Behrouz Arash

List of Publications by Year
in descending order

46 papers	3,031 citations	257450 24 h-index	254184 43 g-index
47 all docs	47 docs citations	47 times ranked	2162 citing authors

#	Article	IF	Citations
1	A review on the application of nonlocal elastic models in modeling of carbon nanotubes and graphenes. Computational Materials Science, 2012, 51, 303-313.	3.0	474
2	Nonlocal plate model for free vibrations of single-layered graphene sheets. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 375, 53-62.	2.1	369
3	Mechanical properties of carbon nanotube/polymer composites. Scientific Reports, 2014, 4, 6479.	3.3	358
4	A review on applications of carbon nanotubes and graphenes as nano-resonator sensors. Computational Materials Science, 2014, 82, 350-360.	3.0	176
5	Nonlocal finite element model for vibrations of embedded multi-layered graphene sheets. Computational Materials Science, 2010, 49, 831-838.	3.0	163
6	Evaluation of nonlocal parameter in the vibrations of single-walled carbon nanotubes with initial strain. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2058-2064.	2.7	150
7	Vibration characteristics of embedded multi-layered graphene sheets with different boundary conditions via nonlocal elasticity. Composite Structures, 2011, 93, 2419-2429.	5.8	143
8	A review on nanomechanical resonators and their applications in sensors and molecular transportation. Applied Physics Reviews, 2015, 2, .	11.3	106
9	Detection of gas atoms via vibration of graphenes. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2411-2415.	2.1	90
10	Wave propagation in graphene sheets with nonlocal elastic theory via finite element formulation. Computer Methods in Applied Mechanics and Engineering, 2012, 223-224, 1-9.	6.6	78
11	Vibration of Single- and Double-Layered Graphene Sheets. Journal of Nanotechnology in Engineering and Medicine, 2011, 2, .	0.8	76
12	A study on tribology of nitrile-butadiene rubber composites by incorporation of carbon nanotubes: Molecular dynamics simulations. Carbon, 2016, 100, 145-150.	10.3	75
13	Mechanical properties of carbon nanotube reinforced polymer nanocomposites: A coarse-grained model. Composites Part B: Engineering, 2015, 80, 92-100.	12.0	71
14	Vibrations of single- and double-walled carbon nanotubes with layerwise boundary conditions: A molecular dynamics study. Current Applied Physics, 2012, 12, 707-711.	2.4	70
15	Detection of gas atoms with carbon nanotubes. Scientific Reports, 2013, 3, .	3.3	63
16	Tensile fracture behavior of short carbon nanotube reinforced polymer composites: A coarse-grained model. Composite Structures, 2015, 134, 981-988.	5.8	59
17	Size- and temperature-dependent bending rigidity of graphene using modal analysis. Carbon, 2018, 139, 334-341.	10.3	42
18	Coarse-grained model of the J-integral of carbon nanotube reinforced polymer composites. Carbon, 2016, 96, 1084-1092.	10.3	41

