Ivana N Kovacic

List of Publications by Year
in descending order

92 papers	2,525 citations	394421 19 h-index	206112 48 g-index
101 all docs	101 docs citations	101 times ranked	1255 citing authors

#	Article	IF	Citations
1	A study of a nonlinear vibration isolator with a quasi-zero stiffness characteristic. Journal of Sound and Vibration, 2008, 315, 700-711.	3.9	391
2	On the force transmissibility of a vibration isolator with quasi-zero-stiffness. Journal of Sound and Vibration, 2009, 322, 707-717.	3.9	368
3	Potential benefits of a non-linear stiffness in an energy harvesting device. Nonlinear Dynamics, 2010, 59, 545-558.	5.2	364
4	On the jump-up and jump-down frequencies of the Duffing oscillator. Journal of Sound and Vibration, 2008, 318, 1250-1261.	3.9	207
5	Mathieu's Equation and Its Generalizations: Overview of Stability Charts and Their Features. Applied Mechanics Reviews, 2018, 70, .	10.1	139
6	On the response of a harmonically excited two degree-of-freedom system consisting of a linear and a nonlinear quasi-zero stiffness oscillator. Journal of Sound and Vibration, 2010, 329, 1823-1835.	3.9	101
7	Effect of a static force on the dynamic behaviour of a harmonically excited quasi-zero stiffness system. Journal of Sound and Vibration, 2009, 325, 870-883.	3.9	62
8	On the interaction of the responses at the resonance frequencies of a nonlinear two degrees-of-freedom system. Physica D: Nonlinear Phenomena, 2010, 239, 591-599.	2.8	60
9	On the resonance response of an asymmetric Duffing oscillator. International Journal of Non-Linear Mechanics, 2008, 43, 858-867.	2.6	54
10	On the Displacement Transmissibility of a Base Excited Viscously Damped Nonlinear Vibration Isolator. Journal of Vibration and Acoustics, Transactions of the ASME, 2009, 131, .	1.6	49
11	Jacobi elliptic functions: A review of nonlinear oscillatory application problems. Journal of Sound and Vibration, 2016, 380, 1-36.	3.9	48
12	Forced vibrations of oscillators with a purely nonlinear power-form restoring force. Journal of Sound and Vibration, 2011, 330, 4313-4327.	3.9	39
13	Parametrically excited vibrations of an oscillator with strong cubic negative nonlinearity. Journal of Sound and Vibration, 2007, 304, 201-212.	3.9	30
14	The method of multiple scales for forced oscillators with some real-power nonlinearities in the stiffness and damping force. Chaos, Solitons and Fractals, 2011, 44, 891-901.	5.1	30
15	Approximations for motion of the oscillators with a non-negative real-power restoring force. Journal of Sound and Vibration, 2011, 330, 321-336.	3.9	30
16	Asymptotic methods for vibrations of the pure non-integer order oscillator. Computers and Mathematics With Applications, 2010, 60, 2616-2628.	2.7	26
17	An elliptic averaging method for harmonically excited oscillators with a purely non-linear non-negative real-power restoring force. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 1888-1901.	3.3	24
18	Mechanical manifestations of bursting oscillations in slowly rotating systems. Mechanical Systems and Signal Processing, 2016, 81, 35-42.	8.0	24

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19	A non-simultaneous variational approach for the oscillators with fractional-order power nonlinearities. Applied Mathematics and Computation, 2010, 217, 3944-3954.	2.2	22
20	A generalized van der Pol type oscillator: Investigation of the properties of its limit cycle. Mathematical and Computer Modelling, 2012, 55, 645-653.	2.0	22
21	Coupled purely nonlinear oscillators: normal modes and exact solutions for free and forced responses. Nonlinear Dynamics, 2017, 87, 713-726.	5.2	20
22	About a class of nonlinear oscillators with amplitude-independent frequency. Nonlinear Dynamics, 2013, 74, 455-465.	5.2	19
23	On the motion of a generalized van der Pol oscillator. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 1640-1649.	3.3	17
24	Exploiting knowledge of jump-up and jump-down frequencies to determine the parameters of a Duffing oscillator. Communications in Nonlinear Science and Numerical Simulation, 2016, 37, 282-291.	3.3	17
25	On some performance characteristics of base excited vibration isolation systems with a purely nonlinear restoring force. International Journal of Non-Linear Mechanics, 2014, 65, 44-52.	2.6	16
26	Study of oscillators with a non-negative real-power restoring force and quadratic damping. Nonlinear Dynamics, 2011, 64, 293-304.	5.2	15
27	On the design of external excitations in order to make nonlinear oscillators respond as free oscillators of the same or different type. International Journal of Non-Linear Mechanics, 2017, 94, 323-333.	2.6	15
28	Oscillators with a power-form restoring force and fractional derivative damping: Application of averaging. Mechanics Research Communications, 2012, 41, 37-43.	1.8	14
29	On the use of Jacobi elliptic functions for modelling the response of antisymmetric oscillators with a constant restoring force. Communications in Nonlinear Science and Numerical Simulation, 2021, 93, 105504.	3.3	14
30	Straight-line backbone curve. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 2281-2288.	3.3	13
31	Oscillators with a fractional-order restoring force: Higher-order approximations for motion via a modified Ritz method. Communications in Nonlinear Science and Numerical Simulation, 2010, 15, 2651-2658.	3.3	12
32	Externally excited purely nonlinear oscillators: insights into their response at different excitation frequencies. Nonlinear Dynamics, 2018, 93, 119-132.	5.2	11
33	On the response of purely nonlinear oscillators: An Ateb-type solution for motion and an Ateb-type external excitation. International Journal of Non-Linear Mechanics, 2017, 92, 15-24.	2.6	10
34	Some benefits of using exact solutions of forced nonlinear oscillators: Theoretical and experimental investigations. Journal of Sound and Vibration, 2018, 436, 310-326.	3.9	10
35	On a localization phenomenon in two types of bio-inspired hierarchically organized oscillatory systems. Nonlinear Dynamics, 2020, 99, 679-706.	5.2	10
36	Nonlinear Oscillations. , 2020, , .		10

