

Sotirios Natsiavas

List of Publications by Year in Descending Order

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Version: 2024-04-26

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

76
papers

1,703
citations

22
h-index

40
g-index

82
ext. papers

1,949
ext. citations

3.4
avg, IF

5.02
L-index

#	Paper	IF	Citations
76	A time-stepping method for multibody systems involving frictional impacts and phases with persistent contact. <i>Mechanism and Machine Theory</i> , 2022 , 169, 104591	4	0
75	A Novel Time-Stepping Method for Multibody Systems with Frictional Impacts 2022 , 501-511		
74	A time-stepping method for multibody systems with frictional impacts based on a return map and boundary layer theory. <i>International Journal of Non-Linear Mechanics</i> , 2021 , 131, 103683	2.8	1
73	A Dynamic Partitioning Method to solve the vehicle-bridge interaction problem. <i>Computers and Structures</i> , 2021 , 251, 106547	4.5	3
72	Numerical integration of multibody dynamic systems involving nonholonomic equality constraints. <i>Nonlinear Dynamics</i> , 2021 , 105, 1191-1211	5	0
71	A model-based fatigue damage estimation framework of large-scale structural systems. <i>Structural Health Monitoring</i> , 2021 , 20, 834-847	4.4	4
70	Boundary Layer Dynamics of Multibody Systems Involving Impact and Friction 2020 , 97-106		
69	Nonlinear Dynamics of Multibody Systems Using an Augmented Lagrangian Formulation 2020 , 3-11		
68	A novel return map in non-flat configuration spaces of multibody systems with impact. <i>International Journal of Solids and Structures</i> , 2020 , 202, 822-834	3.1	3
67	Application of an augmented Lagrangian approach to multibody systems with equality motion constraints. <i>Nonlinear Dynamics</i> , 2020 , 99, 753-776	5	13
66	Analytical Modeling of Discrete Mechanical Systems Involving Contact, Impact, and Friction. <i>Applied Mechanics Reviews</i> , 2019 , 71,	8.6	7
65	A Boundary Layer Approach to Multibody Systems Involving Single Frictional Impacts. <i>Journal of Computational and Nonlinear Dynamics</i> , 2019 , 14,	1.4	3
64	An analytical dynamics approach for mechanical systems involving a single frictional contact using b-geometry. <i>International Journal of Solids and Structures</i> , 2018 , 148-149, 140-156	3.1	4
63	An augmented Lagrangian formulation for the equations of motion of multibody systems subject to equality constraints. <i>Procedia Engineering</i> , 2017 , 199, 747-752		3
62	A geometric solution to the general single contact frictionless problem by combining concepts of analytical dynamics and b-calculus. <i>International Journal of Non-Linear Mechanics</i> , 2017 , 95, 117-131	2.8	5
61	A new set of equations of motion for constrained structures and a comparison of the effect of bilateral and unilateral constraints. <i>Procedia Engineering</i> , 2017 , 199, 218-223		
60	Dynamics of mechanical systems involving impact and friction using an efficient contact detection algorithm. <i>International Journal of Non-Linear Mechanics</i> , 2017 , 94, 309-322	2.8	12

