

Lawrence A Bergman

List of Publications by Citations

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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.

60
papers

2,074
citations

25
h-index

45
g-index

61
ext. papers

2,490
ext. citations

3
avg, IF

4.82
L-index

#	Paper	IF	Citations
60	The Method of Proper Orthogonal Decomposition for Dynamical Characterization and Order Reduction of Mechanical Systems: An Overview. <i>Nonlinear Dynamics</i> , 2005 , 41, 147-169	5	530
59	Steady State Passive Nonlinear Energy Pumping in Coupled Oscillators: Theoretical and Experimental Results. <i>Nonlinear Dynamics</i> , 2003 , 33, 87-102	5	120
58	Numerical and experimental investigation of a highly effective single-sided vibro-impact non-linear energy sink for shock mitigation. <i>International Journal of Non-Linear Mechanics</i> , 2013 , 52, 96-109	2.8	103
57	Comparing Linear and Essentially Nonlinear Vibration-Based Energy Harvesting. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2011 , 133,	1.6	86
56	Effective Stiffening and Damping Enhancement of Structures With Strongly Nonlinear Local Attachments. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2012 , 134,	1.6	78
55	Experimental investigation of targeted energy transfers in strongly and nonlinearly coupled oscillators. <i>Journal of the Acoustical Society of America</i> , 2005 , 118, 791-799	2.2	68
54	Theoretical and Experimental Study of Multimodal Targeted Energy Transfer in a System of Coupled Oscillators. <i>Nonlinear Dynamics</i> , 2006 , 47, 285-309	5	66
53	Large-scale experimental evaluation and numerical simulation of a system of nonlinear energy sinks for seismic mitigation. <i>Engineering Structures</i> , 2014 , 77, 34-48	4.7	60
52	Suppression of limit cycle oscillations in the van der Pol oscillator by means of passive non-linear energy sinks. <i>Structural Control and Health Monitoring</i> , 2006 , 13, 41-75	4.5	54
51	Isolated Resonance Captures and Resonance Capture Cascades Leading to Single- or Multi-Mode Passive Energy Pumping in Damped Coupled Oscillators. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2004 , 126, 235-244	1.6	52
50	Vibration reduction in unbalanced hollow rotor systems with nonlinear energy sinks. <i>Nonlinear Dynamics</i> , 2015 , 79, 527-538	5	51
49	Numerical and experimental investigations of a rotating nonlinear energy sink. <i>Meccanica</i> , 2017 , 52, 763-779	4.7	46
48	Response attenuation in a large-scale structure subjected to blast excitation utilizing a system of essentially nonlinear vibration absorbers. <i>Journal of Sound and Vibration</i> , 2017 , 389, 52-72	3.9	44
47	Energy Transfers in a System of Two Coupled Oscillators with Essential Nonlinearity: 1:1 Resonance Manifold and Transient Bridging Orbits. <i>Nonlinear Dynamics</i> , 2005 , 42, 283-303	5	42
46	Dynamics of a Linear Oscillator Coupled to a Bistable Light Attachment: Numerical Study. <i>Journal of Computational and Nonlinear Dynamics</i> , 2015 , 10,	1.4	41
45	Experimental Testing and Numerical Simulation of a Six-Story Structure Incorporating Two-Degree-of-Freedom Nonlinear Energy Sink. <i>Journal of Structural Engineering</i> , 2014 , 140, 04014027	3	41
44	Dynamic instabilities in coupled oscillators induced by geometrically nonlinear damping. <i>Nonlinear Dynamics</i> , 2012 , 67, 807-827	5	40

