

Baisheng Wu

List of Publications by Year in descending order

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107
papers

2,368
citations

293460

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44
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110
all docs

110
docs citations

110
times ranked

1478
citing authors

#	ARTICLE	IF	CITATIONS
1	An adaptive algorithm for mid-frequency response of a proportional damping system. <i>Mechanical Systems and Signal Processing</i> , 2022, 162, 107998.	4.4	2
2	Analytical approximations to the Lambert W function. <i>Applied Mathematical Modelling</i> , 2022, 104, 114-121.	2.2	7
3	Topology optimization of proportionally damped structures under harmonic excitations: Analysis of velocity and acceleration responses. <i>Engineering Structures</i> , 2022, 258, 114140.	2.6	1
4	Efficient computation of frequency response for non-proportional damped systems. <i>Engineering Structures</i> , 2022, 266, 114636.	2.6	1
5	A PEM-based topology optimization for structures subjected to stationary random excitations. <i>Engineering Structures</i> , 2021, 229, 111613.	2.6	9
6	The generalized flexibility matrix method for structural damage detection with incomplete mode shape data. <i>Inverse Problems in Science and Engineering</i> , 2021, 29, 2019-2039.	1.2	8
7	A Modified Newton's Harmonic Balance Approach to Strongly Odd Nonlinear Oscillators. <i>Journal of Vibration Engineering and Technologies</i> , 2020, 8, 721-736.	1.3	6
8	An efficient method for calculating the frequency response of a proportional damping system over a given frequency interval. <i>Engineering Structures</i> , 2020, 220, 110987.	2.6	6
9	Analytical approximations to primary resonance response of harmonically forced oscillators with strongly general nonlinearity. <i>Applied Mathematical Modelling</i> , 2020, 87, 534-545.	2.2	12
10	Computation of frequency responses and their sensitivities for undamped systems. <i>Engineering Structures</i> , 2019, 182, 416-426.	2.6	9
11	Analytical approximate solutions for asymmetric conservative oscillators. <i>Archive of Applied Mechanics</i> , 2019, 89, 2265-2279.	1.2	4
12	Exact analysis and reanalysis methods for structures with nonlinear boundary conditions. <i>Computers and Structures</i> , 2018, 198, 12-22.	2.4	3
13	A new method for computation of eigenvector derivatives with distinct and repeated eigenvalues in structural dynamic analysis. <i>Mechanical Systems and Signal Processing</i> , 2018, 107, 78-92.	4.4	11
14	A method for topology optimization of structures under harmonic excitations. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 475-487.	1.7	23
15	Approximate expressions for solutions to two kinds of transcendental equations with applications. <i>Journal of Physics Communications</i> , 2018, 2, 055009.	0.5	4
16	A Comparison of the Improved and Classic Half-Power Bandwidth Methods in Estimating Damping for Multi-DOF Systems. <i>Journal of Vibration Engineering and Technologies</i> , 2018, 6, 219-225.	1.3	6
17	Free vibration reanalysis of structures with added degrees of freedom. <i>Computers and Structures</i> , 2018, 206, 31-41.	2.4	3
18	Analytical approximations to resonance response of harmonically forced strongly odd nonlinear oscillators. <i>Archive of Applied Mechanics</i> , 2018, 88, 2123-2134.	1.2	8

