Muhammad Hajj

List of Publications by Year
in descending order

164	3,966	117453	143772
papers	citations	34 h-index	57 g-index

166	166	166	1872
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modeling and analysis of piezoaeroelastic energy harvesters. Nonlinear Dynamics, 2012, 67, 925-939.	2.7	168
2	Flight dynamics and control of flapping-wing MAVs: a review. Nonlinear Dynamics, 2012, 70, 907-939.	2.7	144
3	Global nonlinear distributed-parameter model of parametrically excited piezoelectric energy harvesters. Nonlinear Dynamics, 2012, 67, 1147-1160.	2.7	140
4	Modeling and nonlinear analysis of piezoelectric energy harvesting from transverse galloping. Smart Materials and Structures, 2013, 22, 025016.	1.8	132
5	State-space representation of the unsteady aerodynamics of flapping flight. Aerospace Science and Technology, 2014, 34, 1-11.	2.5	131
6	Power harvesting from transverse galloping of square cylinder. Nonlinear Dynamics, 2012, 70, 1355-1363.	2.7	121
7	Design and performance of variable-shaped piezoelectric energy harvesters. Journal of Intelligent Material Systems and Structures, 2014, 25, 174-186.	1.4	117
8	Performance analysis of galloping-based piezoaeroelastic energy harvesters with different cross-section geometries. Journal of Intelligent Material Systems and Structures, 2014, 25, 246-256.	1.4	114
9	Design of piezoaeroelastic energy harvesters. Nonlinear Dynamics, 2012, 68, 519-530.	2.7	105
10	Phenomena and modeling of piezoelectric energy harvesting from freely oscillating cylinders. Nonlinear Dynamics, 2012, 70, 1377-1388.	2.7	103
11	Bio-inspired bi-stable piezoelectric harvester for broadband vibration energy harvesting. Energy Conversion and Management, 2020, 222, 113174.	4.4	93
12	An analytical and experimental investigation into limit-cycle oscillations of an aeroelastic system. Nonlinear Dynamics, 2013, 71, 159-173.	2.7	89
13	Modeling of thermochemical energy storage by salt hydrates. International Journal of Heat and Mass Transfer, 2010, 53, 5700-5706.	2.5	81
14	Effects of nonlinear piezoelectric coupling on energy harvesters under direct excitation. Nonlinear Dynamics, 2012, 67, 1221-1232.	2.7	79
15	Enhancement of power harvesting from piezoaeroelastic systems. Nonlinear Dynamics, 2012, 68, 531-541.	2.7	74
16	Longitudinal Flight Dynamics of Hovering MAVs/Insects. Journal of Guidance, Control, and Dynamics, 2014, 37, 970-979.	1.6	69
17	Global optimization of actively morphing flapping wings. Journal of Fluids and Structures, 2012, 33, 210-228.	1.5	67
18	Broadband and high-efficient L-shaped piezoelectric energy harvester based on internal resonance. International Journal of Mechanical Sciences, 2019, 159, 287-305.	3.6	64

