Mitchell Luskin

List of Publications by Year
in descending order

62 papers	2,142 citations	279798 23 h-index	223800 46 g-index
64 all docs	64 docs citations	64 times ranked	2121 citing authors

#	Article	IF	Citations
1	Atomic and electronic reconstruction at the van der Waals interface in twisted bilayer graphene. Nature Materials, 2019, 18, 448-453.	27.5	454
2	Twistronics: Manipulating the electronic properties of two-dimensional layered structures through their twist angle. Physical Review B, 2017, 95, .	3.2	308
3	Relaxation and domain formation in incommensurate two-dimensional heterostructures. Physical Review B, 2018, 98, .	3.2	177
4	Atomistic-to-continuum coupling. Acta Numerica, 2013, 22, 397-508.	10.7	83
5	Twisted Trilayer Graphene: A Precisely Tunable Platform for Correlated Electrons. Physical Review Letters, 2020, 125, 116404.	7.8	82
6	A mathematical formalization of the parallel replica dynamics. Monte Carlo Methods and Applications, 2012, 18, .	0.8	70
7	Non-Ergodicity of the NosÃ©â€“Hoover Thermostatted Harmonic Oscillator. Archive for Rational Mechanics and Analysis, 2007, 184, 449-463.	2.4	62
8	Stability, Instability, and Error of the Force-based Quasicontinuum Approximation. Archive for Rational Mechanics and Analysis, 2010, 197, 179-202.	2.4	57
9	Analysis of a force-based quasicontinuum approximation. ESAIM: Mathematical Modelling and Numerical Analysis, 2008, 42, 113-139.	1.9	48
10	Correlated Insulating States and Transport Signature of Superconductivity in Twisted Trilayer Graphene Superlattices. Physical Review Letters, 2021, 127, 166802.	7.8	44
11	An analysis of the effect of ghost force oscillation on quasicontinuum error. ESAIM: Mathematical Modelling and Numerical Analysis, 2009, 43, 591-604.	1.9	41
12	Non-ergodicity of NosÃ©â€“Hoover dynamics. Nonlinearity, 2009, 22, 1673-1694.	1.4	40
13	An Optimal Order Error Analysis of the One-Dimensional Quasicontinuum Approximation. SIAM Journal on Numerical Analysis, 2009, 47, 2455-2475.	2.3	39
14	Analysis of Energy-Based Blended Quasi-Continuum Approximations. SIAM Journal on Numerical Analysis, 2011, 49, 2182-2209.	2.3	38
15	An Analysis of Node-Based Cluster Summation Rules in the Quasicontinuum Method. SIAM Journal on Numerical Analysis, 2009, 47, 3070-3086.	2.3	36
16	Approximation of a laminated microstructure for a rotationally invariant, double well energy density. Numerische Mathematik, 1996, 75, 205-221.	1.9	35
17	The Simply Laminated Microstructure in Martensitic Crystals that Undergo a Cubic-to-Orthorhombic Phase Transformation. Archive for Rational Mechanics and Analysis, 1999, 149, 123-154.	2.4	34
18	Modeling mechanical relaxation in incommensurate trilayer van der Waals heterostructures. Physical Review B, 2020, 101, .	3.2	31

#	Article	IF	Citations
19	Error Estimation and Atomistic-Continuum Adaptivity for the Quasicontinuum Approximation of a Frenkelâ€“Kontorova Model. Multiscale Modeling and Simulation, 2008, 7, 147-170.	1.6	30
20	Switchable and unidirectional plasmonic beacons in hyperbolic two-dimensional materials. Physical Review B, 2019, 99, .	3.2	27
21	The Computation of Martensitic Microstructure with Piecewise Laminates. Journal of Scientific Computing, 2003, 19, 293-308.	2.3	25
22	Generalized Kubo formulas for the transport properties of incommensurate 2D atomic heterostructures. Journal of Mathematical Physics, 2017, 58, .	1.1	24
23	Electronic Density of States for Incommensurate Layers. Multiscale Modeling and Simulation, 2017, 15, 476-499.	1.6	24
24	Theory-based benchmarking of the blended force-based quasicontinuum method. Computer Methods in Applied Mechanics and Engineering, 2014, 268, 763-781.	6.6	22
25	Perturbation theory for weakly coupled two-dimensional layers. Journal of Materials Research, 2016, 31, 959-966.	2.6	21
26	Energy Minimization of Two Dimensional Incommensurate Heterostructures. Archive for Rational Mechanics and Analysis, 2020, 235, 1289-1325.	2.4	21
27	An Optimization-based Atomistic-to-Continuum Coupling Method. SIAM Journal on Numerical Analysis, 2014, 52, 2183-2204.	2.3	20
28	Goal-oriented adaptive mesh refinement for the quasicontinuum approximation of a Frenkel-Kontorova model. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4298-4306.	6.6	19
29	Dipole excitation of surface plasmon on a conducting sheet: Finite element approximation and validation. Journal of Computational Physics, 2017, 339, 126-145.	3.8	19
30	Positive Definiteness of the Blended Force-Based Quasicontinuum Method. Multiscale Modeling and Simulation, 2012, 10, 1023-1045.	1.6	18
31	Goal-oriented Atomistic-Continuum Adaptivity for the Quasicontinuum Approximation. International Journal for Multiscale Computational Engineering, 2007, 5, 407-415.	1.2	18
32	Iterative Solution of the Quasicontinuum Equilibrium Equations with Continuation. Journal of Scientific Computing, 2008, 37, 19-41.	2.3	15
33	Incommensurate Heterostructures in Momentum Space. Multiscale Modeling and Simulation, 2018, 16, 429-451.	1.6	15
34	Duality between atomic configurations and Bloch states in twistronic materials. Physical Review Research, 2020, 2, .	3.6	14
35	Ultracompact Amplitude Modulator by Coupling Hyperbolic Polaritons over a Graphene-Covered Gap. ACS Photonics, 2018, 5, 544-551.	6.6	13
36	APPROXIMATION BY PIECEWISE CONSTANT FUNCTIONS IN A BV METRIC. Mathematical Models and Methods in Applied Sciences, 2003, 13, 373-393.	3.3	12

