Masahiko Okumura

List of Publications by Year
in descending order

81 papers	970 citations	567281 15 h-index	477307 29 g-index
82 all docs	82 docs citations	82 times ranked	1056 citing authors

#	Article	IF	Citations
1	Molecular dynamics simulations of cesium adsorption on illite nanoparticles. Journal of Colloid and Interface Science, 2017, 490, 608-620.	9.4	115
2	Nuclear magnetic relaxation and superfluid density in Fe-pnictide superconductors: an anisotropic $\pm$s-wave scenario. New Journal of Physics, 2008, 10, 103026.	2.9	79
3	Mechanism of Strong Affinity of Clay Minerals to Radioactive Cesium: First-Principles Calculation Study for Adsorption of Cesium at Frayed Edge Sites in Muscovite. Journal of the Physical Society of Japan, 2013, 82, 033802.	1.6	71
4	Superconductivity in repulsively interacting fermions on a diamond chain: Flat-band-induced pairing. Physical Review B, 2016, 94, .	3.2	61
5	Radiocesium interaction with clay minerals: Theory and simulation advances Post–Fukushima. Journal of Environmental Radioactivity, 2018, 189, 135-145.	1.7	60
6	Development of the ReaxFF Methodology for Electrolyte–Water Systems. Journal of Physical Chemistry A, 2019, 123, 2125-2141.	2.5	48
7	Evaluation of ambient dose equivalent rates influenced by vertical and horizontal distribution of radioactive cesium in soil in Fukushima Prefecture. Journal of Environmental Radioactivity, 2016, 151, 38-49.	1.7	45
8	Molecular Simulation of Cesium Adsorption at the Basal Surface of Phyllosilicate Minerals. Clays and Clay Minerals, 2016, 64, 389-400.	1.3	30
9	First-principle electronic structure calculations for magnetic moment in iron-based superconductors: An LSDA+negative U study. Physica C: Superconductivity and Its Applications, 2009, 469, 908-911.	1.2	26
10	Nontrivial Haldane Phase of an Atomic Two-Component Fermi Gas Trapped in a 1D Optical Lattice. Physical Review Letters, 2012, 109, 235302.	7.8	26
11	Condition for emergence of complex eigenvalues in the Bogoliubov–de Gennes equations. Physical Review A, 2008, 77, .	2.5	20
12	Redistribution and export of contaminated sediment within eastern Fukushima Prefecture due to typhoon flooding. Earth Surface Processes and Landforms, 2016, 41, 1708-1726.	2.5	19
13	Self-learning Monte Carlo method with Behler-Parrinello neural networks. Physical Review B, 2020, 101, .	3.2	19
14	Quantum synchronization effects in intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2008, 468, 689-694.	1.2	17
15	Ground-state properties of the one-dimensional attractive Hubbard model with confinement: A comparative study. Physical Review B, 2010, 82, .	3.2	16
16	Direct Extension of Density-Matrix Renormalization Group to Two-Dimensional Quantum Lattice Systems: Studies of Parallel Algorithm, Accuracy, and Performance. Journal of the Physical Society of Japan, 2009, 78, 094004.	1.6	15
17	First-Principles Calculation Study of Mechanism of Cation Adsorption Selectivity of Zeolites: A Guideline for Effective Removal of Radioactive Cesium. Journal of the Physical Society of Japan, 2013, 82, 023801.	1.6	15
18	Self-learning hybrid Monte Carlo: A first-principles approach. Physical Review B, 2020, 102, .	3.2	15

