

David Chelidze

List of Publications by Year in descending order

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Version: 2024-02-01

59
papers

971
citations

623188

14
h-index

454577

30
g-index

63
all docs

63
docs citations

63
times ranked

431
citing authors

#	ARTICLE	IF	CITATIONS
1	Blind source separation based vibration mode identification. <i>Mechanical Systems and Signal Processing</i> , 2007, 21, 3072-3087.	4.4	144
2	Smooth orthogonal decomposition-based vibration mode identification. <i>Journal of Sound and Vibration</i> , 2006, 292, 461-473.	2.1	122
3	A Dynamical Systems Approach to Failure Prognosis. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2004, 126, 2-8.	1.0	97
4	A Dynamical Systems Approach to Damage Evolution Tracking, Part 1: Description and Experimental Application. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2002, 124, 250-257.	1.0	90
5	A Dynamical Systems Approach to Damage Evolution Tracking, Part 2: Model-Based Validation and Physical Interpretation. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2002, 124, 258-264.	1.0	67
6	Dynamical systems approach to fatigue damage identification. <i>Journal of Sound and Vibration</i> , 2005, 281, 887-904.	2.1	40
7	Phase space warping: nonlinear time-series analysis for slowly drifting systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2006, 364, 2495-2513.	1.6	40
8	OPTIMAL TRACKING OF PARAMETER DRIFT IN A CHAOTIC SYSTEM: EXPERIMENT AND THEORY. <i>Journal of Sound and Vibration</i> , 2002, 250, 877-901.	2.1	38
9	Reconstructing slow-time dynamics from fast-time measurements. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2008, 366, 729-745.	1.6	28
10	Identifying Multidimensional Damage in a Hierarchical Dynamical System. <i>Nonlinear Dynamics</i> , 2004, 37, 307-322.	2.7	26
11	Generalized Eigenvalue Decomposition in Time Domain Modal Parameter Identification. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2008, 130, .	1.0	24
12	Observed mode shape effects on the vortex-induced vibration of bending dominated flexible cylinders simply supported at both ends. <i>Journal of Fluids and Structures</i> , 2018, 81, 399-417.	1.5	24
13	Multidimensional Damage Identification Based on Phase Space Warping: An Experimental Study. <i>Nonlinear Dynamics</i> , 2006, 46, 61-72.	2.7	22
14	<title>Multimode damage tracking and failure prognosis in electromechanical systems</title>. , 2002, 4733, 1.		17
15	Smooth local subspace projection for nonlinear noise reduction. <i>Chaos</i> , 2014, 24, 013121.	1.0	15
16	Nonlinear analysis of gait kinematics to track changes in oxygen consumption in prolonged load carriage walking: A pilot study. <i>Journal of Biomechanics</i> , 2009, 42, 2196-2199.	0.9	14
17	Persistent model order reduction for complex dynamical systems using smooth orthogonal decomposition. <i>Mechanical Systems and Signal Processing</i> , 2017, 96, 125-138.	4.4	13
18	A nonlinear approach to tracking slow-time-scale changes in movement kinematics. <i>Journal of Biomechanics</i> , 2007, 40, 1629-1634.	0.9	12