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37	Analysis of Rippling in Incommensurate One-Dimensional Coupled Chains. Multiscale Modeling and Simulation, 2017, 15, 56-73.	1.6	10
38	Adaptive finite element simulations of waveguide configurations involving parallel 2D material sheets. Computer Methods in Applied Mechanics and Engineering, 2019, 351, 20-34.	6.6	9
39	Existence of the first magic angle for the chiral model of bilayer graphene. Journal of Mathematical Physics, 2021, 62, .	1.1	9
40	On solutions of Maxwellâ€™s equations with dipole sources over a thin conducting film. Journal of Mathematical Physics, 2016, 57, 042903.	1.1	8
41	A Computational and Theoretical Investigation of the Accuracy of Quasicontinuum Methods. Lecture Notes in Computational Science and Engineering, 2012, , 67-96.	0.3	7
42	On the Wienerâ€“Hopf Method for Surface Plasmons: Diffraction from Semiinfinite Metamaterial Sheet. Studies in Applied Mathematics, 2017, 139, 599-625.	2.4	7
43	Efficient computation of Kubo conductivity for incommensurate 2D heterostructures. European Physical Journal B, 2020, 93, 1.	1.5	7
44	Anharmonic free energy of lattice vibrations in fcc crystals from a mean-field bond. Physical Review B, 2020, 102, .	3.2	6
45	Universal behavior of a dispersive Dirac cone in gradient-index plasmonic metamaterials. Physical Review B, 2018, 97, .	3.2	5
46	Generation of surface plasmon-polaritons by edge effects. Communications in Mathematical Sciences, 2018, 16, 77-95.	1.0	5
47	Modeling and Computation of Kubo Conductivity for Two-Dimensional Incommensurate Bilayers. Multiscale Modeling and Simulation, 2020, 18, 1525-1564.	1.6	5
48	A COMPUTATIONAL MODEL FOR MARTENSITIC THIN FILMS WITH COMPOSITIONAL FLUCTUATION. Mathematical Models and Methods in Applied Sciences, 2004, 14, 1585-1598.	3.3	4
49	Stability and Convergence of the String Method for Computing Minimum Energy Paths. Multiscale Modeling and Simulation, 2019, 17, 873-898.	1.6	4
50	Dipole excitation of collective modes in viscous two-dimensional electron systems. Physical Review B, 2020, 102, .	3.2	4
51	Nonlinear eigenvalue problems for coupled Helmholtz equations modeling gradient-index graphene waveguides. Journal of Computational Physics, 2020, 423, 109871.	3.8	3
52	A finite element model for martensitic thin films. Calcolo, 2006, 43, 197-215.	1.1	2
53	Lattice stability for atomistic chains modeled by local approximations of the embedded atom method. Computational Materials Science, 2013, 66, 96-103.	3.0	2
54	Nonperturbative nonlinear effects in the dispersion relations for TE and TM plasmons on two-dimensional materials. Physical Review B, 2018, 98, .	3.2	2

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55	Cauchyâ€“Born strain energy density for coupled incommensurate elastic chains. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 729-749.	1.9	2
56	Linear Stationary Iterative Methods for the Force-Based Quasicontinuum Approximation. Lecture Notes in Computational Science and Engineering, 2012, , 331-368.	0.3	2
57	Analysis of a block Gauss-Seidel iterative method for a finite element discretization of the neutron transport equation. Transport Theory and Statistical Physics, 1985, 14, 35-62.	0.4	1
58	Analysis of a Predictor-Corrector Method for Computationally Efficient Modeling of Surface Effects in 1D. Multiscale Modeling and Simulation, 2017, 15, 892-919.	1.6	1
59	Finite-size effects in wave transmission through plasmonic crystals: A tale of two scales. Physical Review B, 2020, 102, .	3.2	1
60	Analysis of the Quasi-Nonlocal Approximation of Linear and Circular Chains in the Plane. Multiscale Modeling and Simulation, 2011, 9, 1495-1527.	1.6	0
61	Homogenization of hydrodynamic transport in Dirac fluids. Journal of Mathematical Physics, 2021, 62, 011503.	1.1	0
62	Atomistic to Continuum Coupling. , 2015, , 89-97.		0