43	Complex dynamics and targeted energy transfer in linear oscillators coupled to multi-degree-of-freedom essentially nonlinear attachments. <i>Nonlinear Dynamics</i> , 2007 , 48, 285-318	5	39
42	A time-domain nonlinear system identification method based on multiscale dynamic partitions. <i>Meccanica</i> , 2011 , 46, 625-649	2.1	34
41	Shock Mitigation by Means of Low- to High-Frequency Nonlinear Targeted Energy Transfers in a Large-Scale Structure. <i>Journal of Computational and Nonlinear Dynamics</i> , 2016 , 11,	1.4	31
40	Realization of a Strongly Nonlinear Vibration-Mitigation Device Using Elastomeric Bumpers. <i>Journal of Engineering Mechanics - ASCE</i> , 2014 , 140, 04014009	2.4	29
39	Design, simulation, and large-scale testing of an innovative vibration mitigation device employing essentially nonlinear elastomeric springs. <i>Earthquake Engineering and Structural Dynamics</i> , 2014 , 43, 1829-1851 ²⁸	4	28
38	Nonlinear system identification of the dynamics of a vibro-impact beam: numerical results. <i>Archive of Applied Mechanics</i> , 2012 , 82, 1461-1479	2.2	28
37	Effect of an internal nonlinear rotational dissipative element on vortex shedding and vortex-induced vibration of a sprung circular cylinder. <i>Journal of Fluid Mechanics</i> , 2017 , 828, 196-235	3.7	25
36	Targeted Energy Transfer Between a Swept Wing and Winglet-Housed Nonlinear Energy Sink. <i>AIAA Journal</i> , 2014 , 52, 2633-2651	2.1	25
35	Vortex-induced vibration of a linearly sprung cylinder with an internal rotational nonlinear energy sink in turbulent flow. <i>Nonlinear Dynamics</i> , 2020 , 99, 593-609	5	25
34	Transonic Aeroelastic Instability Suppression for a Swept Wing by Targeted Energy Transfer. <i>Journal of Aircraft</i> , 2014 , 51, 1467-1482	1.6	23
33	A unified formulation for interface coupling and frictional contact modeling with embedded error estimation. <i>International Journal for Numerical Methods in Engineering</i> , 2012 , 92, 141-177	2.4	23
32	A Degenerate Bifurcation Structure in the Dynamics of Coupled Oscillators with Essential Stiffness Nonlinearities. <i>Nonlinear Dynamics</i> , 2003 , 33, 1-10	5	23
31	Computational study of vortex-induced vibration of a sprung rigid circular cylinder with a strongly nonlinear internal attachment. <i>Journal of Fluids and Structures</i> , 2013 , 40, 214-232	3.1	22
30	Towards a new type of energy trap: Classical analog of quantum Landau-Zener tunneling. <i>International Journal of Non-Linear Mechanics</i> , 2011 , 46, 247-252	2.8	19
29	Influence of system parameters on dynamic behavior of gear pair with stochastic backlash. <i>Meccanica</i> , 2014 , 49, 429-440	2.1	17
28	Toward understanding the self-adaptive dynamics of a harmonically forced beam with a sliding mass. <i>Archive of Applied Mechanics</i> , 2017 , 87, 699-720	2.2	15
27	Sustained high-frequency energy harvesting through a strongly nonlinear electromechanical system under single and repeated impulsive excitations. <i>Journal of Sound and Vibration</i> , 2014 , 333, 3214-3235 ³⁹	3.9	14
26	Equivalent modal damping, stiffening and energy exchanges in multi-degree-of-freedom systems with strongly nonlinear attachments. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2012 , 226, 122-146	0.9	14