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19	A damping estimation method based on power ratio. <i>Archive of Applied Mechanics</i> , 2018, 88, 1919-1927.	1.2	8
20	Closed form solutions for nonlinear static response of curled cantilever micro-/nanobeams including both the fringing field and van der Waals force effect. <i>Microsystem Technologies</i> , 2017, 23, 163-174.	1.2	8
21	Linear and nonlinear free vibrations of electrostatically actuated micro-/nanomechanical resonators. <i>Microsystem Technologies</i> , 2017, 23, 113-123.	1.2	9
22	Free vibration analysis of a structural system with a pair of irrational nonlinearities. <i>Applied Mathematical Modelling</i> , 2017, 45, 997-1007.	2.2	8
23	Asymptotic analysis and accurate approximate solutions for strongly nonlinear conservative symmetric oscillators. <i>Applied Mathematical Modelling</i> , 2017, 49, 243-254.	2.2	9
24	Highly Accurate Analytical Approximate Solution to a Nonlinear Pseudo-Oscillator. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 2017, 72, 673-676.	0.7	0
25	Analytical Approximate Prediction of Thermal Post-Buckling Behavior of the Spring-Hinged Beam. <i>International Journal of Applied Mechanics</i> , 2016, 08, 1650028.	1.3	2
26	Iterative Computation of Eigenvector Derivatives for Middle Eigenvalues. <i>AIAA Journal</i> , 2016, 54, 3580-3587.	1.5	3
27	An algorithm for solving frequency responses of a system with Rayleigh damping. <i>Archive of Applied Mechanics</i> , 2016, 86, 1231-1245.	1.2	8
28	A combined method for computing frequency responses of proportionally damped systems. <i>Mechanical Systems and Signal Processing</i> , 2015, 60-61, 535-546.	4.4	18
29	Vibration reanalysis based on block combined approximations with shifting. <i>Computers and Structures</i> , 2015, 149, 72-80.	2.4	16
30	Combined effect of pressure and geometric imperfection on buckling of stressed thin films on substrates. <i>Acta Mechanica</i> , 2015, 226, 1647-1655.	1.1	3
31	Preconditioned Conjugate Gradient Method for Static Reanalysis with Modifications of Supports. <i>Journal of Engineering Mechanics - ASCE</i> , 2015, 141, .	1.6	13
32	A preconditioned conjugate gradient method for computing eigenvector derivatives with distinct and repeated eigenvalues. <i>Mechanical Systems and Signal Processing</i> , 2015, 50-51, 249-259.	4.4	18
33	A correction of the half-power bandwidth method for estimating damping. <i>Archive of Applied Mechanics</i> , 2015, 85, 315-320.	1.2	45
34	ANALYTICAL APPROXIMATE SOLUTIONS TO LARGE-AMPLITUDE FREE VIBRATIONS OF UNIFORM BEAMS ON PASTERNAK FOUNDATION. <i>International Journal of Applied Mechanics</i> , 2014, 06, 1450075.	1.3	3
35	Method of Updating the Cholesky Factorization for Structural Reanalysis with Added Degrees of Freedom. <i>Journal of Engineering Mechanics - ASCE</i> , 2014, 140, 384-392.	1.6	15
36	A simplified analysis on buckling of stressed and pressurized thin films on substrates. <i>Archive of Applied Mechanics</i> , 2014, 84, 149-157.	1.2	2

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37	An approach to predicting static responses of electrostatically actuated microbeam under the effect of fringing field and Casimir force. <i>International Journal of Mechanical Sciences</i> , 2014, 80, 183-192.	3.6	11
38	Structural static reanalysis for modification of supports. <i>Structural and Multidisciplinary Optimization</i> , 2014, 50, 425-435.	1.7	11
39	Analytical approximate solutions to large amplitude vibration of a spring-hinged beam. <i>Meccanica</i> , 2013, 48, 2569-2575.	1.2	5
40	An analytical approximation method for predicting static responses of electrostatically actuated microbeams. <i>International Journal of Non-Linear Mechanics</i> , 2013, 54, 99-104.	1.4	9
41	Structural Damage Detection Using Generalized Flexibility Matrix and Changes in Natural Frequencies. <i>AIAA Journal</i> , 2012, 50, 1072-1078.	1.5	17
42	An approach for structural static reanalysis with unchanged number of degrees of freedom. <i>Structural and Multidisciplinary Optimization</i> , 2012, 45, 681-692.	1.7	11
43	Numerical and analytical approximations to large post-buckling deformation of MEMS. <i>International Journal of Mechanical Sciences</i> , 2012, 55, 95-103.	3.6	37
44	An efficient approach to structural static reanalysis with added support constraints. <i>Structural Engineering and Mechanics</i> , 2012, 43, 273-285.	1.0	3
45	Construction of approximate analytical solutions to strongly nonlinear damped oscillators. <i>Archive of Applied Mechanics</i> , 2011, 81, 1017-1030.	1.2	13
46	Circular whirling and stability due to unbalanced magnetic pull and eccentric force. <i>Journal of Sound and Vibration</i> , 2011, 330, 4949-4954.	2.1	25
47	Polyelectrolyte Multilayer Films for Building Energetic Walking Devices. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 6254-6257.	7.2	161
48	A generalized flexibility matrix based approach for structural damage detection. <i>Journal of Sound and Vibration</i> , 2010, 329, 4583-4587.	2.1	73
49	Application of a modified Lindstedt-Poincaré method in coupled TDOF systems with quadratic nonlinearity and a constant external excitation. <i>Archive of Applied Mechanics</i> , 2009, 79, 411-431.	1.2	12
50	Newton-harmonic balancing approach for accurate solutions to nonlinear cubic-quintic Duffing oscillators. <i>Applied Mathematical Modelling</i> , 2009, 33, 852-866.	2.2	96
51	Analytical approximate solutions to oscillation of a current-carrying wire in a magnetic field. <i>Nonlinear Analysis: Real World Applications</i> , 2009, 10, 1882-1890.	0.9	20
52	An efficient algebraic method for computing eigensolution sensitivity of asymmetric damped systems. <i>Journal of Sound and Vibration</i> , 2009, 327, 584-592.	2.1	35
53	Simple iteration method for structural static reanalysis. <i>Canadian Journal of Civil Engineering</i> , 2009, 36, 1535-1538.	0.7	2
54	A comparison of several reanalysis methods for structural layout modifications with added degrees of freedom. <i>Structural and Multidisciplinary Optimization</i> , 2008, 36, 403-410.	1.7	7

