Garritt J Tucker

List of Publications by Year in Descending Order

56 papers	1,682 citations	23 h-index	40 g-index
58 ext. papers	2,081 ext. citations	5.9 avg, IF	5.23 L-index

#	Paper	IF	Citations
56	Bandgap analysis and carrier localization in cation-disordered ZnGeN2. *APL Materials*, **2022**, 10, 011112	5.7	1
55	Basal dislocations in MAX phases: Core structure and mobility. *Materialia*, **2022**, 21, 101310	3.2	1
54	On the origin of kinking in layered crystalline solids. *Materials Today*, **2021**, 43, 45-52	21.8	5
53	Manipulation of solute partitioning mechanisms for nanocrystalline stability. *Acta Materialia*, **2021**, 208, 116662	8.4	2
52	The microstructural and stress evolution in sputter deposited Ni thin films. *Surface and Coatings Technology*, **2021**, 412, 126973	4.4	3
51	Probing fundamental deformation mechanisms and trends during decohesion across random high angle grain boundaries. *Computational Materials Science*, **2021**, 186, 110063	3.2	
50	Improved computational method to generate properly equilibrated atomistic microstructures. *MethodsX*, **2021**, 8, 101217	1.9	0
49	Probing configurational disorder in ZnGeN2 using cluster-based Monte Carlo. *Physical Review Materials*, **2021**, 5,	3.2	10
48	A rapid preparation method for in situ nanomechanical TEM tensile specimens. *Journal of Materials Research*, **2021**, 36, 2315-2324	2.5	1
47	Role of grain boundary character and its evolution on interfacial solute segregation behavior in nanocrystalline Ni-P. *Acta Materialia*, **2020**, 190, 113-123	8.4	20
46	Synthesis and Surface Chemistry of 2D TiVC Solid-Solution MXenes. *ACS Applied Materials & Interfaces*, **2020**, 12, 20129-20137	9.5	34
45	Grain-Size-Dependent Grain Boundary Deformation during Yielding in Nanocrystalline Materials Using Atomistic Simulations. *Jom*, **2020**, 72, 1745-1754	2.1	4
44	Characterization of ripplocation mobility in graphite. *Materials Research Letters*, **2020**, 8, 82-87	7.4	6
43	Utilizing Site Disorder in the Development of New Energy-Relevant Semiconductors. *ACS Energy Letters*, **2020**, 5, 2027-2041	20.1	24
42	Perfect short-range ordered alloy with line-compound-like properties in the ZnSnN2:ZnO system. *Npj Computational Materials*, **2020**, 6,	10.9	8
41	On the mechanistic origins of maximum strength in nanocrystalline metals. *Npj Computational Materials*, **2020**, 6,	10.9	11
40	Mechanical properties of stabilized nanocrystalline FCC metals. *Journal of Applied Physics*, **2019**, 126, 110901	2.5	5

39	Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN :O. *Advanced Materials*, **2019**, 31, e1807406	24	27
38	Computational Materials Design: Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN2:O (Adv. Mater. 11/2019). *Advanced Materials*, **2019**, 31, 1970080	24	0
37	The effect of hydrostatic pressure on the shear deformation of Cu symmetric tilt interfaces. *International Journal of Plasticity*, **2019**, 118, 87-104	7.6	5
36	Ripplocations: A universal deformation mechanism in layered solids. *Physical Review Materials*, **2019** , 3,	3.2	18
35	Bond-order potentials for the Ti3AlC2 and Ti3SiC2 MAX phases. *Physical Review B*, **2019**, 100,	3.3	8
34	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	3.2	29
33	Correlating deformation mechanisms with X-ray diffraction phenomena in nanocrystalline metals using atomistic simulations. *Computational Materials Science*, **2018**, 154, 178-186	3.2	2
32	Molecular dynamics studies of InGaN growth on nonpolar (112□0) GaN surfaces. *Physical Review Materials*, **2018**, 2,	3.2	7
31	Nucleation of ripplocations through atomistic modeling of surface nanoindentation in graphite. *Physical Review Materials*, **2018**, 2,	3.2	9
30	Deformation of layered solids: Ripplocations not basal dislocations. *Scripta Materialia*, **2017**, 139, 166-172	3.6	28
29	Molecular dynamics studies of defect formation during heteroepitaxial growth of InGaN alloys on (0001) GaN surfaces. *Journal of Applied Physics*, **2017**, 121, 195301	2.5	19
28	Spherical nanoindentation, modeling and transmission electron microscopy evidence for ripplocations in Ti3SiC2. *Acta Materialia*, **2017**, 131, 141-155	8.4	34
27	Stress-assisted grain growth in nanocrystalline metals: Grain boundary mediated mechanisms and stabilization through alloying. *Acta Materialia*, **2017**, 131, 39-47	8.4	49
26	Achieving Radiation Tolerance through Non-Equilibrium Grain Boundary Structures. *Scientific Reports*, **2017**, 7, 12275	4.9	28
25	Development of physically based atomistic microstructures: The effect on the mechanical response of polycrystals. *Computational Materials Science*, **2017**, 128, 29-36	3.2	16
24	Evidence for Bulk Ripplocations in Layered Solids. *Scientific Reports*, **2016**, 6, 33451	4.9	55
23	Mechanical properties of nanocrystalline nanoporous platinum. *Acta Materialia*, **2016**, 103, 624-632	8.4	16
22	Introduction to Atomistic Simulation Methods. *Springer Series in Materials Science*, **2016**, 1-52	0.9	1

