Weiqing Ren

List of Publications by Year
in descending order

50 papers	3,771 citations	236925 25 h-index	214800 47 g-index
50 all docs	50 docs citations	50 times ranked	2896 citing authors

#	Article	IF	Citations
1	Computing the Invariant Distribution of Randomly Perturbed Dynamical Systems Using Deep Learning. Journal of Scientific Computing, 2022, 91, .	2.3	2
2	Vapor-liquid phase transition in fluctuating hydrodynamics: The most probable transition path and its computation. Journal of Computational Physics, 2022, 467, 111426.	3.8	0
3	The graph limit of the minimizer of the Onsager-Machlup functional and its computation. Science China Mathematics, 2021, 64, 239-280.	1.7	3
4	A finite element method for electrowetting on dielectric. Journal of Computational Physics, 2021, 429, 109998.	3.8	6
5	A thermodynamically consistent model and its conservative numerical approximation for moving contact lines with soluble surfactants. Computer Methods in Applied Mechanics and Engineering, 2021, 385, 114033.	6.6	9
6	Static interface profiles for contact lines on an elastic membrane with the Willmore energy. Physical Review E, 2020, 102, 062803.	2.1	4
7	An energy-stable finite element method for the simulation of moving contact lines in two-phase flows. Journal of Computational Physics, 2020, 417, 109582.	3.8	8
8	Interface Profile Near the Contact Line in Electro-Wetting on Dielectric. SIAM Journal on Applied Mathematics, 2020, 80, 402-421.	1.8	1
9	Computing committor functions for the study of rare events using deep learning. Journal of Chemical Physics, 2019, 151, .	3.0	34
10	Distinguished Limits of the Navier Slip Model for Moving Contact Lines in Stokes Flow. SIAM Journal on Applied Mathematics, 2019, 79, 1654-1674.	1.8	4
11	A note on the solution to the moving contact line problem with the no-slip boundary condition. Communications in Mathematical Sciences, 2019, 17, 1167-1175.	1.0	0
12	Simulation of moving contact lines in two-phase polymeric fluids. Computers and Mathematics With Applications, 2016, 72, 1002-1012.	2.7	6
13	Reinitialization of the Level-Set Function in 3d Simulation of Moving Contact Lines. Communications in Computational Physics, 2016, 20, 1163-1182.	1.7	10
14	Recent developments in computational modelling of nucleation in phase transformations. Npj Computational Materials, 2016, 2, .	8.7	36
15	Liquid-vapor transition on patterned solid surfaces in a shear flow. Journal of Chemical Physics, 2015, 143, 244701.	3.0	5
16	Noise-induced transition in barotropic flow over topography and application to Kuroshio. Journal of Computational Physics, 2015, 300, 352-364.	3.8	8
17	On the distinguished limits of the Navier slip model of the moving contact line problem. Journal of Fluid Mechanics, 2015, 772, 107-126.	3.4	19
18	Numerical study of the effects of surface topography and chemistry on the wetting transition using the string method. Journal of Chemical Physics, 2014, 141, 244705.	3.0	16

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19	A level-set method for two-phase flows with moving contact line and insoluble surfactant. Journal of Computational Physics, 2014, 263, 71-90.	3.8	65
20	Derivation of a continuum model and the energy law for moving contact lines with insoluble surfactants. Physics of Fluids, 2014, 26, .	4.0	29
21	Numerical Study of Vapor Condensation on Patterned Hydrophobic Surfaces Using the String Method. Langmuir, 2014, 30, 9567-9576.	3.5	20
22	Wetting Transition on Patterned Surfaces: Transition States and Energy Barriers. Langmuir, 2014, 30, 2879-2885.	3.5	81
23	A climbing string method for saddle point search. Journal of Chemical Physics, 2013, 138, 134105.	3.0	47
24	Contact line dynamics on heterogeneous surfaces. Physics of Fluids, 2011, 23, .	4.0	33
25	Derivation of continuum models for the moving contact line problem based on thermodynamic principles. Communications in Mathematical Sciences, 2011, 9, 597-606.	1.0	34
26	Computing transition rates of thermally activated events in dislocation dynamics. Scripta Materialia, 2010, 62, 206-209.	5.2	10
27	Continuum models for the contact line problem. Physics of Fluids, 2010, 22, .	4.0	87
28	A general strategy for designing seamless multiscale methods. Journal of Computational Physics, 2009, 228, 5437-5453.	3.8	80
29	Minimum action method for the Kardar-Parisi-Zhang equation. Physical Review E, 2009, 80, 041116.	2.1	35
30	Adaptive minimum action method for the study of rare events. Journal of Chemical Physics, 2008, 128, 104111.	3.0	84
31	Application of the string method to the study of critical nuclei in capillary condensation. Journal of Chemical Physics, 2008, 129, 154711.	3.0	20
32	Phase slips in superconducting wires with nonuniform cross section: A numerical evaluation using the string method. Physical Review B, 2008, 77, .	3.2	5
33	Simplified and improved string method for computing the minimum energy paths in barrier-crossing events. Journal of Chemical Physics, 2007, 126, 164103.	3.0	516
34	Numerical study of metastability due to tunneling: The quantum string method. Physica A: Statistical Mechanics and Its Applications, 2007, 379, 491-502.	2.6	13
35	Analytical and numerical study of coupled atomistic-continuum methods for fluids. Journal of Computational Physics, 2007, 227, 1353-1371.	3.8	42
36	Boundary conditions for the moving contact line problem. Physics of Fluids, 2007, 19, 022101.	4.0	186

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37	Seamless multiscale modeling of complex fluids using fiber bundle dynamics. Communications in Mathematical Sciences, 2007, 5, 1027-1037.	1.0	14
38	Heterogeneous multiscale method for the modeling of complex fluids and micro-fluidics. Journal of Computational Physics, 2005, 204, 1-26.	3.8	157
39	Transition pathways in complex systems: Reaction coordinates, isocommittor surfaces, and transition tubes. Chemical Physics Letters, 2005, 413, 242-247.	2.6	187
40	Current dissipation in thin superconducting wires: A numerical evaluation using the string method. Physical Review B, 2005, 72, .	3.2	13
41	Transition pathways in complex systems: Application of the finite-temperature string method to the alanine dipeptide. Journal of Chemical Physics, 2005, 123, 134109.	3.0	168
42	Finite Temperature String Method for the Study of Rare Events†. Journal of Physical Chemistry B, 2005, 109, 6688-6693.	2.6	397
43	Stability of the Matrix Factorization for Solving Block Tridiagonal Symmetric Indefinite Linear Systems. BIT Numerical Mathematics, 2004, 44, 181-188.	2.0	5
44	Minimum action method for the study of rare events. Communications on Pure and Applied Mathematics, 2004, 57, 637-656.	3.1	185
45	Numerical simulations of self-focusing of ultrafast laser pulses. Physical Review E, 2003, 67, 056603.	2.1	29
46	Energy landscape and thermally activated switching of submicron-sized ferromagnetic elements. Journal of Applied Physics, 2003, 93, 2275-2282.	2.5	83
47	Higher Order String Method for Finding Minimum Energy Paths. Communications in Mathematical Sciences, 2003, 1, 377-384.	1.0	39
48	String method for the study of rare events. Physical Review B, 2002, 66, .	3.2	843
49	A new adaptive grid method based on iterative grid redistribution. Methods and Applications of Analysis, 2001, 8, 515-528.	0.5	0
50	An Iterative Grid Redistribution Method for Singular Problems in Multiple Dimensions. Journal of Computational Physics, 2000, 159, 246-273.	3.8	93