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19	The need for higher-order averaging in the stability analysis of hovering, flapping-wing flight. Bioinspiration and Biomimetics, 2015, 10, 016002.	1.5	63
20	Modeling, validation, and performance of low-frequency piezoelectric energy harvesters. Journal of Intelligent Material Systems and Structures, 2014, 25, 1429-1444.	1.4	60
21	Experimental analysis of energy harvesting from self-induced flutter of a composite beam. Applied Physics Letters, 2015, 107, .	1.5	60
22	Piezoelectric energy harvesting from hybrid vibrations. Smart Materials and Structures, 2014, 23, 025026.	1.8	57
23	Electromechanical decoupled model for cantilever-beam piezoelectric energy harvesters. Applied Physics Letters, 2016, 109, .	1.5	57
24	Effectiveness of a nonlinear energy sink in the control of an aeroelastic system. Nonlinear Dynamics, 2016, 86, 2161-2177.	2.7	54
25	Sensitivity analysis of piezoaeroelastic energy harvesters. Journal of Intelligent Material Systems and Structures, 2012, 23, 1523-1531.	1.4	52
26	Effect of the aerodynamic-induced parametric excitation on the longitudinal stability of hovering MAVs/insects. Nonlinear Dynamics, 2014, 78, 2399-2408.	2.7	49
27	Wing Kinematics Optimization for Hovering Micro Air Vehicles Using Calculus of Variation. Journal of Aircraft, 2013, 50, 610-614.	1.7	47
28	Geometrically-exact unsteady model for airfoils undergoing large amplitude maneuvers. Aerospace Science and Technology, 2014, 39, 293-306.	2.5	45
29	Broadband bimorph piezoelectric energy harvesting by exploiting bending-torsion of L-shaped structure. Energy Conversion and Management, 2020, 206, 112503.	4.4	44
30	Nonlinear analysis and enhancement of wing-based piezoaeroelastic energy harvesters. Journal of Sound and Vibration, 2014, 333, 166-177.	2.1	43
31	Passive control of transonic flutter with a nonlinear energy sink. Nonlinear Dynamics, 2018, 91, 577-590.	2.7	43
32	Energy harvesting from an autoparametric vibration absorber. Smart Materials and Structures, 2015, 24, 115012.	1.8	42
33	Experimental investigation and performance modeling of centimeter-scale micro-wind turbine energy harvesters. Journal of Wind Engineering and Industrial Aerodynamics, 2015, 147, 58-65.	1.7	38
34	Uncertainty analysis near bifurcation of an aeroelastic system. Journal of Sound and Vibration, 2010, 329, 3335-3347.	2.1	36
35	Bifurcation analysis of an aeroelastic system with concentrated nonlinearities. Nonlinear Dynamics, 2012, 69, 57-70.	2.7	36
36	Theoretically estimated peak wind loads. Journal of Wind Engineering and Industrial Aerodynamics, 2007, 95, 113-132.	1.7	34

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37	Acoustic holograms in contactless ultrasonic power transfer systems: Modeling and experiment. Journal of Applied Physics, 2018, 124, .	1.1	34
38	Incident flow effects on the performance of piezoelectric energy harvesters from galloping vibrations. Theoretical and Applied Mechanics Letters, 2014, 4, 022002.	1.3	33
39	Nonlinear performances of an autoparametric vibration-based piezoelastic energy harvester. Journal of Intelligent Material Systems and Structures, 2017, 28, 254-271.	1.4	33
40	Piezoelectric energy harvesting using L-shaped structures. Journal of Intelligent Material Systems and Structures, 2018, 29, 1206-1215.	1.4	33
41	Geometric Control Approach to Longitudinal Stability of Flapping Flight. Journal of Guidance, Control, and Dynamics, 2016, 39, 214-226.	1.6	32
42	Performance enhancement of wing-based piezoaeroelastic energy harvesting through freeplay nonlinearity. Theoretical and Applied Mechanics Letters, 2013, 3, 041001.	1.3	31
43	Ultra-broadband piezoelectric energy harvesting via bistable multi-hardening and multi-softening. Nonlinear Dynamics, 2020, 100, 1057-1077.	2.7	30
44	A Model for the Coupled Lift and Drag on a Circular Cylinder. , 2003, , 1289.		29
45	Review of robot-based damage assessment for offshore wind turbines. Renewable and Sustainable Energy Reviews, 2022, 158, 112187.	8.2	29
46	Temperature impact on the performance of galloping-based piezoaeroelastic energy harvesters. Smart Materials and Structures, 2013, 22, 055026.	1.8	28
47	A multi-frequency piezoelectric vibration energy harvester with liquid filled container as the proof mass. Applied Physics Letters, 2019, 114, .	1.5	28
48	Thermal energy storage in porous materials with adsorption and desorption of moisture. International Journal of Heat and Mass Transfer, 2014, 69, 285-292.	2.5	27
49	Effects of combined hardening and free-play nonlinearities on the response of a typical aeroelastic section. Aerospace Science and Technology, 2016, 50, 44-54.	2.5	25
50	Energy harvesting from iced-conductor inspired wake galloping. Extreme Mechanics Letters, 2020, 35, 100633.	2.0	25
51	Effects of aerodynamic modeling on the optimal wing kinematics for hovering MAVs. Aerospace Science and Technology, 2015, 45, 39-49.	2.5	24
52	Release of stored thermochemical energy from dehydrated salts. International Journal of Heat and Mass Transfer, 2011, 54, 4856-4863.	2.5	23
53	Nonlinear Flutter Aspects of the Flexible HIgh-Speed Civil Transport Semispan Model. Journal of Aircraft, 2004, 41, 1202-1208.	1.7	22
54	Extreme value distributions for peak pressure and load coefficients. Journal of Wind Engineering and Industrial Aerodynamics, 2008, 96, 1111-1123.	1.7	22

