Garritt J Tucker

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4316349/publications.pdf

Version: 2024-02-01

57 papers	2,545 citations	201385 27 h-index	189595 50 g-index
58 all docs	58 docs citations	58 times ranked	2336 citing authors

#	Article	IF	Citations
1	Spectral neighbor analysis method for automated generation of quantum-accurate interatomic potentials. Journal of Computational Physics, 2015, 285, 316-330.	1.9	608
2	Non-equilibrium grain boundary structure and inelastic deformation using atomistic simulations. International Journal of Plasticity, 2011, 27, 841-857.	4.1	121
3	Structure and free volume of ã€ˆ110ã€‰ symmetric tilt grain boundaries with the E structural unit. Acta Materialia, 2007, 55, 3959-3969.	3.8	107
4	Coarse-grained atomistic simulation of dislocations. Journal of the Mechanics and Physics of Solids, 2011, 59, 160-177.	2.3	95
5	Synthesis and Surface Chemistry of 2D TiVC Solid-Solution MXenes. ACS Applied Materials & Interfaces, 2020, 12, 20129-20137.	4.0	93
6	Atomistic simulations of tensionâ€“compression asymmetry in dislocation nucleation for copper grain boundaries. Computational Materials Science, 2008, 44, 351-362.	1.4	91
7	Peierls potential of screw dislocations in bcc transition metals: Predictions from density functional theory. Physical Review B, 2013, 87, .	1.1	89
8	Evolution of structure and free volume in symmetric tilt grain boundaries during dislocation nucleation. Acta Materialia, 2010, 58, 6464-6473.	3.8	79
9	Evidence for Bulk Ripplocations in Layered Solids. Scientific Reports, 2016, 6, 33451.	1.6	73
10	Quantifying the influence of twin boundaries on the deformation of nanocrystalline copper using atomistic simulations. International Journal of Plasticity, 2015, 65, 191-205.	4.1	71
11	Stress-assisted grain growth in nanocrystalline metals: Grain boundary mediated mechanisms and stabilization through alloying. Acta Materialia, 2017, 131, 39-47.	3.8	70
12	A concurrent scheme for passing dislocations from atomistic to continuum domains. Acta Materialia, 2012, 60, 899-913.	3.8	68
13	Coarse-grained atomistic simulations of dislocations in Al, Ni and Cu crystals. International Journal of Plasticity, 2012, 38, 86-101.	4.1	61
14	Nanoindentation of monolayer Ti C T MXenes via atomistic simulations: The role of composition and defects on strength. Computational Materials Science, 2019, 157, 168-174.	1.4	61
15	Investigating the deformation of nanocrystalline copper with microscale kinematic metrics and molecular dynamics. Journal of the Mechanics and Physics of Solids, 2012, 60, 471-486.	2.3	56
16	Molecular dynamics simulations of rate-dependent grain growth during the surface indentation of nanocrystalline nickel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 571, 207-214.	2.6	51
17	Spherical nanoindentation, modeling and transmission electron microscopy evidence for ripplocations in Ti3SiC2. Acta Materialia, 2017, 131, 141-155.	3.8	51
18	Utilizing Site Disorder in the Development of New Energy-Relevant Semiconductors. ACS Energy Letters, 2020, 5, 2027-2041.	8.8	46