59	Application of Newton's law of motion to constrained mechanical systems possessing configuration manifolds with time-dependent geometric properties. <i>Nonlinear Dynamics</i> , 2016 , 85, 2583-2610	5	1
58	Dynamic Response and Identification of Critical Points in the Superstructure of a Vehicle Using a Combination of Numerical and Experimental Methods. <i>Experimental Mechanics</i> , 2015 , 55, 529-542	2.6	16
57	Weak formulation and first order form of the equations of motion for a class of constrained mechanical systems. <i>International Journal of Non-Linear Mechanics</i> , 2015 , 77, 208-222	2.8	10
56	A set of ordinary differential equations of motion for constrained mechanical systems. <i>Nonlinear Dynamics</i> , 2015 , 79, 1911-1938	5	22
55	A new look into the kinematics and dynamics of finite rigid body rotations using Lie group theory. <i>International Journal of Solids and Structures</i> , 2013 , 50, 57-72	3.1	16
54	On application of Newton's law to mechanical systems with motion constraints. <i>Nonlinear Dynamics</i> , 2013 , 72, 455-475	5	17
53	Dynamic Analysis and Identification of Critical Points in the Superstructure of a Vehicle Through FE Modeling and Mobility Tests 2013 ,		1
52	Bayesian Uncertainty Quantification and Propagation in Nonlinear Structural Dynamics. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2013 , 33-41	0.3	9
51	Variability of updated finite element models and their predictions consistent with vibration measurements. <i>Structural Control and Health Monitoring</i> , 2012 , 19, 630-654	4.5	31
50	Stochastic dynamics and fatigue analysis of large-scale mechanical models using multilevel substructuring. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2012 , 226, 343-358	0.9	1
49	On periodic steady state response and stability of Filippov-type mechanical models. <i>Nonlinear Dynamics</i> , 2011 , 66, 355-376	5	5
48	Dynamics of finite element structural models with multiple unilateral constraints. <i>International Journal of Non-Linear Mechanics</i> , 2009 , 44, 371-382	2.8	22
47	Periodic steady state response of large scale mechanical models with local nonlinearities. <i>International Journal of Solids and Structures</i> , 2009 , 46, 3565-3576	3.1	5
46	Optimal selection of suspension parameters in large scale vehicle models. <i>Vehicle System Dynamics</i> , 2009 , 47, 1147-1166	2.8	8
45	Parametric Identification and Health Monitoring of Complex Ground Vehicle Models. <i>JVC/Journal of Vibration and Control</i> , 2008 , 14, 1021-1036	2	8
44	Special Issue of the Journal of Vibration and Control in honor of Professor Fabrizio Vestroni: Preface. <i>JVC/Journal of Vibration and Control</i> , 2008 , 14, 3-5	2	
43	Modelling and ride dynamics of a flexible multi-body model of an urban bus. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2008 , 222, 143-154	0.9	4
42	Multi-objective optimization of quarter-car models with a passive or semi-active suspension system. <i>Vehicle System Dynamics</i> , 2007 , 45, 77-92	2.8	51

41	Nonlinear biodynamics of passengers coupled with quarter car models. <i>Journal of Sound and Vibration</i> , 2007 , 304, 50-71	3.9	19
40	Dynamics of Large Scale Mechanical Models Using Multilevel Substructuring. <i>Journal of Computational and Nonlinear Dynamics</i> , 2007 , 2, 40-51	1.4	24
39	Effect of non-linearities in the identification and fault detection of gear-pair systems. <i>International Journal of Non-Linear Mechanics</i> , 2006 , 41, 213-230	2.8	26
38	Hybrid (numerical-experimental) modeling of complex structures with linear and nonlinear components. <i>Nonlinear Dynamics</i> , 2006 , 47, 193-217	5	10
37	Design Optimization of Quarter-car Models with Passive and Semi-active Suspensions under Random Road Excitation. <i>JVC/Journal of Vibration and Control</i> , 2005 , 11, 581-606	2	154
36	Dynamics of Slider-Crank Mechanisms with Flexible Supports and Non-Ideal Forcing. <i>Nonlinear Dynamics</i> , 2004 , 35, 205-227	5	10
35	Linear and nonlinear dynamics of reciprocating engines. <i>International Journal of Non-Linear Mechanics</i> , 2003 , 38, 723-738	2.8	29
34	Fault Detection and Optimal Sensor Location in Vehicle Suspensions. <i>JVC/Journal of Vibration and Control</i> , 2003 , 9, 337-359	2	45
33	Ride Dynamics of Nonlinear Vehicle Models Using Component Mode Synthesis. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2002 , 124, 427-434	1.6	18
32	Periodic and chaotic dynamics of motor-driven gear-pair systems with backlash. <i>Chaos, Solitons and Fractals</i> , 2001 , 12, 2427-2440	9.3	79
31	ON GEARED ROTORDYNAMIC SYSTEMS WITH OIL JOURNAL BEARINGS. <i>Journal of Sound and Vibration</i> , 2001 , 243, 721-745	3.9	51
30	NON-LINEAR DYNAMICS OF GEAR-PAIR SYSTEMS WITH PERIODIC STIFFNESS AND BACKLASH. <i>Journal of Sound and Vibration</i> , 2000 , 229, 287-310	3.9	233
29	FORCING INDUCED ASYMMETRY ON DYNAMICAL SYSTEMS WITH CUBIC NON-LINEARITIES. <i>Journal of Sound and Vibration</i> , 2000 , 233, 279-295	3.9	2
28	Dynamic analysis of piecewise linear oscillators with time periodic coefficients. <i>International Journal of Non-Linear Mechanics</i> , 2000 , 35, 53-68	2.8	52
27	Vibration of a continuous system with clearance and motion constraints. <i>International Journal of Non-Linear Mechanics</i> , 2000 , 35, 675-690	2.8	29
26	Dynamics of Piecewise Linear Oscillators. <i>World Scientific Series on Nonlinear Science, Series A</i> , 2000 , 127-153	3.53	1
25	Control and Dynamics of Quarter-Car Models With Dual-Rate Damping. <i>JVC/Journal of Vibration and Control</i> , 2000 , 6, 1045-1063	2	37
24	Dynamics of Oscillators with Strongly Nonlinear Asymmetric Damping. <i>Nonlinear Dynamics</i> , 1999 , 20, 221-246	5	19