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55	Aeroelastic analysis and nonlinear dynamics of an elastically mounted wing. Journal of Sound and Vibration, 2012, 331, 5774-5787.	2.1	22
56	Optimal transition of flapping wing micro-air vehicles from hovering to forward flight. Aerospace Science and Technology, 2019, 90, 246-263.	2.5	22
57	Reflection and Transmission of Waves over Submerged Breakwaters. Journal of Engineering Mechanics - ASCE, 2001, 127, 99-105.	1.6	21
58	Performance of hemi-cylindrical and rectangular submerged breakwaters. Ocean Engineering, 2003, 30, 813-828.	1.9	21
59	Normal form representation of the aeroelastic response of the Goland wing. Nonlinear Dynamics, 2012, 67, 1847-1861.	2.7	21
60	Design Optimization of Flapping Ornithopters: The Pterosaur Replica in Forward Flight. Journal of Aircraft, 2016, 53, 48-59.	1.7	21
61	Pressures on a surface-mounted rectangular prism under varying incident turbulence. Journal of Wind Engineering and Industrial Aerodynamics, 2003, 91, 1095-1115.	1.7	20
62	Bio-inspired bistable piezoelectric energy harvester for powering animal telemetry tags: Conceptual design and preliminary experimental validation. Renewable Energy, 2022, 187, 34-43.	4.3	20
63	Unsteady Nonlinear Aerodynamics of Hovering MAVs/Insects. , 2013, , .		19
64	Dynamics of acoustic impedance matching layers in contactless ultrasonic power transfer systems. Smart Materials and Structures, 2020, 29, 035037.	1.8	16
65	Nonlinear dynamics of galloping-based piezoaeroelastic energy harvesters. European Physical Journal: Special Topics, 2013, 222, 1483-1501.	1.2	15
66	Aerodynamic-Dynamic Interaction and Longitudinal Stability of Hovering MAVs/Insects. , 2013, , .		15
67	Storage of energy harvested from a miniature turbine in a novel organic capacitor. Journal of Energy Storage, 2016, 6, 232-238.	3.9	15
68	Power extraction from stall-induced oscillations of an airfoil. Journal of Intelligent Material Systems and Structures, 2018, 29, 1407-1417.	1.4	15
69	Artificial intelligence for hurricane storm surge hazard assessment. Ocean Engineering, 2022, 245, 110435.	1.9	15
70	Peak Wind Load Comparison: Theoretical Estimates and ASCE 7. Journal of Structural Engineering, 2006, 132, 1150-1157.	1.7	14
71	Identification of nonlinear piezoelectric coefficients. Journal of Applied Physics, 2018, 124, 065112.	1.1	13
72	Parameter sensitivity of cantilever beam with tip mass to parametric excitation. Nonlinear Dynamics, 2019, 95, 3375-3384.	2.7	13