#	Article	IF	Citations
19	Machine learning potentials for tobermorite minerals. Computational Materials Science, 2021, 188, 110173.	3.0	15
20	Quantum field theoretical description of unstable behavior of trapped Bose–Einstein condensates with complex eigenvalues of Bogoliubov–de Gennes equations. Annals of Physics, 2007, 322, 2327-2349.	2.8	14
21	Correlation effects on atom-density profiles of one- and two-dimensional polarized atomic Fermi gases loaded on an optical lattice. Physical Review A, 2008, 77, .	2.5	14
22	Phase-separated ferromagnetism in a spin-imbalanced system of Fermi atoms loaded in an optical ladder: A density-matrix renormalization-group study. Physical Review A, 2011, 83, .	2.5	14
23	Localization of cesium on montmorillonite surface investigated by frequency modulation atomic force microscopy. Surface Science, 2017, 665, 32-36.	1.9	14
24	Proper treatment of the zero mode in quantum field theory for trapped Bose-Einstein condensation. Physical Review A, 2003, 68, .	2.5	13
25	Mott phase in polarized two-component atomic Fermi lattice gas. Physical Review B, 2008, 78, .	3.2	9
26	Stripe formation in fermionic atoms on a two-dimensional optical lattice inside a box trap: Density-matrix renormalization-group studies for the repulsive Hubbard model with open boundary conditions. Physical Review A, 2008, 77, .	2.5	9
27	Mathematical Modeling of Radioactive Contaminants in the Fukushima Environment. Nuclear Science and Engineering, 2015, 179, 104-118.	1.1	9
28	Relation between generalized Bogoliubov and Bogoliubov–de Gennes approaches including Nambu–Goldstone mode. Journal of Mathematical Physics, 2005, 46, 042307.	1.1	8
29	Exact diagonalization studies on two-band minimal model for iron-based superconductors. Physica C: Superconductivity and Its Applications, 2009, 469, 932-935.	1.2	8
30	Monte Carlo simulation studies of cation selectivity in ion exchange of zeolites. RSC Advances, 2014, 4, 52757-52761.	3.6	8
31	Hole Localization in the One-Dimensional Doped Anderson-Hubbard Model. Physical Review Letters, 2008, 101, 016407.	7.8	7
32	Quantum phases in degenerate-p-orbital attractive one-dimensional fermionic optical lattices. Physical Review A, 2014, 89, .	2.5	7
33	Radiocesium interaction with clay minerals: Theory and simulation advances Post–Fukushima. Journal of Environmental Radioactivity, 2019, 210, 105809.	1.7	7
34	Construction of machine-learning Zr interatomic potentials for identifying the formation process of c-type dislocation loops. Computational Materials Science, 2022, 202, 110865.	3.0	7
35	Goldstone theorem, Hugenholtz–Pines theorem, and Ward–Takahashi relation in finite volume Bose–Einstein condensed gases. Annals of Physics, 2006, 321, 1892-1917.	2.8	6
36	Quantum effects on capacitively coupled intrinsic Josephson junctions. Journal of Physics and Chemistry of Solids, 2008, 69, 3221-3224.	4.0	6

#	Article	IF	Citations
37	Spectral properties of trapped one-dimensional ultracold fermions loaded on optical lattices. Physical Review A, 2011, 84, .	2.5	6
38	Radiation-Damage Resistance in Phyllosilicate Minerals From First Principles and Implications for Radiocesium and Strontium Retention in Soils. Clays and Clay Minerals, 2016, 64, 108-114.	1.3	6
39	Origin of 6-fold coordinated aluminum at (010)-type pyrophyllite edges. AIP Advances, 2017, 7, 055211.	1.3	6
40	Machine learning potentials of kaolinite based on the potential energy surfaces of GGA and meta-GGA density functional theory. Applied Clay Science, 2022, 228, 106596.	5.2	6
41	Effects of Quantum Coordinates on Condensate Density in a Trapped Bose-Einstein Condensate. Progress of Theoretical Physics, 2004, 111, 199-211.	2.0	5
42	Condition for the existence of complex modes in a trapped Bose-Einstein condensate with a highly quantized vortex. Physical Review A, 2007, 76, .	2.5	5
43	Derivation of non-Markovian transport equations for trapped cold atoms in nonequilibrium thermal field theory. Annals of Physics, 2010, 325, 426-441.	2.8	5
44	Performance Acceleration of Kernel Polynomial Method Applying Graphics Processing Units. , 2011, , .		5
45	Cs Adsorption in Clay Minerals and Zeolites: First Principle Calculation Studies toward Understanding Their Microscopic Mechanism. Hyomen Kagaku, 2013, 34, 135-142.	0.0	5
46	Hydration structures of barium ions: Ab initio molecular dynamics simulations using the SCAN meta-GGA density functional and EXAFS spectroscopy studies. Chemical Physics Letters, 2021, 780, 138945.	2.6	5
47	Ward–Takahashi relation at finite temperature in Bose–Einstein condensation of trapped neutral atoms. Physica A: Statistical Mechanics and Its Applications, 2005, 348, 157-172.	2.6	4
48	Transmutation effects on long-term Cs retention in phyllosilicate minerals from first principles. Physical Chemistry Chemical Physics, 2017, 19, 27007-27014.	2.8	4
49	Effect of the Zero-Mode on the Response of a Trapped Bose-Condensed Gas. Progress of Theoretical Physics, 2006, 115, 683-700.	2.0	3
50	Quantum Field Theoretical Description of Dynamical Instability of Trapped Bose–Einstein Condensates. Journal of Low Temperature Physics, 2007, 148, 331-336.	1.4	3
51	Dynamics of attractively interacting fermi atoms in one-dimensional optical lattices: Non-equilibrium simulations of fermion superfluidity. Physica C: Superconductivity and Its Applications, 2010, 470, S949-S951.	1.2	3
52	Direct extension of the density-matrix renormalization group method toward two-dimensional large quantum lattices and related high-performance computing. Japan Journal of Industrial and Applied Mathematics, 2011, 28, 141-151.	0.9	3
53	High Performance Computing for Eigenvalue Solver in Density-Matrix Renormalization Group Method: Parallelization of the Hamiltonian Matrix-Vector Multiplication. Lecture Notes in Computer Science, 2008, , 39-45.	1.3	3
54	Unitarily inequivalent vacua in Bose–Einstein condensation of trapped gases. Physica A: Statistical Mechanics and Its Applications, 2006, 365, 429-445.	2.6	2

