Alexander Stukowski

List of Publications by Year
in descending order

56 papers	15,397 citations	136950 32 h-index	168389 53 g-index
57 all docs	57 docs citations	57 times ranked	8584 citing authors

#	Article	IF	Citations
1	Atomistic insights into metal hardening. Nature Materials, 2021, 20, 315-320.	27.5	59
2	Solid solution hardening in CrMnFeCoNi-based high entropy alloy systems studied by a combinatorial approach. Journal of Materials Research, 2021, 36, 2558-2570.	2.6	10
3	Influence of surface stress on the mechanical response of nanoporous metals studied by an atomistically informed continuum model. Acta Materialia, 2021, 221, 117373.	7.9	0
4	Grain boundary structure and mobility in high-entropy alloys: A comparative molecular dynamics study on a Î£11 symmetrical tilt grain boundary in face-centered cubic CuNiCoFe. Acta Materialia, 2020, 186, 11-19.	7.9	66
5	Atomistic deformation behavior of single and twin crystalline Cu nanopillars with preexisting dislocations. Acta Materialia, 2020, 197, 54-68.	7.9	20
6	Horizons of modern molecular dynamics simulation in digitalized solid freeform fabrication with advanced materials. Materials Today Chemistry, 2020, 18, 100356.	3.5	14
7	The effect of solute cloud formation on the second order pyramidal to basal transition of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:mrow><mml:mo>â€ˆ</mml:mo><mml:mi mathvariant="bold">c</mml:mi><mml:mo linebreak="goodbreak">+</mml:mo><mml:mi mathvariant="bold">a</mml:mi><mml:mo>â€‰</mml:mo></mml:mrow></mml:math> edge dislocations in Mg-Y solid solutions. Scripta Materialia, 2020, 182, 53-56.	5.2	11
8	Dislocation Analysis Tool for Atomistic Simulations. , 2020, , 1545-1558.		2
9	Experimental and theoretical study of tracer diffusion in a series of (CoCrFeMn)<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.gif"><mml:msub><mml:mrow /><mml:mrow><mml:mn>100</mml:mn><mml:mo>â€’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:math>Ni alloys. Acta Materialia, 2020, 194, 236-248.	7.9	28
10	Elastostatic loading of metallic glass-crystal nanocomposites: Relationship of creep rate and interface energy. Physical Review Materials, 2019, 3, .	2.4	6
11	Comment on â€œIncipient plasticity of diamond during nanoindentationâ€•by C. Xu, C. Liu and H. Wang, RSC Advances, 2017, 7, 36093. RSC Advances, 2018, 8, 5136-5137.	3.6	4
12	Dislocation Analysis Tool for Atomistic Simulations. , 2018, , 1-14.		2
13	Designing nanoindentation simulation studies by appropriate indenter choices: Case study on single crystal tungsten. Computational Materials Science, 2018, 152, 196-210.	3.0	43
14	Atomicrexâ€”a general purpose tool for the construction of atomic interaction models. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 055003.	2.0	18
15	Probing the limits of metal plasticity with molecular dynamics simulations. Nature, 2017, 550, 492-495.	27.8	302
16	Interface-controlled creep in metallic glass composites. Acta Materialia, 2017, 141, 251-260.	7.9	20
17	Reinforcement of nanoglasses by interface strengthening. Scripta Materialia, 2017, 141, 115-119.	5.2	24
18	3D Dislocation structure evolution in strontium titanate: Spherical indentation experiments and <scp>MD</scp> simulations. Journal of the American Ceramic Society, 2017, 100, 1134-1145.	3.8	35