#	Article	IF	Citations
19	Molecular modelling of epoxy resin crosslinking experimentally validated by near-infrared spectroscopy. Computational Materials Science, 2019, 161, 223-235.	3.0	41
20	A coarse-grained model for the elastic properties of cross linked short carbon nanotube/polymer composites. Composites Part B: Engineering, 2016, 95, 404-411.	12.0	39
21	Elastic interphase properties of nanoparticle/epoxy nanocomposites: A molecular dynamics study. Composites Part B: Engineering, 2019, 176, 107211.	12.0	33
22	Nanoscale vibration analysis of embedded multi-layered graphene sheets under various boundary conditions. Computational Materials Science, 2011, 50, 3091-3100.	3.0	30
23	Ejection of DNA molecules from carbon nanotubes. Carbon, 2012, 50, 4945-4952.	10.3	27
24	A viscoelastic damage model for nanoparticle/epoxy nanocomposites at finite strain: A multiscale approach. Journal of the Mechanics and Physics of Solids, 2019, 128, 162-180.	4.8	26
25	Carbon Nanotube-Based Sensors for Detection of Gas Atoms. Journal of Nanotechnology in Engineering and Medicine, 2011, 2, .	0.8	22
26	Detection of gas atoms with graphene sheets. Computational Materials Science, 2012, 60, 245-249.	3.0	22
27	Viscoelastic damage behavior of fiber reinforced nanoparticle-filled epoxy nanocomposites: Multiscale modeling and experimental validation. Composites Part B: Engineering, 2019, 174, 107005.	12.0	22
28	Interface Characterization Between Polyethylene/ Silica in Engineered Cementitious Composites by Molecular Dynamics Simulation. Molecules, 2019, 24, 1497.	3.8	22
29	A finite deformation phase-field fracture model for the thermo-viscoelastic analysis of polymer nanocomposites. Computer Methods in Applied Mechanics and Engineering, 2021, 381, 113821.	6.6	22
30	Effect of water content on the thermal degradation of amorphous polyamide 6,6: A collective variable-driven hyperdynamics study. Polymer Degradation and Stability, 2017, 146, 260-266.	5.8	18
31	Effect of temperature on the viscoelastic damage behaviour of nanoparticle/epoxy nanocomposites: Constitutive modelling and experimental validation. Polymer, 2020, 191, 122265.	3.8	18
32	A Review on the Application of Nonlocal Elastic Models in Modeling of Carbon Nanotubes and Graphenes. Springer Series in Materials Science, 2014, , 57-82.	0.6	16
33	Nonlocal Flügge Shell Model for Vibrations of Double-Walled Carbon Nanotubes With Different Boundary Conditions. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	2.2	15
34	Non-linear viscoelasticity of epoxy resins: Molecular simulation-based prediction and experimental validation. Polymer, 2019, 180, 121722.	3.8	12
35	Thermal Buckling of Multiwalled Carbon Nanotubes Using a Semi-Analytical Finite Element Approach. Journal of Thermal Stresses, 2011, 34, 817-834.	2.0	11
36	A finite deformation gradient-enhanced damage model for nanoparticle/polymer nanocomposites: An atomistically-informed multiscale approach. Composite Structures, 2021, 258, 113211.	5.8	10

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37	Molecular separation with carbon nanotubes. Computational Materials Science, 2014, 90, 50-55.	3.0	6
38	Effect of moisture on the nonlinear viscoelastic fracture behavior of polymer nanocompsites: a finite deformation phase-field model. Engineering With Computers, 2023, 39, 773-790.	6.1	4
39	Nanoresonators in Sensors and Molecular Transportation: An Introduction to the Possibilities of Carbon Nanotubes and Graphene Sheets. IEEE Nanotechnology Magazine, 2014, 8, 29-37.	1.3	3
40	Optimization assisted coarse-grained modeling of agglomerated nanoparticle reinforced thermosetting polymers. Polymer, 2021, 225, 123741.	3.8	3
41	Elucidating atomistic mechanisms underlying water diffusion in amorphous polymers: An autonomous basin climbing-based simulation method. Computational Materials Science, 2022, 212, 111565.	3.0	3
42	Molecular Modeling of Epoxy Resin Crosslinking Experimentally Validated by Near-Infrared Spectroscopy. Research Topics in Aerospace, 2021, , 325-349.	0.7	1
43	Viscoelastic Damage Behavior of Fiber Reinforced Nanoparticle-Filled Epoxy Nanocomposites: Multiscale Modeling and Experimental Validation. Research Topics in Aerospace, 2021, , 377-410.	0.7	1
44	Recent studies on applications of nanoresonators in sensors and molecular transportation. , 2014, , .		0
45	A Multi-scale Framework for the Prediction of the Elastic Properties ofÂNanocomposites. Research Topics in Aerospace, 2021, , 179-207.	0.7	0
46	Modeling and Simulation of Nanocomposites and Their Manufacturing Processes. Research Topics in Aerospace, 2021, , 27-54.	0.7	0