

# Lawrence A Bergman

## List of Publications by Year in Descending Order

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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 | Generalization of the Concept of Bandwidth. <i>Journal of Sound and Vibration</i> , <b>2022</b> , 117010  | 3.9  | 0         |
| 59 | New inverse wavelet transform method with broad application in dynamics. <i>Mechanical Systems and Signal Processing</i> , <b>2021</b> , 156, 107691  | 7.8  | 5         |
| 58 | Extreme intermodal energy transfers through vibro-impacts for highly effective and rapid blast mitigation. <i>Communications in Nonlinear Science and Numerical Simulation</i> , <b>2021</b> , 103, 106012                                    | 3.7  | 1         |
| 57 | Energy transmission by impact in a system of two discrete oscillators. <i>Nonlinear Dynamics</i> , <b>2020</b> , 100, 135-145   | 5    | 2         |
| 56 | Pulse transmission and acoustic non-reciprocity in a granular channel with symmetry-breaking clearances. <i>Granular Matter</i> , <b>2020</b> , 22, 1   | 2.6  | 7         |
| 55 | Simulating offset blast loads experimentally using shake-table-generated ground motions: Method development and validation. <i>Structural Control and Health Monitoring</i> , <b>2020</b> , 27, e2480   | 4.5  |           |
| 54 | Vortex-induced vibration of a linearly sprung cylinder with an internal rotational nonlinear energy sink in turbulent flow. <i>Nonlinear Dynamics</i> , <b>2020</b> , 99, 593-609   | 5    | 25        |
| 53 | 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> , <b>2019</b> , 145, 3048  | 2.2  |           |
| 52 | 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> , <b>2019</b> , 4,                               | 2.8  | 7         |
| 51 | 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> , <b>2018</b> , 143, 746                                 | 2.2  | 2         |
| 50 | Extreme nonlinear energy exchanges in a geometrically nonlinear lattice oscillating in the plane. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2018</b> , 110, 1-20   | 5    | 12        |
| 49 | Natural frequency veering and mode localization caused by straight through-cracks in rectangular plates with elastic boundary conditions. <i>Acta Mechanica</i> , <b>2018</b> , 229, 4017-4031  | 2.1  | 3         |
| 48 | Numerical and experimental investigations of a rotating nonlinear energy sink. <i>Meccanica</i> , <b>2017</b> , 52, 763-779   | 3.79 | 46        |
| 47 | 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> , <b>2017</b> , 28, 468-487 | 2.3  | 2         |
| 46 | 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> , <b>2017</b> , 139,                       | 1.6  | 3         |
| 45 | Targeted energy transfer in laminar vortex-induced vibration of a sprung cylinder with a nonlinear dissipative rotator. <i>Physica D: Nonlinear Phenomena</i> , <b>2017</b> , 350, 26-44  | 3.3  | 9         |
| 44 | Toward understanding the self-adaptive dynamics of a harmonically forced beam with a sliding mass. <i>Archive of Applied Mechanics</i> , <b>2017</b> , 87, 699-720  | 2.2  | 15        |

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| 43 | 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> , <b>2017</b> , 828, 196-235   | 3.7 | 25 |
| 42 | 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> , <b>2017</b> , 389, 52-72  | 3.9 | 44 |
| 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> , <b>2016</b> , 11,   | 1.4 | 31 |
| 40 | 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> , <b>2016</b> , 230, 178-190   | 0.9 | 1  |
| 39 | Global complexity effects due to local damping in a nonlinear system in 1:3 internal resonance. <i>Archive of Applied Mechanics</i> , <b>2016</b> , 86, 1083-1094  | 2.2 | 2  |
| 38 | 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> , <b>2015</b> , 21, 359-370   | 2   | 10 |
| 37 | Vibration reduction in unbalanced hollow rotor systems with nonlinear energy sinks. <i>Nonlinear Dynamics</i> , <b>2015</b> , 79, 527-538  | 5   | 51 |
| 36 | Influence of backlash in gear reducer on dynamic of single-link manipulator arm. <i>Robotica</i> , <b>2015</b> , 33, 1671-1685   | 2   | 10 |
| 35 | Dynamics of a Linear Oscillator Coupled to a Bistable Light Attachment: Numerical Study. <i>Journal of Computational and Nonlinear Dynamics</i> , <b>2015</b> , 10,  | 1.4 | 41 |
| 34 | Influence of system parameters on dynamic behavior of gear pair with stochastic backlash. <i>Meccanica</i> , <b>2014</b> , 49, 429-440   | 2.1 | 17 |
| 33 | Realization of a Strongly Nonlinear Vibration-Mitigation Device Using Elastomeric Bumpers. <i>Journal of Engineering Mechanics - ASCE</i> , <b>2014</b> , 140, 04014009  | 2.4 | 29 |
| 32 | Large-scale experimental evaluation and numerical simulation of a system of nonlinear energy sinks for seismic mitigation. <i>Engineering Structures</i> , <b>2014</b> , 77, 34-48   | 4.7 | 60 |
| 31 | 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> , <b>2014</b> , 84, 1189-1203   | 2.2 | 12 |
| 30 | Design, simulation, and large-scale testing of an innovative vibration mitigation device employing essentially nonlinear elastomeric springs. <i>Earthquake Engineering and Structural Dynamics</i> , <b>2014</b> , 43, 1829-1851  | 4.2 | 28 |
| 29 | Sustained high-frequency energy harvesting through a strongly nonlinear electromechanical system under single and repeated impulsive excitations. <i>Journal of Sound and Vibration</i> , <b>2014</b> , 333, 3214-3235   | 3.9 | 14 |
| 28 | Targeted Energy Transfer Between a Swept Wing and Winglet-Housed Nonlinear Energy Sink. <i>AIAA Journal</i> , <b>2014</b> , 52, 2633-2651  | 2.1 | 25 |
| 27 | Transonic Aeroelastic Instability Suppression for a Swept Wing by Targeted Energy Transfer. <i>Journal of Aircraft</i> , <b>2014</b> , 51, 1467-1482   | 1.6 | 23 |
| 26 | 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 - ASCE</i> , <b>2014</b> , 140, 04014009 | 2.4 |    |