#	Article	IF	Citations
19	Continuum metrics for deformation and microrotation from atomistic simulations: Application to grain boundaries. International Journal of Engineering Science, 2011, 49, 1424-1434.	2.7	45
20	Deformation of layered solids: Ripplocations not basal dislocations. Scripta Materialia, 2017, 139, 166-172.	2.6	42
21	Shear deformation kinematics of bicrystalline grain boundaries in atomistic simulations. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 015002.	0.8	41
22	Role of grain boundary character and its evolution on interfacial solute segregation behavior in nanocrystalline Ni-P. Acta Materialia, 2020, 190, 113-123.	3.8	40
23	Achieving Radiation Tolerance through Non-Equilibrium Grain Boundary Structures. Scientific Reports, 2017, 7, 12275.	1.6	38
24	Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN₂:O. Advanced Materials, 2019, 31, e1807406.	11.1	35
25	Molecular dynamics studies of defect formation during heteroepitaxial growth of InGaN alloys on (0001) GaN surfaces. Journal of Applied Physics, 2017, 121, 195301.	1.1	30
26	On the mechanistic origins of maximum strength in nanocrystalline metals. Npj Computational Materials, 2020, 6, .	3.5	28
27	On the origin of kinking in layered crystalline solids. Materials Today, 2021, 43, 45-52.	8.3	28
28	Ripplocations: A universal deformation mechanism in layered solids. Physical Review Materials, 2019, 3, .	0.9	28
29	The mechanical behavior and deformation of bicrystalline nanowires. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 015004.	0.8	27
30	Probing configurational disorder in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>ZnGeN</mml:mi><mml:mn>2</mml:mn></mml:msub></ using cluster-based Monte Carlo. Physical Review Materials, 2021, 5, .	0.9	22
31	Development of physically based atomistic microstructures: The effect on the mechanical response of polycrystals. Computational Materials Science, 2017, 128, 29-36.	1.4	21
32	Bond-order potentials for the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ti</mml:mi><mml:mn>3</mml:mn></mml:m <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ti</mml:mi><mml:mn>3</mml:mn></mml:m phases. Physical Review B, 2019, 100, .	1.1	21
33	Perfect short-range ordered alloy with line-compound-like properties in the ZnSnN2:ZnO system. Npj Computational Materials, 2020, 6, .	3.5	20
34	Atomistic simulations of dislocation pinning points in pure face-centered-cubic nanopillars. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 075001.	0.8	18
35	Mechanical properties of nanocrystalline nanoporous platinum. Acta Materialia, 2016, 103, 624-632.	3.8	17
36	The microstructural and stress evolution in sputter deposited Ni thin films. Surface and Coatings Technology, 2021, 412, 126973.	2.2	14

#	Article	IF	Citations
37	Manipulation of solute partitioning mechanisms for nanocrystalline stability. Acta Materialia, 2021, 208, 116662.	3.8	13
38	Nucleation of ripplocations through atomistic modeling of surface nanoindentation in graphite. Physical Review Materials, 2018, 2, .	0.9	13
39	Bandgap analysis and carrier localization in cation-disordered ZnGeN2. APL Materials, 2022, 10, .	2.2	13
40	Mechanical properties of stabilized nanocrystalline FCC metals. Journal of Applied Physics, 2019, 126, .	1.1	11
41	Basal dislocations in MAX phases: Core structure and mobility. Materialia, 2022, 21, 101310.	1.3	11
42	Grain-Size-Dependent Grain Boundary Deformation during Yielding in Nanocrystalline Materials Using Atomistic Simulations. Jom, 2020, 72, 1745-1754.	0.9	10
43	Characterization of ripplocation mobility in graphite. Materials Research Letters, 2020, 8, 82-87.	4.1	10
44	Molecular dynamics studies of InGaN growth on nonpolar <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>(</mml:mo><mml:mn>11</mml:mn><mml:mover) Tj ETQ GaN surfaces. Physical Review Materials, 2018, 2, .	0.9	10
45	Quantifying grain boundary damage tolerance with atomistic simulations. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 075011.	0.8	9
46	Simulated defect growth avalanches during deformation of nanocrystalline copper. Philosophical Magazine, 2013, 93, 478-498.	0.7	8
47	The effect of hydrostatic pressure on the shear deformation of Cu symmetric tilt interfaces. International Journal of Plasticity, 2019, 118, 87-104.	4.1	7
48	Improved computational method to generate properly equilibrated atomistic microstructures. MethodsX, 2021, 8, 101217.	0.7	5
49	A rapid preparation method for in situ nanomechanical TEM tensile specimens. Journal of Materials Research, 2021, 36, 2315-2324.	1.2	5
50	Continuum Metrics for Atomistic Simulation Analysis. Springer Series in Materials Science, 2016, , 297-315.	0.4	3
51	Effects of grain boundary structure on lithium transport in graphite. Molecular Simulation, 2016, 42, 1356-1363.	0.9	3
52	Correlating deformation mechanisms with X-ray diffraction phenomena in nanocrystalline metals using atomistic simulations. Computational Materials Science, 2018, 154, 178-186.	1.4	3
53	Introduction to Atomistic Simulation Methods. Springer Series in Materials Science, 2016, , 1-52.	0.4	2
54	Computational Materials Design: Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN₂:O (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	3.1	1

#	Article	IF	Citations
55	Threshold Determination and Engaging Materials Scientists in Ontology Design. Communications in Computer and Information Science, 2015, , 39-50.	0.4	1
56	Simulation and characterization of cation disorder in $$hbox {ZnGeP}_{2}$$. Journal of Materials Research, 2022, 37, 1986-1996.	1.2	1
57	Probing fundamental deformation mechanisms and trends during decohesion across random high angle grain boundaries. Computational Materials Science, 2021, 186, 110063.	1.4	0