of monolayer WTe ₂ . <i>Physical Review B</i> , 2020 , 102,	3.3	5
15	Fermionic Symmetry-Protected Topological Phase in a Two-Dimensional Hubbard Model. <i>Physical Review Letters</i> , 2016 , 117, 096405	7.4	4
14	Heat transport in liquid water from first-principles and deep neural network simulations. <i>Physical Review B</i> , 2021 , 104,	3.3	4
13	Enhancing the formation of ionic defects to study the ice Ih/XI transition with molecular dynamics simulations. <i>Molecular Physics</i> , e1916634	1.7	4
12	Effect of disorder on spin-transfer torque in magnetic tunnel junctions. <i>Journal of Applied Physics</i> , 2011 , 109, 07C920	2.5	3
11	Many-body effects in the X-ray absorption spectra of liquid water.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022 , 119, e2201258119	11.5	3
10	Determination of the critical manifold tangent space and curvature with Monte Carlo renormalization group. <i>Physical Review E</i> , 2019 , 100, 022138	2.4	2
9	PHONON-INDUCED ANISOTROPIC DISPERSION FORCES ON A METALLIC SUBSTRATE. <i>Nano LIFE</i> , 2012 , 02, 1240001	0.9	2
8	Dynamical optimization for partition theory. <i>Journal of Physical Chemistry A</i> , 2008 , 112, 571-5	2.8	2
7	Role of electron-hole interactions in the optical spectra of metals. <i>Physical Review Letters</i> , 1987 , 58, 1367-1370	7.4	2
6	Möbius molecules and fragile Mott insulators. <i>Physical Review B</i> , 2014 , 90,	3.3	1
5	Orbital energetics and molecular recognition. <i>Journal of the American Chemical Society</i> , 2006 , 128, 4514-56.4	56.4	1
4	Continuous-time Monte Carlo renormalization group. <i>Physical Review B</i> , 2020 , 102,	3.3	1
3	Quantum momentum distribution and quantum entanglement in the deep tunneling regime. <i>Journal of Chemical Physics</i> , 2020 , 152, 024106	3.9	0
2	Occupation probabilities as variables in electronic structure theory: cooper pairing, OP-NSOFT-Cs,t, and the homogeneous electron liquid. <i>European Physical Journal B</i> , 2018 , 91, 1	1.2	0

- 1 MonteCarlo Renormalization Group for Classical Lattice Models with Quenched Disorder. *Physical Review Letters*, **2020**, 125, 190601 7.4