

# Zhaoxuan Wu

## List of Publications by Citations

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35  
papers

2,131  
citations

24  
h-index

35  
g-index

35  
ext. papers

2,639  
ext. citations

9.5  
avg. IF

5.63  
L-index

#	Paper	IF	Citations
35	The origins of high hardening and low ductility in magnesium. <i>Nature</i> , <b>2015</b> , 526, 62-7	50.4	323
34	Mechanistic origin and prediction of enhanced ductility in magnesium alloys. <i>Science</i> , <b>2018</b> , 359, 447-452	33.3	265
33	Dislocation–twin interaction mechanisms for ultrahigh strength and ductility in nanotwinned metals. <i>Acta Materialia</i> , <b>2009</b> , 57, 4508-4518	8.4	160
32	Size-dependent deformation of nanocrystalline Pt nanopillars. <i>Nano Letters</i> , <b>2012</b> , 12, 6385-92	11.5	137
31	Comprehensive first-principles study of stable stacking faults in hcp metals. <i>Acta Materialia</i> , <b>2017</b> , 123, 223-234	8.4	96
30	Nanowire failure: long = brittle and short = ductile. <i>Nano Letters</i> , <b>2012</b> , 12, 910-4	11.5	91
29	Magnesium interatomic potential for simulating plasticity and fracture phenomena. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2015</b> , 23, 015004	2	89
28	Deformable Antireflection Coatings from Polymer and Nanoparticle Multilayers. <i>Advanced Materials</i> , <b>2006</b> , 18, 2699-2702	24	88
27	Deformation mechanisms, length scales and optimizing the mechanical properties of nanotwinned metals. <i>Acta Materialia</i> , <b>2011</b> , 59, 6890-6900	8.4	70
26	Mechanisms of failure in nanoscale metallic glass. <i>Nano Letters</i> , <b>2014</b> , 14, 5858-64	11.5	68
25	Mechanism and energetics of $\langle c + a \rangle$ dislocation cross-slip in hcp metals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 11137-11142	11.5	62
24	Brittle and ductile crack-tip behavior in magnesium. <i>Acta Materialia</i> , <b>2015</b> , 88, 1-12	8.4	61
23	Nanostructure and surface effects on yield in Cu nanowires. <i>Acta Materialia</i> , <b>2013</b> , 61, 1831-1842	8.4	60
22	Designing high ductility in magnesium alloys. <i>Acta Materialia</i> , <b>2019</b> , 172, 161-184	8.4	58
21	The inverse Hall–Petch relation in nanocrystalline metals: A discrete dislocation dynamics analysis. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2016</b> , 88, 252-266	5	58
20	First-principles calculations of stacking fault energies in Mg-Y, Mg-Al and Mg-Zn alloys and implications for $\langle c+a \rangle$ activity. <i>Acta Materialia</i> , <b>2017</b> , 136, 249-261	8.4	55
19	Microstructure versus flaw: mechanisms of failure and strength in nanostructures. <i>Nano Letters</i> , <b>2013</b> , 13, 5703-9	11.5	48

18	Polycrystal deformation in a discrete dislocation dynamics framework. <i>Acta Materialia</i> , <b>2014</b> , 75, 92-105	8.4	46
17	Intrinsic structural transitions of the pyramidal I $\langle + \rangle$ dislocation in magnesium. <i>Scripta Materialia</i> , <b>2016</b> , 116, 104-107	5.6	43
16	Energetics of dislocation transformations in hcp metals. <i>Acta Materialia</i> , <b>2016</b> , 119, 203-217	8.4	36
15	Analysis of double cross-slip of pyramidal I $\langle c+a \rangle$ screw dislocations and implications for ductility in Mg alloys. <i>Acta Materialia</i> , <b>2020</b> , 183, 228-241	8.4	34
14	Anatomy of nanomaterial deformation: Grain boundary sliding, plasticity and cavitation in nanocrystalline Ni. <i>Acta Materialia</i> , <b>2013</b> , 61, 5807-5820	8.4	33
13	Effects of Alloying Elements on Microstructure and Properties of Magnesium Alloys for Tripling Ball. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2015</b> , 46, 4793-4803	2.2	28
12	Effects of copper on the microstructure and properties of Mg-17Al-3Zn alloys. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , <b>2015</b> , 66, 1159-1168	1.6	27
11	Pyramidal II to basal transformation of $\langle c + a \rangle$ edge dislocations in Mg-Y alloys. <i>Scripta Materialia</i> , <b>2018</b> , 155, 114-118	5.6	20
10	Grain boundary finite length faceting. <i>Acta Materialia</i> , <b>2009</b> , 57, 4278-4287	8.4	19
9	Simultaneously enhancing the ultimate strength and ductility of high-entropy alloys via short-range ordering. <i>Nature Communications</i> , <b>2021</b> , 12, 4953	17.4	13
8	Chemical-Affinity Disparity and Exclusivity Drive Atomic Segregation, Short-Range Ordering, and Cluster Formation in High-Entropy Alloys. <i>Acta Materialia</i> , <b>2021</b> , 206, 116638	8.4	12
7	A systematic study of interatomic potentials for mechanical behaviours of Ti-Al alloys. <i>Computational Materials Science</i> , <b>2021</b> , 188, 110239	3.2	11
6	Highly polarized single mode nanobelt laser. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 201112	3.4	8
5	Dislocation junctions as barriers to threading dislocation migration. <i>Applied Physics Letters</i> , <b>2007</b> , 90, 011905	3.4	5
4	Modified embedded-atom method potentials for the plasticity and fracture behaviors of unary fcc metals. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	3
3	Specialising neural network potentials for accurate properties and application to the mechanical response of titanium. <i>Npj Computational Materials</i> , <b>2021</b> , 7,	10.9	3
2	Design of Ductile Rare-Earth-Free Magnesium Alloys. <i>Minerals, Metals and Materials Series</i> , <b>2020</b> , 19-24	0.3	1
1	Modified Embedded-Atom Method Potentials for the Plasticity and Fracture Behaviors of Unary HCP Metals. <i>Advanced Theory and Simulations</i> , <b>2022</b> , 5, 2100377	3.5	0

