Mohammad Taghi Ahmadian

List of Publications by Year
in descending order

94 papers	3,427 citations	201575 27 h-index	143943 57 g-index
94 all docs	94 docs citations	94 times ranked	1338 citing authors

#	Article	IF	Citations
1	A nonlinear Timoshenko beam formulation based on the modified couple stress theory. International Journal of Engineering Science, 2010, 48, 1749-1761.	2.7	363
2	On the size-dependent behavior of functionally graded micro-beams. Materials & Design, 2010, 31, 2324-2329.	5.1	326
3	The modified couple stress functionally graded Timoshenko beam formulation. Materials & Design, 2011, 32, 1435-1443.	5.1	275
4	Investigation of the size-dependent dynamic characteristics of atomic force microscope microcantilevers based on the modified couple stress theory. International Journal of Engineering Science, 2010, 48, 1985-1994.	2.7	182
5	A strain gradient functionally graded Eulerâ€“Bernoulli beam formulation. International Journal of Engineering Science, 2012, 52, 65-76.	2.7	165
6	A nonlinear strain gradient beam formulation. International Journal of Engineering Science, 2011, 49, 1256-1267.	2.7	155
7	Static pull-in analysis of microcantilevers based on the modified couple stress theory. Sensors and Actuators A: Physical, 2011, 171, 370-374.	2.0	134
8	Static pull-in analysis of electrostatically actuated microbeams using homotopy perturbation method. Applied Mathematical Modelling, 2010, 34, 1032-1041.	2.2	116
9	On the homotopy analysis method for non-linear vibration of beams. Mechanics Research Communications, 2009, 36, 143-148.	1.0	101
10	A Timoshenko beam element based on the modified couple stress theory. International Journal of Mechanical Sciences, 2014, 79, 75-83.	3.6	98
11	Application of homotopy analysis method in studying dynamic pull-in instability of microsystems. Mechanics Research Communications, 2009, 36, 851-858.	1.0	92
12	Strain gradient beam element. Finite Elements in Analysis and Design, 2013, 68, 63-75.	1.7	84
13	Torsion of strain gradient bars. International Journal of Engineering Science, 2011, 49, 856-866.	2.7	80
14	Vibrational analysis of electrostatically actuated microstructures considering nonlinear effects. Communications in Nonlinear Science and Numerical Simulation, 2009, 14, 1664-1678.	1.7	66
15	Size-dependent pull-in phenomena in nonlinear microbridges. International Journal of Mechanical Sciences, 2012, 54, 306-310.	3.6	64
16	Semi-analytic solutions to nonlinear vibrations of microbeams under suddenly applied voltages. Journal of Sound and Vibration, 2009, 325, 382-396.	2.1	52
17	Characterization of coupled-domain multi-layer microplates in pull-in phenomenon, vibrations and dynamics. International Journal of Mechanical Sciences, 2007, 49, 1226-1237.	3.6	48
18	A homotopy perturbation analysis of nonlinear free vibration of Timoshenko microbeams. Journal of Mechanical Science and Technology, 2011, 25, 557-565.	0.7	46

