Mahdi Javanbakht

List of Publications by Year
in descending order

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46 papers	1,416 citations	394421 19 h-index	345221 36 g-index
46 all docs	46 docs citations	46 times ranked	608 citing authors

#	Article	IF	Citations
1	Surface Tension and Energy in Multivariant Martensitic Transformations: Phase-Field Theory, Simulations, and Model of Coherent Interface. Physical Review Letters, 2010, 105, 165701.	7.8	117
2	Phase transformations in nanograin materials under high pressure and plastic shear: nanoscale mechanisms. Nanoscale, 2014, 6, 162-166.	5.6	104
3	A novel magnetic chitosan/clinoptilolite/magnetite nanocomposite for highly efficient removal of Pb(II) ions from aqueous solution. Powder Technology, 2016, 302, 372-383.	4.2	92
4	Interaction between phase transformations and dislocations at the nanoscale. Part 1. General phase field approach. Journal of the Mechanics and Physics of Solids, 2015, 82, 287-319.	4.8	83
5	Surface-Induced Phase Transformations: Multiple Scale and Mechanics Effects and Morphological Transitions. Physical Review Letters, 2011, 107, 175701.	7.8	79
6	Interaction between phase transformations and dislocations at the nanoscale. Part 2: Phase field simulation examples. Journal of the Mechanics and Physics of Solids, 2015, 82, 164-185.	4.8	78
7	Phase field simulations of plastic strain-induced phase transformations under high pressure and large shear. Physical Review B, 2016, 94, .	3.2	76
8	Advanced phase-field approach to dislocation evolution. Physical Review B, 2012, 86, .	3.2	68
9	Thermodynamically consistent and scale-dependent phase field approach for crack propagation allowing for surface stresses. International Journal of Plasticity, 2018, 111, 1-35.	8.8	67
10	Phase-field approach to martensitic phase transformations: Effect of martensiteâ€“martensite interface energy. International Journal of Materials Research, 2011, 102, 652-665.	0.3	58
11	Phase field approach to interaction of phase transformation and dislocation evolution. Applied Physics Letters, 2013, 102, .	3.3	55
12	Phase field approach for nanoscale interactions between crack propagation and phase transformation. Nanoscale, 2019, 11, 22243-22247.	5.6	43
13	Thermodynamically consistent phase field approach to dislocation evolution at small and large strains. Journal of the Mechanics and Physics of Solids, 2015, 82, 345-366.	4.8	38
14	Nanoscale mechanisms for high-pressure mechanochemistry: a phase field study. Journal of Materials Science, 2018, 53, 13343-13363.	3.7	38
15	Martensitic phase transformations in shape memory alloy: phase field modeling with surface tension effect. Computational Materials Science, 2016, 115, 137-144.	3.0	36
16	Phase field-elasticity analysis of austeniteâ€“martensite phase transformation at the nanoscale: Finite element modeling. Computational Materials Science, 2018, 154, 41-52.	3.0	31
17	On the phase field modeling of crack growth and analytical treatment on the parameters. Continuum Mechanics and Thermodynamics, 2020, 32, 589-606.	2.2	25
18	Investigating the effect of elastic anisotropy on martensitic phase transformations at the nanoscale. Computational Materials Science, 2019, 167, 168-182.	3.0	23