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55	Derivatives of complex eigenvectors with distinct and repeated eigenvalues. International Journal for Numerical Methods in Engineering, 2008, 75, 945-963.	1.5	27
56	Large amplitude free vibrations of a mass grounded by linear and nonlinear springs in series. Journal of Sound and Vibration, 2008, 314, 474-480.	2.1	8
57	Analytical Approximations to Large Hygrothermal Buckling Deformation of a Beam. Journal of Structural Engineering, 2008, 134, 602-607.	1.7	12
58	A Modified Lindstedt's Poincaré Method for Strongly Mixed-Parity Nonlinear Oscillators. Journal of Computational and Nonlinear Dynamics, 2007, 2, 141-145.	0.7	14
59	Improved Nelson's Method for Computing Eigenvector Derivatives with Distinct and Repeated Eigenvalues. AIAA Journal, 2007, 45, 950-952.	1.5	26
60	A preconditioned conjugate gradient approach to structural reanalysis for general layout modifications. International Journal for Numerical Methods in Engineering, 2007, 70, 505-522.	1.5	16
61	A note on imposing displacement boundary conditions in finite element analysis. Communications in Numerical Methods in Engineering, 2007, 24, 777-784.	1.3	11
62	Accurate approximation to the double sine-Gordon equation. International Journal of Engineering Science, 2007, 45, 258-271.	2.7	5
63	Approximate analytical solutions for oscillation of a mass attached to a stretched elastic wire. Journal of Sound and Vibration, 2007, 300, 1042-1047.	2.1	56
64	Analytical approximations to the double-well Duffing oscillator in large amplitude oscillations. Journal of Sound and Vibration, 2007, 307, 953-960.	2.1	14
65	Accurate analytical approximate solutions to general strong nonlinear oscillators. Nonlinear Dynamics, 2007, 51, 277-287.	2.7	18
66	Analytical approximations to large post-buckling deformation of elastic rings under uniform hydrostatic pressure. International Journal of Mechanical Sciences, 2007, 49, 661-668.	3.6	27
67	An analytical approximate technique for a class of strongly non-linear oscillators. International Journal of Non-Linear Mechanics, 2006, 41, 766-774.	1.4	156
68	Improved harmonic balance approach to periodic solutions of non-linear jerk equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 354, 95-100.	0.9	50
69	Higher accuracy analytical approximations to the Duffing-harmonic oscillator. Journal of Sound and Vibration, 2006, 296, 1039-1045.	2.1	65
70	A note on computing eigenvector derivatives with distinct and repeated eigenvalues. Communications in Numerical Methods in Engineering, 2006, 23, 241-251.	1.3	25
71	Accurate higher-order approximations to frequencies of nonlinear oscillators with fractional powers. Journal of Sound and Vibration, 2005, 281, 1157-1162.	2.1	32
72	A generalization of the SenataráBapat method for certain strongly nonlinear oscillators. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 341, 164-169.	0.9	19