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19	Nonlinear forced vibration of strain gradient microbeams. Applied Mathematical Modelling, 2013, 37, 8363-8382.	2.2	45
20	Mechanical behavior analysis of size-dependent micro-scaled functionally graded Timoshenko beams by strain gradient elasticity theory. Composite Structures, 2013, 102, 72-80.	3.1	44
21	Duffing equations with cubic and quintic nonlinearities. Computers and Mathematics With Applications, 2009, 57, 500-506.	1.4	43
22	Sensitivity and resonant frequency of an AFM with sidewall and top-surface probes for both flexural and torsional modes. International Journal of Mechanical Sciences, 2010, 52, 1357-1365.	3.6	41
23	Strain gradient formulation of functionally graded nonlinear beams. International Journal of Engineering Science, 2013, 65, 49-63.	2.7	39
24	Effect of geometric nonlinearity on dynamic pull-in behavior of coupled-domain microstructures based on classical and shear deformation plate theories. European Journal of Mechanics, A/Solids, 2009, 28, 916-925.	2.1	37
25	Nonlinear size-dependent forced vibrational behavior of microbeams based on a non-classical continuum theory. JVC/Journal of Vibration and Control, 2012, 18, 696-711.	1.5	36
26	Vibration analysis of electrostatically actuated nonlinear microbridges based on the modified couple stress theory. Applied Mathematical Modelling, 2015, 39, 6694-6704.	2.2	32
27	Nonlinear dynamic analysis of a V-shaped microcantilever of an atomic force microscope. Applied Mathematical Modelling, 2011, 35, 5903-5919.	2.2	29
28	Longitudinal behavior of strain gradient bars. International Journal of Engineering Science, 2013, 66-67, 44-59.	2.7	29
29	Vibration Control and Manufacturing of Intelligibly Designed Axially Functionally Graded Cantilevered Macro/Micro-tubes. IFAC-PapersOnLine, 2019, 52, 382-387.	0.5	29
30	Nonlinear free vibration of conservative oscillators with inertia and static type cubic nonlinearities using homotopy analysis method. Journal of Sound and Vibration, 2008, 316, 263-273.	2.1	28
31	Non-linear vibration analysis of laminated composite plates resting on non-linear elastic foundations. Journal of the Franklin Institute, 2011, 348, 353-368.	1.9	27
32	A size-dependent yield criterion. International Journal of Engineering Science, 2014, 74, 151-161.	2.7	27
33	On the large amplitude free vibrations of tapered beams: an analytical approach. Mechanics Research Communications, 2009, 36, 892-897.	1.0	26
34	Analytical modeling of bending effect on the torsional response of electrostatically actuated micromirrors. Optik, 2013, 124, 1278-1286.	1.4	22
35	Dynamic analysis of carbon nanotubes under electrostatic actuation using modified couple stress theory. Acta Mechanica, 2014, 225, 1523-1535.	1.1	22
36	On pull-in instabilities of microcantilevers. International Journal of Engineering Science, 2015, 87, 23-31.	2.7	21

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37	Electromechanical modeling and analytical investigation of nonlinearities in energy harvesting piezoelectric beams. International Journal of Mechanics and Materials in Design, 2017, 13, 499-514.	1.7	21
38	Characterization of a nonlinear MEMS-based piezoelectric resonator for wideband micro power generation. Applied Mathematical Modelling, 2017, 41, 121-142.	2.2	21
39	Subsonic and supersonic flow-induced vibration of sandwich cylindrical shells with FG-CNT reinforced composite face sheets and metal foam core. International Journal of Mechanical Sciences, 2022, 215, 106918.	3.6	20
40	Acoustic scattering from submerged laminated composite cylindrical shells. Composite Structures, 2015, 128, 395-405.	3.1	17
41	Size-dependent dynamic behavior of microcantilevers under suddenly applied DC voltage. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 896-906.	1.1	16
42	Modeling squeezed film air damping in torsional micromirrors using extended Kantorovich method. Meccanica, 2013, 48, 791-805.	1.2	15
43	Static deflection and pull-in instability analysis of an electrostatically actuated mirocantilever gyroscope considering geometric nonlinearities. Journal of Mechanical Science and Technology, 2013, 27, 2425-2434.	0.7	14
44	Rate-dependent behavior of connective tissue through a micromechanics-based hyper viscoelastic model. International Journal of Engineering Science, 2017, 121, 91-107.	2.7	14
45	Coupled electromechanical analysis of MEMS-based energy harvesters integrated with nonlinear power extraction circuits. Microsystem Technologies, 2017, 23, 2403-2420.	1.2	13
46	On the energy extraction from large amplitude vibrations of MEMS-based piezoelectric harvesters. Acta Mechanica, 2017, 228, 3445-3468.	1.1	13
47	Numerical and Experimental Evaluation of Highâ€Intensity Focused Ultrasoundâ€“Induced Lesions in Liver Tissue Ex Vivo. Journal of Ultrasound in Medicine, 2018, 37, 1481-1491.	0.8	13
48	Nonlinear transversal vibration of an axially moving viscoelastic string on a viscoelastic guide subjected to mono-frequency excitation. Acta Mechanica, 2010, 214, 357-373.	1.1	12
49	Simulation of red blood cell motion in microvessels using modified moving particle semi-implicit method. Scientia Iranica, 2012, 19, 113-118.	0.3	12
50	A coupled two degree of freedom pull-in model for micromirrors under capillary force. Acta Mechanica, 2012, 223, 387-394.	1.1	12
51	A Three-Dimensional Statistical Volume Element for Histology Informed Micromechanical Modeling of Brain White Matter. Annals of Biomedical Engineering, 2020, 48, 1337-1353.	1.3	12
52	Analytical modeling of static behavior of electrostatically actuated nano/micromirrors considering van der Waals forces. Acta Mechanica Sinica/Lixue Xuebao, 2012, 28, 729-736.	1.5	11
53	Analytical closed form model for static pull-in analysis in electrostatically actuated torsional micromirrors. Journal of Mechanical Science and Technology, 2013, 27, 1443-1449.	0.7	11
54	Design and implementation of a new spherical super element in structural analysis. Applied Mathematics and Computation, 2012, 218, 7546-7561.	1.4	10

