Liming Xiong

List of Publications by Year
in descending order

44 papers	1,618 citations	201674 27 h-index	289244 40 g-index
44 all docs	44 docs citations	44 times ranked	768 citing authors

#	Article	IF	Citations
1	Coarse-grained atomistic simulation of dislocations. Journal of the Mechanics and Physics of Solids, 2011, 59, 160-177.	4.8	95
2	Concurrent atomisticâ€“continuum simulations of dislocationâ€“void interactions in fcc crystals. International Journal of Plasticity, 2015, 65, 33-42.	8.8	91
3	Sequential slip transfer of mixed-character dislocations across Î£3 coherent twin boundary in FCC metals: a concurrent atomistic-continuum study. Npj Computational Materials, 2016, 2, .	8.7	83
4	A General Crosslinker Strategy to Realize Intrinsic Frozen Resistance of Hydrogels. Advanced Materials, 2021, 33, e2104006.	21.0	82
5	A concurrent scheme for passing dislocations from atomistic to continuum domains. Acta Materialia, 2012, 60, 899-913.	7.9	68
6	Coarse-grained atomistic simulations of dislocations in Al, Ni and Cu crystals. International Journal of Plasticity, 2012, 38, 86-101.	8.8	61
7	A quasistatic implementation of the concurrent atomistic-continuum method for FCC crystals. International Journal of Plasticity, 2015, 72, 91-126.	8.8	56
8	An analysis of key characteristics of the Frank-Read source process in FCC metals. Journal of the Mechanics and Physics of Solids, 2016, 96, 460-476.	4.8	55
9	Deformation mechanisms in silicon nanoparticles. Journal of Applied Physics, 2011, 109, .	2.5	51
10	Shear stress- and line length-dependent screw dislocation cross-slip in FCC Ni. Acta Materialia, 2017, 122, 412-419.	7.9	48
11	Coarse-graining atomistic dynamics of brittle fracture by finite element method. International Journal of Plasticity, 2010, 26, 1402-1414.	8.8	47
12	Coarse-grained elastodynamics of fast moving dislocations. Acta Materialia, 2016, 104, 143-155.	7.9	47
13	Nucleation and growth of dislocation loops in Cu, Al and Si by a concurrent atomistic-continuum method. Scripta Materialia, 2012, 67, 633-636.	5.2	45
14	Effects of phonons on mobility of dislocations and dislocation arrays. Scripta Materialia, 2017, 137, 22-26.	5.2	44
15	Comparing EAM Potentials to Model Slip Transfer of Sequential Mixed Character Dislocations Across Two Symmetric Tilt Grain Boundaries in Ni. Jom, 2017, 69, 814-821.	1.9	43
16	Concurrent atomistic and continuum simulation of strontium titanate. Acta Materialia, 2013, 61, 89-102.	7.9	42
17	Nanoscale toughening mechanism of nacre tablet. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 53, 200-209.	3.1	41
18	Triaxial-Stress-Induced Homogeneous Hysteresis-Free First-Order Phase Transformations with Stable Intermediate Phases. Physical Review Letters, 2017, 118, 025701.	7.8	39

#	Article	IF	Citations
19	Sub-THz Phonon drag on dislocations by coarse-grained atomistic simulations. International Journal of Plasticity, 2014, 55, 268-278.	8.8	38
20	Lattice instability during phase transformations under multiaxial stress: Modified transformation work criterion. Physical Review B, 2017, 96, .	3.2	38
21	Coarse-grained simulations of single-crystal silicon. Modelling and Simulation in Materials Science and Engineering, 2009, 17, 035002.	2.0	37
22	Ballistic-diffusive phonon heat transport across grain boundaries. Acta Materialia, 2017, 136, 355-365.	7.9	35
23	Amorphization induced by 60Â° shuffle dislocation pileup against different grain boundaries in silicon bicrystal under shear. Acta Materialia, 2019, 179, 287-295.	7.9	35
24	Mesh refinement schemes for the concurrent atomistic-continuum method. International Journal of Solids and Structures, 2016, 90, 144-152.	2.7	34
25	PyCAC: The concurrent atomistic-continuum simulation environment. Journal of Materials Research, 2018, 33, 857-871.	2.6	34
26	Passing waves from atomistic to continuum. Journal of Computational Physics, 2018, 354, 393-402.	3.8	33
27	Prediction of phonon properties of 1D polyatomic systems using concurrent atomisticâ€“continuum simulation. Archive of Applied Mechanics, 2014, 84, 1665-1675.	2.2	31
28	Validation of the Concurrent Atomistic-Continuum Method on Screw Dislocation/Stacking Fault Interactions. Crystals, 2017, 7, 120.	2.2	25
29	Multiscale modeling and simulation of single-crystal MgO through an atomistic field theory. International Journal of Solids and Structures, 2009, 46, 1448-1455.	2.7	24
30	Metallic glass instability induced by the continuous dislocation absorption at an amorphous/crystalline interface. Acta Materialia, 2020, 189, 10-24.	7.9	24
31	Quantifying the dynamics of dislocation kinks in iron and tungsten through atomistic simulations. International Journal of Plasticity, 2020, 128, 102675.	8.8	24
32	A spatial decomposition parallel algorithm for a concurrent atomistic-continuum simulator and its preliminary applications. Computational Materials Science, 2018, 144, 1-10.	3.0	19
33	Stresses and strains at nano/micro scales. Journal of Mechanics of Materials and Structures, 2006, 1, 705-723.	0.6	18
34	A coherent phonon pulse model for transient phonon thermal transport. Computer Physics Communications, 2015, 195, 112-116.	7.5	18
35	Atomistic simulation of mechanical properties of diamond and silicon carbide by a field theory. Modelling and Simulation in Materials Science and Engineering, 2007, 15, 535-551.	2.0	16
36	Nanoscale plastic deformation mechanisms of single crystalline silicon under compression, tension and indentation. Journal of Micromechanics and Molecular Physics, 2016, 01, 1640007.	1.2	15

#	ARTICLE	IF	CITATIONS
37	Asymmetry of the atomic-level stress tensor in homogeneous and inhomogeneous materials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180155.	2.1	15
38	A Generalized Continuum Theory and Its Relation to Micromorphic Theory. Journal of Engineering Mechanics - ASCE, 2009, 135, 149-155.	2.9	14
39	Slip of shuffle screw dislocations through tilt grain boundaries in silicon. Computational Materials Science, 2019, 157, 132-135.	3.0	13
40	Stationary dislocation motion at stresses significantly below the Peierls stress: Example of shuffle screw and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si4.svg"><mml:msup><mml:mn>60</mml:mn><mml:mo>â^˜</mml:mo></mml:msup></mml:math> dislocations in silicon. Acta Materialia, 2021, 206, 116623.	7.9	13
41	Multiscale modeling of interface-mediated mechanical, thermal, and mass transport in heterogeneous materials: Perspectives and applications. Journal of Materials Research, 2021, 36, 2601-2614.	2.6	9
42	Coarse-grained atomistic modeling and simulation of inelastic material behavior. Acta Mechanica Solida Sinica, 2012, 25, 244-261.	1.9	8
43	Atomistic Computational Analysis of the Loading Orientation-Dependent Phase Transformation in Graphite under Compression. Jom, 2019, 71, 3892-3902.	1.9	7
44	A combined experimental and computational analysis on how material interface mediates plastic flow in amorphous/crystalline composites. Journal of Materials Research, 2021, 36, 2816-2829.	2.6	3