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37	Mixed-mode dynamics of certain bistable oscillators: behavioural mapping, approximations for motion and links with van der Pol oscillators. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150638.	2.1	9
38	Sympodial tree-like structures: from small to large-amplitude vibrations. Bioinspiration and Biomimetics, 2018, 13, 026002.	2.9	9
39	On the dynamics of vibro-impact systems with ideal and non-ideal excitation. Meccanica, 2021, 56, 439-460.	2.0	9
40	Conservation laws of two coupled non-linear oscillators. International Journal of Non-Linear Mechanics, 2006, 41, 751-760.	2.6	8
41	On the use of two classical series expansion methods to determine the vibration of harmonically excited pure cubic oscillators. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 4028-4032.	2.1	8
42	Characterisation of tree vibrations based on the model of orthogonal oscillations. Scientific Reports, 2018, 8, 8558.	3.3	8
43	Normal modes of a double pendulum at low energy levels. Nonlinear Dynamics, 2020, 99, 1893-1908.	5.2	8
44	Application of the field method to the non-linear theory of vibrations. Journal of Sound and Vibration, 2003, 264, 1073-1090.	3.9	7
45	On the motion of non-linear oscillators with a fractional-order restoring force and time variable parameters. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 1839-1843.	2.1	7
46	A pendulum with an elliptic-type parametric excitation: Stability charts for a damped and undamped system. Communications in Nonlinear Science and Numerical Simulation, 2014, 19, 1185-1202.	3.3	7
47	An equivalent spring for nonlinear springs in series. European Journal of Physics, 2015, 36, 055004.	0.6	7
48	On the dynamics of a parametrically excited planar tether. Communications in Nonlinear Science and Numerical Simulation, 2015, 26, 250-264.	3.3	7
49	Externally excited undamped and damped linear and nonlinear oscillators: Exact solutions and tuning to a desired exact form of the response. International Journal of Non-Linear Mechanics, 2018, 102, 72-81.	2.6	7
50	On the field method in non-holonomic mechanics. Acta Mechanica Sinica/Lixue Xuebao, 2005, 21, 192-196.	3.4	6
51	On the behavior of parametrically excited purely nonlinear oscillators. Nonlinear Dynamics, 2012, 70, 2117-2128.	5.2	6
52	Deflection and potential energy of linear and nonlinear springs: approximate expressions in terms of generalized coordinates. European Journal of Physics, 2013, 34, 537-546.	0.6	6
53	An insight into the behaviour of oscillators with a periodically piecewise-defined time-varying mass. Communications in Nonlinear Science and Numerical Simulation, 2017, 42, 187-203.	3.3	6
54	On the response of some discrete and continuous oscillatory systems with pure cubic nonlinearity: Exact solutions. International Journal of Non-Linear Mechanics, 2018, 98, 13-22.	2.6	6

