David Chelidze

List of Publications by Year
in descending order

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59	971	623188	454577
papers	citations	14	30
		h-index	g-index

63	63	63	431
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fatigue life estimation of structures under statistically and spectrally similar variable amplitude loading. Mechanical Systems and Signal Processing, 2021, 161, 107856.	4.4	5
2	Toward a unified interpretation of the â€œproperâ€/â€œsmoothâ€•orthogonal decompositions and â€œstate variableâ€/â€œdynamic modeâ€•decompositions with application to fluid dynamics. AIP Advances, 2020, 10, 035225.	0.6	3
3	Empirical Mode Analysis Identifying Hysteresis in Vortex-Induced Vibrations of a Bending-Dominated Flexible Cylinder. International Journal of Offshore and Polar Engineering, 2020, 30, 186-193.	0.3	3
4	Variable Amplitude Fatigue Testing Apparatus and Its Dynamical Characterization. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 137-140.	0.3	0
5	A novel method for bone fatigue monitoring and prediction. Bone Reports, 2019, 11, 100221.	0.2	2
6	A new approach to model reduction of nonlinear control systems using smooth orthogonal decomposition. International Journal of Robust and Nonlinear Control, 2018, 28, 4367-4381.	2.1	8
7	Observed mode shape effects on the vortex-induced vibration of bending dominated flexible cylinders simply supported at both ends. Journal of Fluids and Structures, 2018, 81, 399-417.	1.5	24
8	Persistent model order reduction for complex dynamical systems using smooth orthogonal decomposition. Mechanical Systems and Signal Processing, 2017, 96, 125-138.	4.4	13
9	Persistent Models for Complex Control Systems. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 167-175.	0.3	0
10	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
11	Multivariate Analysis Of Vortex-Induced Vibrations In A Tensioned Cylinder Reveal Nonlinear Modal Interactions. Procedia Engineering, 2017, 199, 546-551.	1.2	5
12	Model Order Reduction of Nonlinear Euler-Bernoulli Beam. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 377-385.	0.3	9
13	Reduced Order Models for Systems with Disparate Spatial and Temporal Scales. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 447-455.	0.3	8
14	Robust and Dynamically Consistent Model Order Reduction for Nonlinear Dynamic Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .	0.9	6
15	New invariant measures to track slow parameter drifts in fast dynamical systems. Nonlinear Dynamics, 2015, 79, 1207-1216.	2.7	5
16	Different Fatigue Dynamics Under Statistically and Spectrally Similar Deterministic and Stochastic Excitations. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	8
17	Statistical Characterization of Nearest Neighbors to Reliably Estimate Minimum Embedding Dimension. , 2014, , .		3
18	Nonlinear System Identification and Modeling of a New Fatigue Testing Rig Based on Inertial Forces. Journal of Vibration and Acoustics, Transactions of the ASME, 2014, 136, .	1.0	6

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19	Smooth local subspace projection for nonlinear noise reduction. Chaos, 2014, 24, 013121.	1.0	15
20	Degradation Analysis Using Inverse Gaussian Process Model With Random Effects: A Bayesian Perspective. , 2013, , .		1
21	Smooth Robust Subspace Based Model Reduction. , 2013, , .		2
22	Robust and Dynamically Consistent Reduced Order Models. , 2013, , .		2
23	Coupled Field Dynamic Model of Fatigue Evolution in Structures. , 2013, , .		0
24	Smooth Projective Nonlinear Noise Reduction. , 2013, , .		0
25	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
26	Smooth Projective Noise Reduction for Nonlinear Time Series. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 77-83.	0.3	1
27	Characterization of Fatigue Dynamics Under Deterministic and Stochastic Excitation. , 2012, , .		0
28	Characteristic Lengths and Distances: Fast and Robust Features for Nonlinear Time Series. , 2012, , .		0
29	Nonlinear Smooth Orthogonal Decomposition of Kinematic Features of Sawing Reconstructs Muscle Fatigue Evolution as Indicated by Electromyography. Journal of Biomechanical Engineering, 2011, 133, 031009.	0.6	8
30	Linear and Nonlinear Smooth Orthogonal Decomposition to Reconstruct Local Fatigue Dynamics: A Comparison. , 2010, , .		0
31	A New Fatigue Testing Apparatus Model and Parameter Identification. , 2010, , .		4
32	Identifying invariant manifold using phase space warping and stochastic interrogation. International Journal of Non-Linear Mechanics, 2010, 45, 42-55.	1.4	4
33	Dynamical Analysis of Sawing Motion Tracks Muscle Fatigue Evolution. , 2009, , .		1
34	Slow-Time Changes in Human EMG Muscle Fatigue States Are Fully Represented in Movement Kinematics. Journal of Biomechanical Engineering, 2009, 131, 021004.	0.6	11
35	Nonlinear analysis of gait kinematics to track changes in oxygen consumption in prolonged load carriage walking: A pilot study. Journal of Biomechanics, 2009, 42, 2196-2199.	0.9	14
36	Tracking Muscle Fatigue Markers Through Nonlinear and Multivariate Analysis of Motion Kinematics. , 2009, , .		0