25	Extreme nonlinear energy exchanges in a geometrically nonlinear lattice oscillating in the plane. <i>Journal of the Mechanics and Physics of Solids</i> , 2018 , 110, 1-20	5	12
24	Effect of 1:3 resonance on the steady-state dynamics of a forced strongly nonlinear oscillator with a linear light attachment. <i>Archive of Applied Mechanics</i> , 2014 , 84, 1189-1203	2.2	12
23	5-DOF Dynamic Model of Vehicle Shimmy System with Clearance at Universal Joint in Steering Handling Mechanism. <i>Shock and Vibration</i> , 2013 , 20, 951-961	1.1	12
22	Influences of system parameters on dynamic behavior of the vehicle shimmy system with clearance in steering linkage. <i>JVC/Journal of Vibration and Control</i> , 2015 , 21, 359-370	2	10
21	Dynamic analysis of cross shaft type universal joint with clearance. <i>Journal of Mechanical Science and Technology</i> , 2013 , 27, 3201-3205	1.6	10
20	Targeted energy transfer in laminar vortex-induced vibration of a sprung cylinder with a nonlinear dissipative rotator. <i>Physica D: Nonlinear Phenomena</i> , 2017 , 350, 26-44	3.3	9
19	Rebuttal of steady state dynamics of a linear structure weakly coupled to an essentially nonlinear oscillator by P. Malatkar and A.H. Nayfeh. <i>Nonlinear Dynamics</i> , 2008 , 53, 167-168	5	7
18	A three-dimensional nonlinear reduced-order predictive joint model. <i>Earthquake Engineering and Engineering Vibration</i> , 2003 , 2, 59-73	2	7
17	Coexistence of multiple long-time solutions for two-dimensional laminar flow past a linearly sprung circular cylinder with a rotational nonlinear energy sink. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	7
16	Pulse transmission and acoustic non-reciprocity in a granular channel with symmetry-breaking clearances. <i>Granular Matter</i> , 2020 , 22, 1	2.6	7
15	New inverse wavelet transform method with broad application in dynamics. <i>Mechanical Systems and Signal Processing</i> , 2021 , 156, 107691	7.8	5
14	Separation of Traveling and Standing Waves in a Rigid-Walled Circular Duct Containing an Intermediate Impedance Discontinuity. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2017 , 139,	1.6	3
13	Natural frequency veering and mode localization caused by straight through cracks in rectangular plates with elastic boundary conditions. <i>Acta Mechanica</i> , 2018 , 229, 4017-4031	2.1	3
12	High-frequency vibration energy harvesting from repeated impulsive forcing utilizing intentional dynamic instability caused by strong nonlinearity. <i>Journal of Intelligent Material Systems and Structures</i> , 2017 , 28, 468-487	2.3	2
11	Energy transmission by impact in a system of two discrete oscillators. <i>Nonlinear Dynamics</i> , 2020 , 100, 135-145	5	2
10	Inducing a nonreflective airborne discontinuity in a circular duct by using a nonresonant side branch to create mode complexity. <i>Journal of the Acoustical Society of America</i> , 2018 , 143, 746	2.2	2
9	Global complexity effects due to local damping in a nonlinear system in 1:3 internal resonance. <i>Archive of Applied Mechanics</i> , 2016 , 86, 1083-1094	2.2	2
8	Influence of backlash in gear reducer on dynamic of single-link manipulator arm. <i>Robotica</i> , 2015 , 33, 1671-1685	1.1	2

7	Nonlinear targeted energy transfer: state of the art and new perspectives. <i>Nonlinear Dynamics</i> , 1	5	2
6	Motion complexity in a non-classically damped system with closely spaced modes: From standing to traveling waves. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2016, 230, 178-190	0.9	1
5	Extreme intermodal energy transfers through vibro-impacts for highly effective and rapid blast mitigation. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2021, 103, 106012	3.7	1
4	Generalization of the Concept of Bandwidth. <i>Journal of Sound and Vibration</i> , 2022, 117010	3.9	0
3	Realization by impedance discontinuity of a unidirectional wave in a duct with harmonically perturbed uniform mean flow. <i>Journal of the Acoustical Society of America</i> , 2019, 145, 3048	2.2	
2	Erratum for Realization of a Strongly Nonlinear Vibration-Mitigation Device Using Elastomeric Bumpers By Jie Luo, Nicholas E. Wierschem, Larry A. Fahnestock, Lawrence A. Bergman, Billie F. Spencer Jr., Mohammad AL-Shudeifat, D. Michael McFarland, D. Dane Quinn, and Alexander F. Vakakis. <i>Journal of Engineering Mechanics</i> , ASCE, 2014, 140, 06014001	2.4	
1	Simulating offset blast loads experimentally using shake-table-generated ground motions: Method development and validation. <i>Structural Control and Health Monitoring</i> , 2020, 27, e2480	4.5	