# Zhenhuan Li

List of Publications by Year
in descending order

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|---|---|---|---|
| 48 papers | 1,040 citations | 394421 19 h-index | 434195 31 g-index |
| 48 all docs | 48 docs citations | 48 times ranked | 643 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Thermomechanical conversion in high-rate plastic deformation of nanotwinned polycrystalline copper. Journal of Thermal Stresses, 2022, 45, 65-80. | 2.0 | 3 |
| 2 | Study on the effects of H on the plastic deformation behavior of grain boundaries in nickel by MD simulation. Materials and Design, 2022, 215, 110472. | 7.0 | 7 |
| 3 | Studying crack propagation along symmetric tilt grain boundary with H segregation in Ni by MD simulation. Computational Materials Science, 2022, 212, 111569. | 3.0 | 8 |
| 4 | First-principles study of hydrogen-vacancy interactions in CoCrFeMnNi high-entropy alloy. Journal of Alloys and Compounds, 2022, 922, 166259. | 5.5 | 7 |
| 5 | An atomistically-informed phase-field model for quantifying the effect of hydrogen on the evolution of dislocations in FCC metals. International Journal of Plasticity, 2021, 138, 102937. | 8.8 | 12 |
| 6 | Atomistic investigation of mechanical response and deformation mechanism of BCC Ta under double shock loading. Journal of Applied Physics, 2021, 129, . | 2.5 | 8 |
| 7 | Key role of interaction between dislocations and hydrogen-vacancy complexes in hydrogen embrittlement of aluminum: discrete dislocation plasticity analysis. Modelling and Simulation in Materials Science and Engineering, 2021, 29, 065003. | 2.0 | 2 |
| 8 | Effect of multiple hydrogen embrittlement mechanisms on crack propagation behavior of FCC metals: Competition vs. synergy. International Journal of Plasticity, 2021, 143, 103023. | 8.8 | 38 |
| 9 | Study on hydrogen-affected interaction between dislocation and grain boundary by MD simulation. Computational Materials Science, 2021, 196, 110562. | 3.0 | 17 |
| 10 | Unveiling grain size effect on shock-induced plasticity and its underlying mechanisms in nano-polycrystalline Ta. Mechanics of Materials, 2021, 160, 103952. | 3.2 | 8 |
| 11 | Thermal effects on interaction of solute atmosphere with a spherical void in three-dimensional elastic solid: Statistical mechanics description with Monte Carlo simulation. International Journal of Solids and Structures, 2021, 229, 111144. | 2.7 | 2 |
| 12 | Hydrogen effect on the nanohardness in the vicinity of grain boundary: Experiment and theory. Extreme Mechanics Letters, 2021, 48, 101426. | 4.1 | 2 |
| 13 | A novel shock-induced multistage phase transformation and underlying mechanism in textured Nano-Twinned Cu. Extreme Mechanics Letters, 2021, 48, 101448. | 4.1 | 9 |
| 14 | Molecular dynamics study on shock-induced spallation and damage evolution in nano-polycrystalline Ta: Internal grain size effect vs external shock intensity effect. Journal of Applied Physics, 2021, 130, . | 2.5 | 4 |
| 15 | Studying hydrogen effect on the core structure and mobility of dislocation in nickel by atomistically-informed generalized Peierlsâ€“Nabarro model. Mechanics of Materials, 2020, 140, 103221. | 3.2 | 14 |
| 16 | An efficient 2D discrete dislocation Dynamics-XFEM coupling framework and its application to polycrystal plasticity. International Journal of Plasticity, 2020, 127, 102647. | 8.8 | 24 |
| 17 | Selective excitation of two-wave structure depending on crystal orientation under shock compression. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1. | 5.1 | 14 |
| 18 | Dislocation-density based crystal plasticity model with hydrogen-enhanced localized plasticity in polycrystalline face-centered cubic metals. Mechanics of Materials, 2020, 148, 103472. | 3.2 | 18 |