#	Article	IF	Citations
55	The Condition for Existence of Complex Modes inÂTrapped Boseâ€"Einstein Condensate withÂaÂHighlyÂQuantized Vortex. Journal of Low Temperature Physics, 2007, 148, 381-386.	1.4	2
56	Magnetic localization in the spin-polarized one-dimensional Anderson-Hubbard model. Physical Review B, 2009, 79, .	3.2	2
57	Polarization plateau in an atomic Fermi gas loaded on a three-leg triangular optical lattice. Physical Review A, 2009, 79, .	2.5	2
58	Decay of Resonance Structure and Trapping Effect in Potential Scattering Problem of Self-Focusing Wave Packet. Journal of the Physical Society of Japan, 2011, 80, 084003.	1.6	2
59	Reply to ''Comments on Radiation-damage Resistance In Phyllosilicate Minerals from First Principles and Implications For Radiocesium and Strontium Retention in Soils''. Clays and Clay Minerals, 2017, 65, 371-375.	1.3	2
60	Vortex core structure in strongly correlated superfluidity. Physica C: Superconductivity and Its Applications, 2008, 468, 1237-1240.	1.2	1
61	Stripe formation in repulsive 4-leg Hubbard ladder: Directly-extended DMRG studies. Physica C: Superconductivity and Its Applications, 2008, 468, 1141-1144.	1.2	1
62	Stripe Formation in Fermionic Atoms on 2-D Optical Lattice: DMRG Studies for n-Leg Repulsive Hubbard Ladder. Journal of Superconductivity and Novel Magnetism, 2009, 22, 275-279.	1.8	1
63	High-Performance Quantum Simulation for Coupled Josephson Junctions on the Earth Simulator: a Challenge To the SchrÃ¶dinger Equation On 256^4 Grids. International Journal of High Performance Computing Applications, 2010, 24, 319-334.	3.7	1
64	Performance Impact Applying Compression Format to Sparse Matrix on Kernel Polynomial Method Using GPU. , 2011, , .		1
65	Interference Pattern Formation between Bound Solitons and Radiation in Momentum Space: Possible Detection of Radiation from Bound Solitons with Boseâ€"Einstein Condensate of Neutral Atoms. Journal of the Physical Society of Japan, 2012, 81, 104003.	1.6	1
66	Kernel Polynomial Method on GPU. International Journal of Parallel Programming, 2013, 41, 59-88.	1.5	1
67	Response of trapped Bose-Einstein condensates under time-dependent perturbation. Journal of Modern Optics, 2004, 51, 1103-1104.	1.3	1
68	Role of Nambuâ€"Goldstone Mode in Trapped Boseâ€"Einstein Condensation. Journal of the Physical Society of Japan, 2003, 72, 152-155.	1.6	0
69	Nambu-Goldstone mode in trapped bose-einstein condensation. Journal of Modern Optics, 2004, 51, 1101-1101.	1.3	0
70	Response of trapped Bose-Einstein condensates under time-dependent perturbation. Journal of Modern Optics, 2004, 51, 1103-1104.	1.3	0
71	Effect of Zero Mode on the Response of Trapped Bose-Condensed Atoms. Journal of Physics: Conference Series, 2006, 31, 211-212.	0.4	0
72	Publisher's Note: Condition for the existence of complex modes in a trapped Bose-Einstein condensate with a highly quantized vortex [Phys. Rev. A**76**, 043608 (2007)]. Physical Review A, 2007, 76, .	2.5	0

#	Article	IF	Citations
73	Quantum field theoretical description of unstable behavior of a Bose-Einstein condensate with a highly quantized vortex in a harmonic potential. Laser Physics, 2007, 17, 211-214.	1.2	0
74	Hole localization in strongly correlated and disordered systems: DMRG studies for 1-D and 3-leg ladder random Hubbard models. Physica C: Superconductivity and Its Applications, 2008, 468, 1241-1244.	1.2	0
75	DMRG studies for 1-D random Hubbard chain close to the half-filling. Journal of Physics and Chemistry of Solids, 2008, 69, 3324-3326.	4.0	0
76	Quantum field theoretical analysis on unstable behavior of Bose–Einstein condensates in optical lattices. Annals of Physics, 2008, 323, 1247-1270.	2.8	0
77	Anomalous non-equilibrium electron transport in one-dimensional quantum nano wire at half-filling: time dependent density renormalization group study. Journal of Physics: Conference Series, 2010, 248, 012031.	0.4	0
78	Density-matrix renormalization-group studies for one-dimensional polarized Anderson–Hubbard model. Physica C: Superconductivity and Its Applications, 2010, 470, S952-S954.	1.2	0
79	First-Principles Studies on Cesium Adsorption of Clay Minerals. Atomos, 2014, 56, 372-377.	0.0	0
80	Ferromagnetism in Multi-Orbital Fermi Gas Loaded on a One-Dimensional Optical Lattice. , 2014, , .		0
81	Nambu-Goldstone mode in trapped Bose-Einstein condensation. Journal of Modern Optics, 2004, 51, 1101-1101.	1.3	0