Lawrence A Bergman

List of Publications by Year
in descending order

59 papers	2,845 citations	172457 29 h-index	168389 53 g-index
61 all docs	61 docs citations	61 times ranked	1390 citing authors

#	Article	IF	Citations
1	The Method of Proper Orthogonal Decomposition for Dynamical Characterization and Order Reduction of Mechanical Systems: An Overview. Nonlinear Dynamics, 2005, 41, 147-169.	5.2	706
2	Title is missing!. Nonlinear Dynamics, 2003, 33, 87-102.	5.2	160
3	Numerical and experimental investigation of a highly effective single-sided vibro-impact non-linear energy sink for shock mitigation. International Journal of Non-Linear Mechanics, 2013, 52, 96-109.	2.6	133
4	Comparing Linear and Essentially Nonlinear Vibration-Based Energy Harvesting. Journal of Vibration and Acoustics, Transactions of the ASME, 2011, 133, .	1.6	99
5	Effective Stiffening and Damping Enhancement of Structures With Strongly Nonlinear Local Attachments. Journal of Vibration and Acoustics, Transactions of the ASME, 2012, 134, .	1.6	98
6	Experimental investigation of targeted energy transfers in strongly and nonlinearly coupled oscillators. Journal of the Acoustical Society of America, 2005, 118, 791-799.	1.1	89
7	Theoretical and Experimental Study of Multimodal Targeted Energy Transfer in a System of Coupled Oscillators. Nonlinear Dynamics, 2006, 47, 285-309.	5.2	87
8	Large-scale experimental evaluation and numerical simulation of a system of nonlinear energy sinks for seismic mitigation. Engineering Structures, 2014, 77, 34-48.	5.3	83
9	Vibration reduction in unbalanced hollow rotor systems with nonlinear energy sinks. Nonlinear Dynamics, 2015, 79, 527-538.	5.2	76
10	Suppression of limit cycle oscillations in the van der Pol oscillator by means of passive non-linear energy sinks. Structural Control and Health Monitoring, 2006, 13, 41-75.	4.0	72
11	Numerical and experimental investigations of a rotating nonlinear energy sink. Meccanica, 2017, 52, 763-779.	2.0	72
12	Response attenuation in a large-scale structure subjected to blast excitation utilizing a system of essentially nonlinear vibration absorbers. Journal of Sound and Vibration, 2017, 389, 52-72.	3.9	68
13	Dynamics of a Linear Oscillator Coupled to a Bistable Light Attachment: Numerical Study. Journal of Computational and Nonlinear Dynamics, 2015, 10, .	1.2	66
14	Isolated Resonance Captures and Resonance Capture Cascades Leading to Single- or Multi-Mode Passive Energy Pumping in Damped Coupled Oscillators. Journal of Vibration and Acoustics, Transactions of the ASME, 2004, 126, 235-244.	1.6	64
15	Experimental Testing and Numerical Simulation of a Six-Story Structure Incorporating Two-Degree-of-Freedom Nonlinear Energy Sink. Journal of Structural Engineering, 2014, 140, .	3.4	62
16	Complex dynamics and targeted energy transfer in linear oscillators coupled to multi-degree-of-freedom essentially nonlinear attachments. Nonlinear Dynamics, 2007, 48, 285-318.	5.2	60
17	Energy Transfers in a System of Two Coupled Oscillators with Essential Nonlinearity: 1:1 Resonance Manifold and Transient Bridging Orbits. Nonlinear Dynamics, 2005, 42, 283-303.	5.2	58
18	Dynamic instabilities in coupled oscillators induced by geometrically nonlinear damping. Nonlinear Dynamics, 2012, 67, 807-827.	5.2	58

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19	Nonlinear targeted energy transfer: state of the art and new perspectives. Nonlinear Dynamics, 2022, 108, 711-741.	5.2	58
20	Vortex-induced vibration of a linearly sprung cylinder with an internal rotational nonlinear energy sink in turbulent flow. Nonlinear Dynamics, 2020, 99, 593-609.	5.2	45
21	Shock Mitigation by Means of Low- to High-Frequency Nonlinear Targeted Energy Transfers in a Large-Scale Structure. Journal of Computational and Nonlinear Dynamics, 2016, 11, .	1.2	40
22	A time-domain nonlinear system identification method based on multiscale dynamic partitions. Meccanica, 2011, 46, 625-649.	2.0	37
23	Design, simulation, and large‐scale testing of an innovative vibration mitigation device employing essentially nonlinear elastomeric springs. Earthquake Engineering and Structural Dynamics, 2014, 43, 1829-1851.	4.4	34
24	A unified formulation for interface coupling and frictional contact modeling with embedded error estimation. International Journal for Numerical Methods in Engineering, 2012, 92, 141-177.	2.8	33
25	Realization of a Strongly Nonlinear Vibration-Mitigation Device Using Elastomeric Bumpers. Journal of Engineering Mechanics - ASCE, 2014, 140, .	2.9	33
26	Effect of an internal nonlinear rotational dissipative element on vortex shedding and vortex-induced vibration of a sprung circular cylinder. Journal of Fluid Mechanics, 2017, 828, 196-235.	3.4	31
27	Nonlinear system identification of the dynamics of a vibro-impact beam: numerical results. Archive of Applied Mechanics, 2012, 82, 1461-1479.	2.2	30
28	Computational study of vortex-induced vibration of a sprung rigid circular cylinder with a strongly nonlinear internal attachment. Journal of Fluids and Structures, 2013, 40, 214-232.	3.4	30
29	Targeted Energy Transfer Between a Swept Wing and Winglet-Housed Nonlinear Energy Sink. AIAA Journal, 2014, 52, 2633-2651.	2.6	30
30	Title is missing!. Nonlinear Dynamics, 2003, 33, 1-10.	5.2	29
31	Transonic Aeroelastic Instability Suppression for a Swept Wing by Targeted Energy Transfer. Journal of Aircraft, 2014, 51, 1467-1482.	2.4	27
32	Influence of system parameters on dynamic behavior of gear pair with stochastic backlash. Meccanica, 2014, 49, 429-440.	2.0	25
33	Towards a new type of energy trap: Classical analog of quantum Landau-Zener tunneling. International Journal of Non-Linear Mechanics, 2011, 46, 247-252.	2.6	20
34	Equivalent modal damping, stiffening and energy exchanges in multi-degree-of-freedom systems with strongly nonlinear attachments. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2012, 226, 122-146.	0.8	20
35	Toward understanding the self-adaptive dynamics of a harmonically forced beam with a sliding mass. Archive of Applied Mechanics, 2017, 87, 699-720.	2.2	19
36	Sustained high-frequency energy harvesting through a strongly nonlinear electromechanical system under single and repeated impulsive excitations. Journal of Sound and Vibration, 2014, 333, 3214-3235.	3.9	16