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19	Minimum energy path for the nucleation of misfit dislocations in Ge/Si(0 0 1) heteroepitaxy. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 035007.	2.0	7
20	Dislocation evolution and peak spall strengths in single crystal and nanocrystalline Cu. Journal of Applied Physics, 2016, 119, .	2.5	77
21	Manipulating dislocation nucleation and shear resistance of bimetal interfaces by atomic steps. Acta Materialia, 2016, 113, 194-205.	7.9	44
22	Global transition path search for dislocation formation in Ge on Si(001). Computer Physics Communications, 2016, 205, 13-21.	7.5	299
23	Interplay of dislocation-based plasticity and phase transformation during Si nanoindentation. Computational Materials Science, 2016, 119, 82-89.	3.0	28
24	Visualization and Analysis Strategies for Atomistic Simulations. Springer Series in Materials Science, 2016, , 317-336.	0.6	9
25	Influence of microstructure on the cutting behaviour of silicon. Acta Materialia, 2016, 105, 464-478.	7.9	155
26	Anomalous compliance and early yielding of nanoporous gold. Acta Materialia, 2015, 93, 144-155.	7.9	116
27	Thermally-activated non-Schmid glide of screw dislocations in W using atomistically-informed kinetic Monte Carlo simulations. International Journal of Plasticity, 2015, 65, 108-130.	8.8	76
28	Atomistic simulation of Er irradiation induced defects in GaN nanowires. Journal of Applied Physics, 2014, 116, .	2.5	12
29	Plastic deformation of a porous bcc metal containing nanometer sized voids. Computational Materials Science, 2014, 88, 92-102.	3.0	47
30	Atomistic investigation on the structureâ€“property relationship during thermal spray nanoparticle impact. Computational Materials Science, 2014, 84, 163-174.	3.0	31
31	Computational Analysis Methods in Atomistic Modeling of Crystals. Jom, 2014, 66, 399-407.	1.9	356
32	Molecular dynamics simulations of shock-induced plasticity in tantalum. High Energy Density Physics, 2014, 10, 9-15.	1.5	74
33	A triangulation-based method to identify dislocations in atomistic models. Journal of the Mechanics and Physics of Solids, 2014, 70, 314-319.	4.8	27
34	Atomistic simulation of tantalum nanoindentation: Effects of indenter diameter, penetration velocity, and interatomic potentials on defect mechanisms and evolution. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 613, 390-403.	5.6	98
35	Atomistic simulation of the mechanical response of a nanoporous body-centered cubic metal. Scripta Materialia, 2013, 68, 817-820.	5.2	37
36	Anisotropy of single-crystal 3Câ€“SiC during nanometric cutting. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 065004.	2.0	85

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37	Three-dimensional crack initiation mechanisms in bcc-Fe under loading modes I, II and III. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 560, 306-314.	5.6	55
38	Assessment of interatomic potentials for atomistic analysis of static and dynamic properties of screw dislocations in W. Journal of Physics Condensed Matter, 2013, 25, 085702.	1.8	35
39	On the hierarchy of deformation processes in nanocrystalline alloys: Grain boundary mediated plasticity vs. dislocation slip. Journal of Applied Physics, 2013, 114, .	2.5	8
40	Scalable parallel Monte Carlo algorithm for atomistic simulations of precipitation in alloys. Physical Review B, 2012, 85, .	3.2	230
41	Structure identification methods for atomistic simulations of crystalline materials. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 045021.	2.0	1,065
42	On the elasticâ€“plastic decomposition of crystal deformation at the atomic scale. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 035012.	2.0	78
43	Automated identification and indexing of dislocations in crystal interfaces. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 085007.	2.0	1,412
44	Nanotribology at high temperatures. Beilstein Journal of Nanotechnology, 2012, 3, 586-588.	2.8	7
45	Structure of Si/Ge nanoclusters: Kinetics and thermodynamics. Computational Materials Science, 2011, 50, 1504-1508.	3.0	5
46	Properties of Helium bubbles in Fe and FeCr alloys. Journal of Nuclear Materials, 2011, 418, 261-268.	2.7	74
47	Energy-Minimization in Atomic-to-Continuum Scale-Bridging Methods. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 509-510.	0.2	3
48	Plastic deformation of nanocrystalline Pdâ€“Au alloys: On the interplay of grain boundary solute segregation, fault energies and grain size. Acta Materialia, 2011, 59, 2957-2968.	7.9	47
49	Nanotwinned fcc metals: Strengthening versus softening mechanisms. Physical Review B, 2010, 82, .	3.2	120
50	Extracting dislocations and non-dislocation crystal defects from atomistic simulation data. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 085001.	2.0	815
51	Visualization and analysis of atomistic simulation data with OVITOâ€“the Open Visualization Tool. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 015012.	2.0	8,805
52	Dislocation detection algorithm for atomistic simulations. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 025016.	2.0	139
53	A variational formulation of the quasicontinuum method based on energy sampling in clusters. Journal of the Mechanics and Physics of Solids, 2009, 57, 87-108.	4.8	87
54	Atomistic origin of microstrain broadening in diffraction data of nanocrystalline solids. Acta Materialia, 2009, 57, 1648-1654.	7.9	79

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55	Efficient implementation of the concentration-dependent embedded atom method for molecular-dynamics and Monte-Carlo simulations. Modelling and Simulation in Materials Science and Engineering, 2009, 17, 075005.	2.0	80
56	Composition-dependent interatomic potentials: A systematic approach to modelling multicomponent alloys. Philosophical Magazine, 2009, 89, 3371-3391.	1.6	11