23	Regular and chaotic forced vibration of thin rotating rings. <i>International Journal of Non-Linear Mechanics</i> , 1998 , 33, 843-855	2.8	9
22	Dynamics of Nonlinear Oscillators under Simultaneous Internal and External Resonances. <i>Nonlinear Dynamics</i> , 1998 , 16, 23-39	5	1
21	Self-Excited Oscillators with Asymmetric Nonlinearities and One-to-Two Internal Resonance. <i>Nonlinear Dynamics</i> , 1998 , 17, 325-346	5	3
20	STABILITY OF PIECEWISE LINEAR OSCILLATORS WITH VISCOUS AND DRY FRICTION DAMPING. <i>Journal of Sound and Vibration</i> , 1998 , 217, 507-522	3.9	67
19	Coupled Lateral-Torsional Vibration of a Gear-Pair System Supported by a Squeeze Film Damper. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 1998 , 120, 860-867	1.6	29
18	Stability Analysis and Complex Dynamics of a Gear-Pair System Supported by a Squeeze Film Damper. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 1997 , 119, 85-88	1.6	14
17	Free Vibration in a Class of Self-Excited Oscillators with 1:3 Internal Resonance. <i>Nonlinear Dynamics</i> , 1997 , 12, 109-128	5	2
16	EXTERNAL PRIMARY RESONANCE OF SELF-EXCITED OSCILLATORS WITH 1:3 INTERNAL RESONANCE. <i>Journal of Sound and Vibration</i> , 1997 , 208, 211-224	3.9	2
15	On the Seismic Behavior of Unanchored Liquid Containers. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 1996 , 118, 257-264	1.2	
14	ON VIBRATION ISOLATION OF MECHANICAL SYSTEMS WITH NON-LINEAR FOUNDATIONS. <i>Journal of Sound and Vibration</i> , 1996 , 194, 173-185	3.9	17
13	On the dynamics of rings rotating with variable spin speed. <i>Nonlinear Dynamics</i> , 1995 , 7, 345-363	5	12
12	Non-linear parametric resonance of spinning rings. <i>Journal of Sound and Vibration</i> , 1995 , 184, 93-109	3.9	10
11	Modal interactions in self-excited oscillators under external primary resonance. <i>Journal of Sound and Vibration</i> , 1995 , 184, 261-280	3.9	5
10	Dynamics and stability of non-linear free vibration of thin rotating rings. <i>International Journal of Non-Linear Mechanics</i> , 1994 , 29, 31-48	2.8	16
9	Mode Localization and Frequency Veering in a Non-Conservative Mechanical System With Dissimilar Components. <i>Journal of Sound and Vibration</i> , 1993 , 165, 137-147	3.9	28
8	Dynamics of Multiple-Degree-of-Freedom Oscillators With Colliding Components. <i>Journal of Sound and Vibration</i> , 1993 , 165, 439-453	3.9	76
7	Steady state oscillations and stability of non-linear dynamic vibration absorbers. <i>Journal of Sound and Vibration</i> , 1992 , 156, 227-245	3.9	73
6	Dynamics of piecewise linear oscillators with van der Pol type damping. <i>International Journal of Non-Linear Mechanics</i> , 1991 , 26, 349-366	2.8	18

5	Modal interaction and bifurcations in two degree of freedom duffing oscillators. <i>Nonlinear Dynamics</i> , 1991 , 2, 405-417	5	1
4	Stability and bifurcation analysis for oscillators with motion limiting constraints. <i>Journal of Sound and Vibration</i> , 1990 , 141, 97-102	3.9	36
3	On the dynamics of oscillators with bi-linear damping and stiffness. <i>International Journal of Non-Linear Mechanics</i> , 1990 , 25, 535-554	2.8	63
2	Periodic response and stability of oscillators with symmetric trilinear restoring force. <i>Journal of Sound and Vibration</i> , 1989 , 134, 315-331	3.9	97
1	Nonlinear Ground/Structure Interaction and Buckling of a Liquid-Filled Tank Under Ground Excitation. <i>Studies in Applied Mechanics</i> , 1988 , 19, 267-284		