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73	Static reanalysis of structures with added degrees of freedom. Communications in Numerical Methods in Engineering, 2005, 22, 269-281.	1.3	29
74	Reanalysis of structural modifications due to removal of degrees of freedom. Acta Mechanica, 2005, 180, 61-71.	1.1	19
75	Accurate Higher-Order Analytical Approximate Solutions to Large-Amplitude Oscillating Systems with a General Non-Rational Restoring Force. Nonlinear Dynamics, 2005, 42, 267-281.	2.7	18
76	An iteration approach to nonlinear oscillations of conservative single-degree-of-freedom systems. Acta Mechanica, 2004, 170, 69.	1.1	17
77	A finite element algorithm for reanalysis of structures with added degrees of freedom. Finite Elements in Analysis and Design, 2004, 40, 1791-1801.	1.7	29
78	Large amplitude non-linear oscillations of a general conservative system. International Journal of Non-Linear Mechanics, 2004, 39, 859-870.	1.4	78
79	A continuum model for size-dependent deformation of elastic films of nano-scale thickness. International Journal of Solids and Structures, 2004, 41, 847-857.	1.3	167
80	A New Method for Approximate Analytical Solutions to Nonlinear Oscillations of Nonnatural Systems. Nonlinear Dynamics, 2003, 32, 1-13.	2.7	36
81	Application of vector-valued rational approximations to a class of non-linear oscillations. International Journal of Non-Linear Mechanics, 2003, 38, 249-254.	1.4	5
82	A note on the critical points of equilibrium paths in imperfect structures. International Journal of Non-Linear Mechanics, 2003, 38, 381-387.	1.4	1
83	Analytical approximation to large-amplitude oscillation of a non-linear conservative system. International Journal of Non-Linear Mechanics, 2003, 38, 1037-1043.	1.4	42
84	The implementation of a vector-valued rational approximate method in structural reanalysis problems. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 1773-1784.	3.4	21
85	A new analytical approach to the Duffing-harmonic oscillator. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 311, 365-373.	0.9	113
86	Summation of perturbation solutions to nonlinear oscillations. Acta Mechanica, 2002, 154, 121-127.	1.1	11
87	Approximate reanalysis for modifications of structural layout. Engineering Structures, 2001, 23, 1590-1596.	2.6	15
88	EIGENVALUE REANALYSIS OF STRUCTURES USING PERTURBATIONS AND PADÉ APPROXIMATION. Mechanical Systems and Signal Processing, 2001, 15, 257-263.	4.4	24
89	A Method for Obtaining Approximate Analytic Periods for a Class of Nonlinear Oscillators. Meccanica, 2001, 36, 167-176.	1.2	57
90	A new approximate analytical approach for dispersion relation of the nonlinear Klein-Gordon equation. Chaos, 2001, 11, 843-848.	1.0	23

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91	A New Approach to Nonlinear Oscillations. Journal of Applied Mechanics, Transactions ASME, 2001, 68, 951-952.	1.1	14
92	Efficient computation for lower bound dynamic buckling loads of imperfect systems under impact loading. International Journal of Non-Linear Mechanics, 2000, 35, 735-743.	1.4	0
93	Direct calculation of buckling strength of imperfect structures. International Journal of Solids and Structures, 2000, 37, 1561-1576.	1.3	7
94	Sensitivity to Imperfections in a Class of Nearly Double Bucklings. Mathematics and Mechanics of Solids, 2000, 5, 441-451.	1.5	1
95	Buckling Mode Interaction in Fixed-End Column with Central Brace. Journal of Engineering Mechanics - ASCE, 1999, 125, 316-322.	1.6	2
96	On the stability of dynamic critical points in imperfect systems. Mechanics Research Communications, 1999, 26, 517-523.	1.0	0
97	Sensitivity analysis of a class of nearly double bucklings. International Journal of Engineering Science, 1999, 37, 831-846.	2.7	1
98	Constructive analysis of buckling mode interactions with single Z2-symmetry. International Journal of Non-Linear Mechanics, 1999, 34, 671-683.	1.4	3
99	Postbuckling and imperfection sensitivity of fixed-end and free-end struts on elastic foundation. Archive of Applied Mechanics, 1999, 69, 491-498.	1.2	11
100	An asymptotic lower bound dynamic buckling estimate for imperfect systems under impact loading. International Journal of Solids and Structures, 1998, 35, 3135-3146.	1.3	1
101	Secondary buckling of an elastic column with spring-supports at clamped ends. Archive of Applied Mechanics, 1998, 68, 342-351.	1.2	13
102	Secondary buckling of an elastic column with a central elastic support. Mechanics Research Communications, 1998, 25, 479-486.	1.0	12
103	Direct Computation of Lower-Bound Dynamic Buckling Loads of Imperfection-Sensitive Systems. AIAA Journal, 1998, 36, 2257-2261.	1.5	2
104	A perturbation method for the determination of the buckling strength of imperfection-sensitive structures. Computer Methods in Applied Mechanics and Engineering, 1997, 145, 203-215.	3.4	11
105	Computation of Hopf branches bifurcating from a class of Hopf/steady-state points. Computer Methods in Applied Mechanics and Engineering, 1996, 131, 159-172.	3.4	1
106	Numerical non-linear analysis of secondary buckling in stability problems. Computer Methods in Applied Mechanics and Engineering, 1995, 120, 183-193.	3.4	10
107	Calculation of Midfrequency Transfer Function and Sensitivity of a Structural Damping System. AIAA Journal, 0, , 1-5.	1.5	0