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37	Pulse transmission and acoustic non-reciprocity in a granular channel with symmetry-breaking clearances. Granular Matter, 2020, 22, 1.	2.2	16
38	Effect of 1:3 resonance on the steady-state dynamics of a forced strongly nonlinear oscillator with a linear light attachment. Archive of Applied Mechanics, 2014, 84, 1189-1203.	2.2	15
39	5-DOF Dynamic Model of Vehicle Shimmy System with Clearance at Universal Joint in Steering Handling Mechanism. Shock and Vibration, 2013, 20, 951-961.	0.6	14
40	Influences of system parameters on dynamic behavior of the vehicle shimmy system with clearance in steering linkage. JVC/Journal of Vibration and Control, 2015, 21, 359-370.	2.6	14
41	Extreme nonlinear energy exchanges in a geometrically nonlinear lattice oscillating in the plane. Journal of the Mechanics and Physics of Solids, 2018, 110, 1-20.	4.8	13
42	Extreme intermodal energy transfers through vibro-impacts for highly effective and rapid blast mitigation. Communications in Nonlinear Science and Numerical Simulation, 2021, 103, 106012.	3.3	13
43	Targeted energy transfer in laminar vortex-induced vibration of a sprung cylinder with a nonlinear dissipative rotator. Physica D: Nonlinear Phenomena, 2017, 350, 26-44.	2.8	12
44	Dynamic analysis of cross shaft type universal joint with clearance. Journal of Mechanical Science and Technology, 2013, 27, 3201-3205.	1.5	11
45	New inverse wavelet transform method with broad application in dynamics. Mechanical Systems and Signal Processing, 2021, 156, 107691.	8.0	11
46	Rebuttal of â€œsteady state dynamics of a linear structure weakly coupled to an essentially nonlinear oscillatorâ€•by P.ÂMalatkar and A.H. Nayfeh. Nonlinear Dynamics, 2008, 53, 167-168.	5.2	9
47	A three-dimensional nonlinear reduced-order predictive joint model. Earthquake Engineering and Engineering Vibration, 2003, 2, 59-73.	2.3	8
48	Coexistence of multiple long-time solutions for two-dimensional laminar flow past a linearly sprung circular cylinder with a rotational nonlinear energy sink. Physical Review Fluids, 2019, 4, .	2.5	8
49	Natural frequency veering and mode localization caused by straight throughâ€"cracks in rectangular plates with elastic boundary conditions. Acta Mechanica, 2018, 229, 4017-4031.	2.1	6
50	Separation of Traveling and Standing Waves in a Rigid-Walled Circular Duct Containing an Intermediate Impedance Discontinuity. Journal of Vibration and Acoustics, Transactions of the ASME, 2017, 139, .	1.6	5
51	Influence of backlash in gear reducer on dynamic of single-link manipulator arm. Robotica, 2015, 33, 1671-1685.	1.9	4
52	Inducing a nonreflective airborne discontinuity in a circular duct by using a nonresonant side branch to create mode complexity. Journal of the Acoustical Society of America, 2018, 143, 746-755.	1.1	4
53	Energy transmission by impact in a system of two discrete oscillators. Nonlinear Dynamics, 2020, 100, 135-145.	5.2	4
54	Generalization of the Concept of Bandwidth. Journal of Sound and Vibration, 2022, 533, 117010.	3.9	3

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55	Global complexity effects due to local damping in a nonlinear system in 1:3 internal resonance. Archive of Applied Mechanics, 2016, 86, 1083-1094.	2.2	2
56	High-frequency vibration energy harvesting from repeated impulsive forcing utilizing intentional dynamic instability caused by strong nonlinearity. Journal of Intelligent Material Systems and Structures, 2017, 28, 468-487.	2.5	2
57	Simulating offset blast loads experimentally using shakeâ€table-generated ground motions: Method development and validation. Structural Control and Health Monitoring, 2020, 27, e2480.	4.0	2
58	Motion complexity in a non-classically damped system with closely spaced modes: From standing to traveling waves. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2016, 230, 178-190.	0.8	1
59	Realization by impedance discontinuity of a unidirectional wave in a duct with harmonically perturbed uniform mean flow. Journal of the Acoustical Society of America, 2019, 145, 3048-3057.	1.1	0