21	Continuum Metrics for Atomistic Simulation Analysis. *Springer Series in Materials Science*, **2016**, 297-315	0.9	3
20	Quantifying grain boundary damage tolerance with atomistic simulations. *Modelling and Simulation in Materials Science and Engineering*, **2016**, 24, 075011	2	9
19	Effects of grain boundary structure on lithium transport in graphite. *Molecular Simulation*, **2016**, 42, 1356-1363	2	3
18	Quantifying the influence of twin boundaries on the deformation of nanocrystalline copper using atomistic simulations. *International Journal of Plasticity*, **2015**, 65, 191-205	7.6	58
17	Spectral neighbor analysis method for automated generation of quantum-accurate interatomic potentials. *Journal of Computational Physics*, **2015**, 285, 316-330	4.1	330
16	Threshold Determination and Engaging Materials Scientists in Ontology Design. *Communications in Computer and Information Science*, **2015**, 39-50	0.3	1
15	Simulated defect growth avalanches during deformation of nanocrystalline copper. *Philosophical Magazine*, **2013**, 93, 478-498	1.6	7
14	Peierls potential of screw dislocations in bcc transition metals: Predictions from density functional theory. *Physical Review B*, **2013**, 87,	3.3	73
13	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	5.3	43
12	The mechanical behavior and deformation of bicrystalline nanowires. *Modelling and Simulation in Materials Science and Engineering*, **2013**, 21, 015004	2	22
11	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	5	41
10	Coarse-grained atomistic simulations of dislocations in Al, Ni and Cu crystals. *International Journal of Plasticity*, **2012**, 38, 86-101	7.6	56
9	A concurrent scheme for passing dislocations from atomistic to continuum domains. *Acta Materialia* , **2012**, 60, 899-913	8.4	58
8	Atomistic simulations of dislocation pinning points in pure face-centered-cubic nanopillars. *Modelling and Simulation in Materials Science and Engineering*, **2012**, 20, 075001	2	15
7	Continuum metrics for deformation and microrotation from atomistic simulations: Application to grain boundaries. *International Journal of Engineering Science*, **2011**, 49, 1424-1434	5.7	33
6	Non-equilibrium grain boundary structure and inelastic deformation using atomistic simulations. *International Journal of Plasticity*, **2011**, 27, 841-857	7.6	100
5	Coarse-grained atomistic simulation of dislocations. *Journal of the Mechanics and Physics of Solids*, **2011**, 59, 160-177	5	77
4	Shear deformation kinematics of bicrystalline grain boundaries in atomistic simulations. *Modelling and Simulation in Materials Science and Engineering*, **2010**, 18, 015002	2	34

3	Evolution of structure and free volume in symmetric tilt grain boundaries during dislocation nucleation. *Acta Materialia*, **2010**, 58, 6464-6473	8.4	63
2	Atomistic simulations of tension compression asymmetry in dislocation nucleation for copper grain boundaries. *Computational Materials Science*, **2008**, 44, 351-362	3.2	79
1	Structure and free volume of <1 1 0> symmetric tilt grain boundaries with the E structural unit. *Acta Materialia*, **2007**, 55, 3959-3969	8.4	91