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|---|---|---|---|
| 19 | Vacancy diffusion coupled discrete dislocation dynamic modeling of compression creep of micro-pillars at elevated temperature. International Journal of Solids and Structures, 2020, 193-194, 375-392. | 2.7 | 9 |
| 20 | Modeling of solute hydrogen effect on various planar fault energies. International Journal of Hydrogen Energy, 2020, 45, 9162-9173. | 7.1 | 18 |
| 21 | Studying dislocation-induced shielding effect on the crack-tip in polycrystal by discrete dislocation dynamics. International Journal of Solids and Structures, 2019, 156-157, 148-162. | 2.7 | 10 |
| 22 | Thermomechanical responses in metal films under mechanical shock: A molecular dynamics study. Journal of Thermal Stresses, 2019, 42, 1330-1337. | 2.0 | 1 |
| 23 | Transient phase transitions in single-crystal coppers under ultrafast lasers induced shock compression: A molecular dynamics study. Journal of Applied Physics, 2019, 125, . | 2.5 | 24 |
| 24 | Dislocation-density based size-dependent crystal plasticity framework accounting for climb of piled up dislocations at elevated temperature. Mechanics of Materials, 2019, 134, 85-97. | 3.2 | 14 |
| 25 | Shielding or anti-shielding effects of solute hydrogen near a finite length crack: A new possible mechanism of hydrogen embrittlement. Mechanics of Materials, 2019, 132, 109-120. | 3.2 | 8 |
| 26 | Simulation on crack propagation vs. crack-tip dislocation emission by XFEM-based DDD scheme. International Journal of Plasticity, 2019, 114, 87-105. | 8.8 | 30 |
| 27 | The shock response of crystalline Ni with H-free and H-segregatedâ€¯â€ˆ1â€¯1â€¯0â€‰ symmetric tilt GBs. Computational Materials Science, 2018, 147, 258-271. | 3.0 | 9 |
| 28 | A dislocation climb/glide coupled crystal plasticity constitutive model and its finite element implementation. Mechanics of Materials, 2018, 118, 44-61. | 3.2 | 24 |
| 29 | Hydrogen-enhanced interfacial damage in Ni-based single crystal superalloy. Scripta Materialia, 2018, 143, 30-34. | 5.2 | 27 |
| 30 | Solute hydrogen effects on plastic deformation mechanisms of Î±-Fe with twist grain boundary. International Journal of Hydrogen Energy, 2018, 43, 10481-10495. | 7.1 | 20 |
| 31 | On the interaction of solute atoms with circular inhomogeneity and edge dislocation. International Journal of Plasticity, 2018, 111, 266-287. | 8.8 | 16 |
| 32 | Effect of interfacial dislocation networks on the evolution of matrix dislocations in nickel-based superalloy. International Journal of Plasticity, 2018, 110, 1-18. | 8.8 | 31 |
| 33 | Study on interactions of an edge dislocation with vacancy-H complex by atomistic modelling. International Journal of Plasticity, 2017, 92, 31-44. | 8.8 | 60 |
| 34 | Effect of Crystal Orientation on Femtosecond Laser-Induced Thermomechanical Responses and Spallation Behaviors of Copper Films. Scientific Reports, 2017, 7, 9218. | 3.3 | 19 |
| 35 | Brittle to ductile transition of metallic glasses induced by embedding spherical nanovoids. Journal of Applied Physics, 2017, 122, . | 2.5 | 9 |
| 36 | Ultrafast thermomechanical responses of a copper film under femtosecond laser trains: a molecular dynamics study. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150614. | 2.1 | 15 |

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|---|---|---|---|
| 37 | Coupled DDDâ€“FEM modeling on the mechanical behavior of microlayered metallic multilayer film at elevated temperature. Journal of the Mechanics and Physics of Solids, 2015, 85, 74-97. | 4.8 | 39 |
| 38 | Strengthening mechanisms of the nanolayered polycrystalline metallic multilayers assisted by twins. International Journal of Plasticity, 2015, 72, 168-184. | 8.8 | 84 |
| 39 | The influence of dislocation climb on the mechanical behavior of polycrystals and grain size effect at elevated temperature. International Journal of Plasticity, 2014, 61, 112-127. | 8.8 | 50 |
| 40 | A study of fatigue crack tip characteristics using discrete dislocation dynamics. International Journal of Plasticity, 2014, 54, 229-246. | 8.8 | 47 |
| 41 | The size effect and plastic deformation mechanism transition in the nanolayered polycrystalline metallic multilayers. Journal of Applied Physics, 2014, 115, . | 2.5 | 32 |
| 42 | On the stress field and crack nucleation behavior of a disclinated nanowire with surface stress effects. Acta Mechanica, 2014, 225, 3187-3197. | 2.1 | 9 |
| 43 | The key role of dislocation dissociation in the plastic behaviour of single crystal nickel-based superalloy with low stacking fault energy: Three-dimensional discrete dislocation dynamics modelling. Journal of the Mechanics and Physics of Solids, 2013, 61, 2454-2472. | 4.8 | 36 |
| 44 | Coupled effect of sample size and grain size in polycrystalline Al nanowires. Scripta Materialia, 2013, 68, 663-666. | 5.2 | 34 |
| 45 | Strengthening mechanism in micro-polycrystals with penetrable grain boundaries by discrete dislocation dynamics simulation and Hallâ€“Petch effect. Computational Materials Science, 2009, 46, 1124-1134. | 3.0 | 123 |
| 46 | Coupling effects of void size and void shape on the growth of prolate ellipsoidal microvoid. Acta Mechanica Sinica/Lixue Xuebao, 2005, 21, 272-277. | 3.4 | 4 |
| 47 | Three-dimensional elastic stress fields ahead of blunt V-notches in finite thickness plates. International Journal of Fracture, 2001, 107, 53-71. | 2.2 | 40 |
| 48 | Effect of Hydrogen on Dislocation Nucleation and Motion: Nanoindentation Experiment and Discrete Dislocation Dynamics Simulation. Acta Mechanica Solida Sinica, 0, , 1. | 1.9 | 1 |