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| 25 | Experimental Testing and Numerical Simulation of a Six-Story Structure Incorporating Two-Degree-of-Freedom Nonlinear Energy Sink. <i>Journal of Structural Engineering</i> , <b>2014</b> , 140, 04014027   | 3   | 41  |
| 24 | 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> , <b>2013</b> , 40, 214-232   | 3.1 | 22  |
| 23 | Dynamic analysis of cross shaft type universal joint with clearance. <i>Journal of Mechanical Science and Technology</i> , <b>2013</b> , 27, 3201-3205   | 1.6 | 10  |
| 22 | 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> , <b>2013</b> , 52, 96-109  | 2.8 | 103 |
| 21 | 5-DOF Dynamic Model of Vehicle Shimmy System with Clearance at Universal Joint in Steering Handling Mechanism. <i>Shock and Vibration</i> , <b>2013</b> , 20, 951-961  | 1.1 | 12  |
| 20 | Dynamic instabilities in coupled oscillators induced by geometrically nonlinear damping. <i>Nonlinear Dynamics</i> , <b>2012</b> , 67, 807-827   | 5   | 40  |
| 19 | Nonlinear system identification of the dynamics of a vibro-impact beam: numerical results. <i>Archive of Applied Mechanics</i> , <b>2012</b> , 82, 1461-1479   | 2.2 | 28  |
| 18 | A unified formulation for interface coupling and frictional contact modeling with embedded error estimation. <i>International Journal for Numerical Methods in Engineering</i> , <b>2012</b> , 92, 141-177   | 2.4 | 23  |
| 17 | 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> , <b>2012</b> , 226, 122-146 | 0.9 | 14  |
| 16 | Effective Stiffening and Damping Enhancement of Structures With Strongly Nonlinear Local Attachments. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , <b>2012</b> , 134,   | 1.6 | 78  |
| 15 | A time-domain nonlinear system identification method based on multiscale dynamic partitions. <i>Meccanica</i> , <b>2011</b> , 46, 625-649  | 2.1 | 34  |
| 14 | Towards a new type of energy trap: Classical analog of quantum Landau-Zener tunneling. <i>International Journal of Non-Linear Mechanics</i> , <b>2011</b> , 46, 247-252  | 2.8 | 19  |
| 13 | Comparing Linear and Essentially Nonlinear Vibration-Based Energy Harvesting. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , <b>2011</b> , 133,   | 1.6 | 86  |
| 12 | Rebuttal of the 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> , <b>2008</b> , 53, 167-168  | 5   | 7   |
| 11 | Complex dynamics and targeted energy transfer in linear oscillators coupled to multi-degree-of-freedom essentially nonlinear attachments. <i>Nonlinear Dynamics</i> , <b>2007</b> , 48, 285-318  | 5   | 39  |
| 10 | 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> , <b>2006</b> , 13, 41-75   | 4.5 | 54  |
| 9  | Theoretical and Experimental Study of Multimodal Targeted Energy Transfer in a System of Coupled Oscillators. <i>Nonlinear Dynamics</i> , <b>2006</b> , 47, 285-309  | 5   | 66  |
| 8  | The Method of Proper Orthogonal Decomposition for Dynamical Characterization and Order Reduction of Mechanical Systems: An Overview. <i>Nonlinear Dynamics</i> , <b>2005</b> , 41, 147-169   | 5   | 530 |

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| 7 | Energy Transfers in a System of Two Coupled Oscillators with Essential Nonlinearity: 1:1 Resonance Manifold and Transient Bridging Orbits. <i>Nonlinear Dynamics</i> , <b>2005</b> , 42, 283-303   | 5   | 42  |
| 6 | Experimental investigation of targeted energy transfers in strongly and nonlinearly coupled oscillators. <i>Journal of the Acoustical Society of America</i> , <b>2005</b> , 118, 791-799  | 2.2 | 68  |
| 5 | 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> , <b>2004</b> , 126, 235-244 | 1.6 | 52  |
| 4 | A Degenerate Bifurcation Structure in the Dynamics of Coupled Oscillators with Essential Stiffness Nonlinearities. <i>Nonlinear Dynamics</i> , <b>2003</b> , 33, 1-10  | 5   | 23  |
| 3 | Steady State Passive Nonlinear Energy Pumping in Coupled Oscillators: Theoretical and Experimental Results. <i>Nonlinear Dynamics</i> , <b>2003</b> , 33, 87-102   | 5   | 120 |
| 2 | A three-dimensional nonlinear reduced-order predictive joint model. <i>Earthquake Engineering and Engineering Vibration</i> , <b>2003</b> , 2, 59-73   | 2   | 7   |
| 1 | Nonlinear targeted energy transfer: state of the art and new perspectives. <i>Nonlinear Dynamics</i> , 1   | 5   | 2   |