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55	A strain gradient based yield criterion. International Journal of Engineering Science, 2014, 77, 45-54.	2.7	10
56	Micromechanics and constitutive modeling of connective soft tissues. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 60, 157-176.	1.5	10
57	Analytical and numerical simulations of energy harvesting using MEMS devices operating in nonlinear regime. European Physical Journal B, 2018, 91, 1.	0.6	9
58	A holistic survey on mechatronic Systems in Micro/Nano scale with challenges and applications. Journal of Micro-Bio Robotics, 2021, 17, 1-22.	2.1	9
59	Micromechanical modeling of rate-dependent behavior of Connective tissues. Journal of Theoretical Biology, 2017, 416, 119-128.	0.8	8
60	Design and analysis of a 3-link micro-manipulator actuated by piezoelectric layers. Mechanism and Machine Theory, 2017, 112, 43-60.	2.7	7
61	On the mechanical characteristics of graphene nanosheets: a fully nonlinear modified Morse model. Nanotechnology, 2020, 31, 115708.	1.3	7
62	Static and vibrational analysis of fullerene using a newly designed spherical super element. Scientia Iranica, 2012, 19, 1316-1323.	0.3	6
63	Investigation of the Mechanical Behaviors of Carbon Nanotubes Under Electrostatic Actuation Using the Modified Couple Stress Theory. Fullerenes Nanotubes and Carbon Nanostructures, 2013, 21, 930-945.	1.0	6
64	Size-dependent characteristics of electrostatically actuated fluid-conveying carbon nanotubes based on modified couple stress theory. Beilstein Journal of Nanotechnology, 2013, 4, 771-780.	1.5	6
65	A holey cavity for single-transducer 3D ultrasound imaging with physical optimization. Signal Processing, 2021, 179, 107826.	2.1	6
66	Nonlinear oscillation analysis of a pendulum wrapping on a cylinder. Scientia Iranica, 2012, 19, 335-340.	0.3	5
67	A coupled bending-torsion model for electrostatically actuated torsional nano/micro-actuators with considering influence of van der Waals force. Acta Mechanica, 2013, 224, 1791-1800.	1.1	5
68	Analysis of pull-in instability of electrostatically actuated carbon nanotubes using the homotopy perturbation method. Journal of Mechanics of Materials and Structures, 2013, 8, 385-401.	0.4	5
69	Forced Vibration of Delaminated Timoshenko Beams under the Action of Moving Oscillatory Mass. Shock and Vibration, 2013, 20, 79-96.	0.3	5
70	Simulation of Paramecium Chemotaxis Exposed to Calcium Gradients. Cell Biochemistry and Biophysics, 2016, 74, 241-252.	0.9	5
71	Rigidâ€bar loading on pregnant uterus and development of pregnant abdominal response corridor based on finite element biomechanical model. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3284.	1.0	5
72	Nonlinear analysis of carbon nanotube-based nanoelectronics devices. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 2426-2439.	1.1	4