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37	A new type of atomic force microscope based on chaotic motions. International Journal of Non-Linear Mechanics, 2008, 43, 521-526.	1.4	8
38	Invariant Manifold Detection From Phase Space Trajectories. , 2008, , .		0
39	Generalized Eigenvalue Decomposition in Time Domain Modal Parameter Identification. Journal of Vibration and Acoustics, Transactions of the ASME, 2008, 130, .	1.0	24
40	Reconstructing slow-time dynamics from fast-time measurements. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 729-745.	1.6	28
41	Tracking Physiological Fatigue in Prolonged Load Carriage Walking Using Phase Space Warping and Smooth Orthogonal Decomposition. , 2008, , .		2
42	Blind source separation based vibration mode identification. Mechanical Systems and Signal Processing, 2007, 21, 3072-3087.	4.4	144
43	A nonlinear approach to tracking slow-time-scale changes in movement kinematics. Journal of Biomechanics, 2007, 40, 1629-1634.	0.9	12
44	Slow-Time Changes in Human Muscle Fatigue Are Fully Represented in Movement Kinematics. , 2007, , .		2
45	Generalized Eigenvalue Decomposition in Time Domain Modal Parameter Identification. , 2006, , 761.		0
46	Phase space warping: nonlinear time-series analysis for slowly drifting systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 2495-2513.	1.6	40
47	Smooth orthogonal decomposition-based vibration mode identification. Journal of Sound and Vibration, 2006, 292, 461-473.	2.1	122
48	Multidimensional Damage Identification Based on Phase Space Warping: An Experimental Study. Nonlinear Dynamics, 2006, 46, 61-72.	2.7	22
49	Identifying damage using local flow variation method. Smart Materials and Structures, 2006, 15, 1830-1836.	1.8	8
50	Flow variance method for damage identification. , 2005, , .		0
51	Dynamical systems approach to fatigue damage identification. Journal of Sound and Vibration, 2005, 281, 887-904.	2.1	40
52	A Dynamical Systems Approach to Failure Prognosis. Journal of Vibration and Acoustics, Transactions of the ASME, 2004, 126, 2-8.	1.0	97
53	Identifying Multidimensional Damage in a Hierarchical Dynamical System. Nonlinear Dynamics, 2004, 37, 307-322.	2.7	26
54	Multidimensional Hidden Slow Variable Tracking in a Hierarchical Dynamical System. , 2003, , 1079.		1

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55	A Dynamical Systems Approach to Damage Evolution Tracking, Part 2: Model-Based Validation and Physical Interpretation. Journal of Vibration and Acoustics, Transactions of the ASME, 2002, 124, 258-264.	1.0	67
56	A Dynamical Systems Approach to Damage Evolution Tracking, Part 1: Description and Experimental Application. Journal of Vibration and Acoustics, Transactions of the ASME, 2002, 124, 250-257.	1.0	90
57	<title>Multimode damage tracking and failure prognosis in electromechanical systems</title>. , 2002, 4733, 1.		17
58	OPTIMAL TRACKING OF PARAMETER DRIFT IN A CHAOTIC SYSTEM: EXPERIMENT AND THEORY. Journal of Sound and Vibration, 2002, 250, 877-901.	2.1	38
59	<title>Procedure for tracking damage evolution and predicting remaining useful life with application to an electromechanical experiment system</title>. , 2001, , .		2