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19	Slow-Time Changes in Human EMG Muscle Fatigue States Are Fully Represented in Movement Kinematics. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 021004.	0.6	11
20	Model Order Reduction of Nonlinear Euler-Bernoulli Beam. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2016, , 377-385.	0.3	9
21	Identifying damage using local flow variation method. <i>Smart Materials and Structures</i> , 2006, 15, 1830-1836.	1.8	8
22	A new type of atomic force microscope based on chaotic motions. <i>International Journal of Non-Linear Mechanics</i> , 2008, 43, 521-526.	1.4	8
23	Nonlinear Smooth Orthogonal Decomposition of Kinematic Features of Sawing Reconstructs Muscle Fatigue Evolution as Indicated by Electromyography. <i>Journal of Biomechanical Engineering</i> , 2011, 133, 031009.	0.6	8
24	Different Fatigue Dynamics Under Statistically and Spectrally Similar Deterministic and Stochastic Excitations. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014, 81, .	1.1	8
25	A new approach to model reduction of nonlinear control systems using smooth orthogonal decomposition. <i>International Journal of Robust and Nonlinear Control</i> , 2018, 28, 4367-4381.	2.1	8
26	Reduced Order Models for Systems with Disparate Spatial and Temporal Scales. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2016, , 447-455.	0.3	8
27	Nonlinear System Identification and Modeling of a New Fatigue Testing Rig Based on Inertial Forces. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2014, 136, .	1.0	6
28	Robust and Dynamically Consistent Model Order Reduction for Nonlinear Dynamic Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2015, 137, .	0.9	6
29	New invariant measures to track slow parameter drifts in fast dynamical systems. <i>Nonlinear Dynamics</i> , 2015, 79, 1207-1216.	2.7	5
30	Multivariate Analysis Of Vortex-Induced Vibrations In A Tensioned Cylinder Reveal Nonlinear Modal Interactions. <i>Procedia Engineering</i> , 2017, 199, 546-551.	1.2	5
31	Fatigue life estimation of structures under statistically and spectrally similar variable amplitude loading. <i>Mechanical Systems and Signal Processing</i> , 2021, 161, 107856.	4.4	5
32	A New Fatigue Testing Apparatus Model and Parameter Identification. , 2010, , .		4
33	Identifying invariant manifold using phase space warping and stochastic interrogation. <i>International Journal of Non-Linear Mechanics</i> , 2010, 45, 42-55.	1.4	4
34	Statistical Characterization of Nearest Neighbors to Reliably Estimate Minimum Embedding Dimension. , 2014, , .		3
35	Toward a unified interpretation of the "proper" and "smooth" orthogonal decompositions and "state variable" and "dynamic mode" decompositions with application to fluid dynamics. <i>AIP Advances</i> , 2020, 10, 035225.	0.6	3
36	Empirical Mode Analysis Identifying Hysteresis in Vortex-Induced Vibrations of a Bending-Dominated Flexible Cylinder. <i>International Journal of Offshore and Polar Engineering</i> , 2020, 30, 186-193.	0.3	3

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37	<title>Procedure for tracking damage evolution and predicting remaining useful life with application to an electromechanical experiment system</title> . , 2001, , .		2
38	Tracking Physiological Fatigue in Prolonged Load Carriage Walking Using Phase Space Warping and Smooth Orthogonal Decomposition. , 2008, , .		2
39	Smooth Robust Subspace Based Model Reduction. , 2013, , .		2
40	Robust and Dynamically Consistent Reduced Order Models. , 2013, , .		2
41	Dynamic Model for Fatigue Evolution in a Cracked Beam Subjected to Irregular Loading. Journal of Vibration and Acoustics, Transactions of the ASME, 2017, 139, .	1.0	2
42	A novel method for bone fatigue monitoring and prediction. Bone Reports, 2019, 11, 100221.	0.2	2
43	Slow-Time Changes in Human Muscle Fatigue Are Fully Represented in Movement Kinematics. , 2007, , .		2
44	Multidimensional Hidden Slow Variable Tracking in a Hierarchical Dynamical System. , 2003, , 1079.		1
45	Dynamical Analysis of Sawing Motion Tracks Muscle Fatigue Evolution. , 2009, , .		1
46	Degradation Analysis Using Inverse Gaussian Process Model With Random Effects: A Bayesian Perspective. , 2013, , .		1
47	Fatigue Dynamics Under Statistically and Spectrally Similar Deterministic and Stochastic Excitations. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 125-133.	0.3	1
48	Smooth Projective Noise Reduction for Nonlinear Time Series. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 77-83.	0.3	1
49	Flow variance method for damage identification. , 2005, , .		0
50	Generalized Eigenvalue Decomposition in Time Domain Modal Parameter Identification. , 2006, , 761.		0
51	Invariant Manifold Detection From Phase Space Trajectories. , 2008, , .		0
52	Tracking Muscle Fatigue Markers Through Nonlinear and Multivariate Analysis of Motion Kinematics. , 2009, , .		0
53	Linear and Nonlinear Smooth Orthogonal Decomposition to Reconstruct Local Fatigue Dynamics: A Comparison. , 2010, , .		0
54	Characterization of Fatigue Dynamics Under Deterministic and Stochastic Excitation. , 2012, , .		0

#	ARTICLE	IF	CITATIONS
55	Characteristic Lengths and Distances: Fast and Robust Features for Nonlinear Time Series. , 2012, , .		0
56	Coupled Field Dynamic Model of Fatigue Evolution in Structures. , 2013, , .		0
57	Smooth Projective Nonlinear Noise Reduction. , 2013, , .		0
58	Persistent Models for Complex Control Systems. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 167-175.	0.3	0
59	Variable Amplitude Fatigue Testing Apparatus and Its Dynamical Characterization. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 137-140.	0.3	0