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55	Harmonically excited generalized van der Pol oscillators: Entrainment phenomenon. Meccanica, 2013, 48, 2415-2425.	2.0	5
56	A field method in the study of weakly non-linear two-degree-of-freedom oscillatory systems. Journal of Sound and Vibration, 2004, 271, 464-468.	3.9	4
57	Adiabatic invariants of oscillators with one degree of freedom. Journal of Sound and Vibration, 2007, 300, 695-708.	3.9	4
58	On the equivalent systems for concurrent springs and dampers â€“ Part 1: Small in-plane oscillations. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 2520-2531.	2.1	4
59	Helmholtz, Duffing and Helmholtz-Duffing Oscillators: Exact Steady-State Solutions. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2020, , 167-177.	0.2	4
60	Invariants and approximate solutions for certain non-linear oscillators by means of the field method. Applied Mathematics and Computation, 2010, 215, 3482-3487.	2.2	3
61	Special issue on Parametric Excitation: Applications in science and engineering. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2012, 226, 1909-1911.	2.1	3
62	Autoparametric interaction in a double pendulum system. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2012, 226, 1971-1986.	2.1	3
63	On the influence of a constant force on the appearance of period-doubling bifurcations and chaos in a harmonically excited pure cubic oscillator. Chaos, Solitons and Fractals, 2012, 45, 1531-1540.	5.1	3
64	On the equivalent systems for concurrent springs and dampers â€“ Part 2: Small out-of-plane oscillations. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 2532-2544.	2.1	3
65	Design of nonlinear isochronous oscillators. Nonlinear Dynamics, 2015, 81, 53-61.	5.2	3
66	Generalised perturbation techniques for strongly nonlinear oscillators with a positive, zero or negative linear stiffness term. International Journal of Dynamics and Control, 2015, 3, 137-147.	2.5	3
67	Four Types of Strongly Nonlinear Oscillators: Generalization of a Perturbation Procedure. Procedia IUTAM, 2016, 19, 101-109.	1.2	3
68	Tree vibrations: Determining oscillatory properties by using infra-red marker-tracking system. Urban Forestry and Urban Greening, 2018, 34, 114-120.	5.3	3
69	Analysis of a weakly non-linear autonomous oscillator by means of the field method. International Journal of Non-Linear Mechanics, 2005, 40, 775-784.	2.6	2
70	The Effects of Strong Cubic Nonlinearity on the Existence of Periodic Solutions of the Mathieuâ€“Duffing Equation. Journal of Applied Mechanics, Transactions ASME, 2009, 76, .	2.2	2
71	On the response of antisymmetric constant force oscillators: Exact and approximate solutions. Communications in Nonlinear Science and Numerical Simulation, 2016, 32, 305-316.	3.3	2
72	From a chain of nonlinear oscillators to nonlinear longitudinal vibrations of an elastic bar: the case of pure nonlinearity. Procedia Engineering, 2017, 199, 687-692.	1.2	2

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73	Vibro-impact system with non-ideal excitation: analytical investigations. Nonlinear Dynamics, 2021, 106, 105-123.	5.2	2
74	Duffing-Type Oscillators with Amplitude-Independent Period. Springer Proceedings in Mathematics and Statistics, 2014, , 1-10.	0.2	2
75	Adiabatic invariants of some time-dependent oscillators. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 455-469.	2.1	1
76	Mixed-mode oscillations: From neural phenomena to mechanical modelling. , 2015, , .		1
77	Tree-like Structures as Hierarchical Coupled Oscillators. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2020, , 179-189.	0.2	1
78	Numerical analysis of a vibro-impact system with ideal and non-ideal excitation. Journal of Physics: Conference Series, 2021, 1730, 012014.	0.4	1
79	Nonlinear Oscillators with a Power-Form Restoring Force: Non-Isochronous and Isochronous Case. Applied Mechanics and Materials, 2013, 430, 14-21.	0.2	0
80	Stiffness properties of certain oscillatory systems: quantification and possibilities for corrections. European Journal of Physics, 2015, 36, 035031.	0.6	0
81	Insights into mechanical properties of certain bio-inspired branched structures. Meccanica, 2018, 53, 2209-2220.	2.0	0
82	Basins of Attraction for Higher-Dimensional Nonlinear Dynamical Systems: Preliminary Results on the Case Study of a Sympodial Tree. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2020, , 27-36.	0.2	0
83	On the Dynamics of a Biomimetic Model of a Sympodial Tree: From Bifurcations Diagrams and 6D Basins of Attraction to Dynamical Integrity and Robustness. Journal of Computational and Nonlinear Dynamics, 2021, , .	1.2	0
84	On Localised Modes in Bio-inspired Hierarchically Organised Oscillatory Chains. Understanding Complex Systems, 2021, , 153-162.	0.6	0
85	Two Paths to Isochronicity in a Class of One Degree of Freedom Oscillators. , 2013, , .		0
86	Characterising the dynamic behaviour of two-well oscillators excited at low frequency: Numerical insights. Journal of the Serbian Society for Computational Mechanics, 2015, 9, 34-46.	0.4	0
87	Free Damped Oscillators. , 2020, , 77-132.		0
88	Nonlinear Isochronous Oscillators. , 2020, , 189-222.		0
89	Forced Oscillators. , 2020, , 133-187.		0
90	From Chains of Nonlinear Oscillators to Continuous Nonlinear Systems. , 2020, , 223-259.		0

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91	Free Conservative Oscillators: From Linear to Nonlinear Systems. , 2020, , 19-76.		0
92	Free Generalized van der Pol Oscillators: Overview of the Properties of Oscillatory Responses. Advanced Structured Materials, 2021, , 129-144.	0.5	0