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19	Phase field approach to dislocation evolution at large strains: Computational aspects. International Journal of Solids and Structures, 2016, 82, 95-110.	2.7	22
20	Phase field approach for void dynamics with interface stresses at the nanoscale. International Journal of Engineering Science, 2020, 154, 103279.	5.0	22
21	The effect of a pre-existing nanovoid on martensite formation and interface propagation: a phase field study. Mathematics and Mechanics of Solids, 2021, 26, 90-109.	2.4	22
22	Thermal induced nanovoid evolution in the vicinity of an immobile austenite-martensite interface. Computational Materials Science, 2020, 172, 109339.	3.0	21
23	High pressure phase evolution under hydrostatic pressure in a single imperfect crystal due to nanovoids. Materialia, 2021, 20, 101199.	2.7	21
24	Phase field modeling of crack growth with double-well potential including surface effects. Continuum Mechanics and Thermodynamics, 2020, 32, 913-925.	2.2	19
25	Nanovoid induced multivariant martensitic growth under negative pressure: Effect of misfit strain and temperature on PT threshold stress and phase evolution. Mechanics of Materials, 2020, 151, 103627.	3.2	19
26	Nanovoid induced martensitic growth under uniaxial stress: Effect of misfit strain, temperature and nanovoid size on PT threshold stress and nanostructure in NiAl. Computational Materials Science, 2020, 184, 109928.	3.0	17
27	Formation of stress- and thermal-induced martensitic nanostructures in a single crystal with phase-dependent elastic properties. Journal of Materials Science, 2020, 55, 2544-2563.	3.7	16
28	Synthesis of zeolite/magnetite nanocomposite and a fast experimental determination of its specific surface area. Protection of Metals and Physical Chemistry of Surfaces, 2017, 53, 693-702.	1.1	14
29	Glass transition temperature of PMMA/modified alumina nanocomposite: molecular dynamic study. Materials Research Express, 2019, 6, 035309.	1.6	14
30	A comparative study of 1D nonlocal integral Timoshenko beam and 2D nonlocal integral elasticity theories for bending of nanoscale beams. Continuum Mechanics and Thermodynamics, 2023, 35, 1063-1085.	2.2	11
31	Free vibration analysis of nonlocal nanobeams: a comparison of the one-dimensional nonlocal integral Timoshenko beam theory with the two-dimensional nonlocal integral elasticity theory. Mathematics and Mechanics of Solids, 2022, 27, 557-577.	2.4	11
32	Mathematical Modeling of Batch Adsorption Kinetics of Lead Ions on Modified Natural Zeolite from Aqueous Media. Theoretical Foundations of Chemical Engineering, 2019, 53, 1057-1066.	0.7	10
33	Explicit nonlinear finite element approach to the Lagrangian-based coupled phase field and elasticity equations for nanoscale thermal- and stress-induced martensitic transformations. Continuum Mechanics and Thermodynamics, 2020, , 1.	2.2	9
34	Nonlocal integral elasticity based phase field modelling and simulations of nanoscale thermal- and stress-induced martensitic transformations using a boundary effect compensation kernel. Computational Materials Science, 2021, 194, 110429.	3.0	9
35	Finite element buckling analysis of double-layered graphene nanoribbons. Materials Research Express, 2019, 6, 055023.	1.6	7
36	Nonlinear buckling analysis of double-layered graphene nanoribbons based on molecular mechanics. Carbon Letters, 2021, 31, 895-910.	5.9	7

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37	Finite element implementation based on explicit, Galerkin and Crankâ€“Nicolson methods to phase field theory for thermal- and surface- induced martensitic phase transformations. Continuum Mechanics and Thermodynamics, 2022, 34, 935-953.	2.2	5
38	Finite element analysis of coupled phase-field and thermoelasticity equations at large strains for martensitic phase transformations based on implicit and explicit time discretization schemes. Mechanics of Advanced Materials and Structures, 2022, 29, 2531-2547.	2.6	5
39	Phase field theory for fracture at large strains including surface stresses. International Journal of Engineering Science, 2022, 178, 103732.	5.0	5
40	Coupled phase field and nonlocal integral elasticity analysis of stress-induced martensitic transformations at the nanoscale: boundary effects, limitations and contradictions. Continuum Mechanics and Thermodynamics, 0, , 1.	2.2	4
41	Interaction of martensitic transformations and vacancy diffusion at the nanoscale under thermal loading: a phase field model and simulations. Acta Mechanica, 2021, 232, 4567-4582.	2.1	4
42	Effect of a thermodynamically consistent interface stress on thermal-induced nanovoid evolution in NiAl. Mathematics and Mechanics of Solids, 2021, 26, 1320-1336.	2.4	3
43	Thermodynamically consistent nonlocal kernel with boundary effect compensation and its application to the coupled phase field-nonlocal integral elasticity equations for modeling of martensitic transformations. Mechanics of Advanced Materials and Structures, 2022, 29, 5407-5422.	2.6	3
44	Experimental and computational study of the thermal conductivity of polymeric micro spheres/polyester thermal insulating coatings. Polymer Bulletin, 2023, 80, 4387-4406.	3.3	2
45	Surface induced melting of long Al nanowires: phase field model and simulations for pressure loading and without it. Nanotechnology, 2022, 33, 425705.	2.6	2
46	Local vs. nonlocal integral elasticity-based phase field models including surface tension and simulations of single and two variant martensitic transformations and twinning. Engineering With Computers, 0, , 1.	6.1	1