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73	Complex modal analysis and coupled electromechanical simulation of energy harvesting piezoelectric laminated beams. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2019, 233, 2526-2537.	1.1	4
74	Fluid-solid interaction in electrostatically actuated carbon nanotubes. Journal of Mechanical Science and Technology, 2014, 28, 1431-1439.	0.7	3
75	On the Pull-in Instability of Double-Walled Carbon Nanotube-Based Nano Electromechanical Systems with Cross-Linked Walls. Fullerenes Nanotubes and Carbon Nanostructures, 2015, 23, 300-314.	1.0	3
76	Quick, Single-Frequency Dielectric Characterization of Blood Samples of Pediatric Cancer Patients by a Cylindrical Capacitor: Pilot Study. Electronics (Switzerland), 2020, 9, 95.	1.8	3
77	Time-domain ultrasound as prior information for frequency-domain compressive ultrasound for intravascular cell detection: A 2-cell numerical model. Ultrasonics, 2022, 125, 106791.	2.1	3
78	The dynamic analysis of a novel dental implant with a viscoelastic internal damping layer. , 2010, , .		2
79	Acoustic wave propagation through a functionally graded material plate with arbitrary material properties. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2013, 227, 100-110.	0.7	2
80	Dynamic and vibration analysis of a 3-serial-link micro/nano-manipulator with piezoelectric actuation. Microsystem Technologies, 2021, 27, 703-721.	1.2	2
81	Effect of axonal fiber architecture on mechanical heterogeneity of the white matterâ€"a statistical micromechanical model. Computer Methods in Biomechanics and Biomedical Engineering, 2022, 25, 27-39.	0.9	2
82	Investigation of the Oscillatory Behavior of Electrostatically-Actuated Microbeams. , 2010, , .		1
83	Interaction analysis of a pregnant female uterus and fetus in a vehicle passing a speed bump. Journal of Biomechanics, 2021, 118, 110257.	0.9	1
84	Adaptive fuzzy controller design of drug dosage using optimal trajectories in a chemoimmunotherapy cancer treatment model. Informatics in Medicine Unlocked, 2021, 27, 100782.	1.9	1
85	Size effects on stability and bifurcation of nonlinear viscoelastic microcantilevers based on strain gradient. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2022, 44, 1.	0.8	1
86	Geometric effect of stem on stress distribution and prosthesis failure. , 0, , .		0
87	On the Primary Resonance of an Electrostatically Actuated MEMS Using the Homotopy Perturbation Method. , 2009, , .		0
88	Investigation of Casimir and Van der Waals Forces for a Nonlinear Double-Clamped Beam Using Homotopy Perturbation Method. , 2009, , .		0
89	Characterization of Static Behavior of Electrostatically Actuated Micro Tweezers Using Modified Couple Stress Theory. , 2012, , .		0
90	Deformation prediction by a feed forward artificial neural network during mouse embryo micromanipulation. Animal Cells and Systems, 2012, 16, 121-126.	0.8	0

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91	Influence of Fringing Field Effect on the Pull-In of Size Dependent Micro-Beams. , 2012, , .		0
92	The Oscillatory Behavior of Doubly Clamped Microgyroscopes Under Electrostatic Actuation and Detection. , 2013, , .		0
93	Characterization of Static Behavior of a Nonlinear Doubly Clamped Microbeam Under Electrostatic Actuation and Detection. , 2013, , .		0
94	Oscillatory Behavior of the Nonlinear Clamped-Free Beam Microgyroscopes Under Electrostatic Actuation and Detection. , 2013, , .		0