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73	Saturation-based actuation for flapping MAVs in hovering and forward flight. Nonlinear Dynamics, 2013, 73, 1125-1138.	2.7	12
74	A low-dimensional tool for predicting force decomposition coefficients for varying inflow conditions. Progress in Computational Fluid Dynamics, 2013, 13, 368.	0.1	12
75	Airfoil control surface discontinuous nonlinearity experimental assessment and numerical model validation. JVC/Journal of Vibration and Control, 2016, 22, 1633-1644.	1.5	12
76	A variational approach for the dynamics of unsteady point vortices. Aerospace Science and Technology, 2018, 78, 559-568.	2.5	12
77	Autonomous self-powered water meter. Applied Physics Letters, 2018, 113, .	1.5	12
78	Hybrid tail excitation for robotic fish: Modeling and performance analysis. Ocean Engineering, 2021, 234, 109296.	1.9	12
79	Higher-Order Spectral Analysis of a Nonlinear Pitch and Plunge Apparatus. , 2005, , .		11
80	Wavelet analysis of the relation between atmospheric wind and pressure fluctuations on a low-rise building. Journal of Wind Engineering and Industrial Aerodynamics, 1997, 69-71, 647-655.	1.7	10
81	A time-resolved DPIV study of the unsteady character of the flow over a surface-mounted prism. Journal of Wind Engineering and Industrial Aerodynamics, 2002, 90, 543-553.	1.7	10
82	Analysis Tools for the Detection of Intermittent Nonlinear Aeroelastic Phenomena. Journal of Aircraft, 2006, 43, 1082-1088.	1.7	10
83	Higher-Order Spectral Analysis of Limit Cycle Oscillations of Fighter Aircraft. Journal of Aircraft, 2008, 45, 1917-1923.	1.7	10
84	Lift and Drag of Flapping Membrane Wings at High Angles of Attack. , 2016, , .		10
85	On the onset of bifurcation and nonlinear characterization of vortex-induced vibrations under varying initial conditions. Nonlinear Dynamics, 2020, 99, 575-592.	2.7	10
86	Wind tunnel simulation of time variations of turbulence and effects on pressure on surface-mounted prisms. Journal of Wind Engineering and Industrial Aerodynamics, 2000, 88, 197-212.	1.7	9
87	Hydrodynamic modeling and performance analysis of bio-inspired swimming. Ocean Engineering, 2020, 197, 106897.	1.9	9
88	In memory of Professor Ali H. Nayfeh. Nonlinear Dynamics, 2020, 99, 1-9.	2.7	9
89	Role of wing morphing in thrust generation. Theoretical and Applied Mechanics Letters, 2014, 4, 032003.	1.3	8
90	Experimental-Based Unified Unsteady Nonlinear Aerodynamic Modeling For Two-Dimensional Airfoils. , 2015, , .		8

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91	Nonlinear effects in high-intensity focused ultrasound power transfer systems. Applied Physics Letters, 2020, 117, .	1.5	8
92	Spatial Variation in Sensitivity of Hurricane Surge Characteristics to Hurricane Parameters. Journal of Engineering Mechanics - ASCE, 2021, 147, .	1.6	8
93	Intermittency of Energy-Containing Scales in Atmospheric Surface Layer. Journal of Engineering Mechanics - ASCE, 1999, 125, 797-803.	1.6	7
94	Deterministic Global Optimization of Flapping Wing Motion for Micro Air Vehicles. , 2010, , .		7
95	Quantification of ejecta from shock loaded metal surfaces. AIP Conference Proceedings, 2012, , .	0.3	7
96	Phenomenological model of piezoelectric energy harvesting from galloping oscillations. Applied Physics Letters, 2019, 115, .	1.5	7
97	Response variations of a cantilever beamâ€“tip mass system with nonlinear and linearized boundary conditions. JVC/Journal of Vibration and Control, 2019, 25, 485-496.	1.5	7
98	Modeling and identification of electro-elastic nonlinearities in ultrasonic power transfer systems. Nonlinear Dynamics, 2020, 99, 249-268.	2.7	7
99	Performance analysis of bio-inspired transformable robotic fish tail. Ocean Engineering, 2022, 244, 110406.	1.9	7
100	Flutter of High-Speed Civil Transport Flexible Semispan Model: Time Frequency Analysis. Journal of Aircraft, 2006, 43, 743-748.	1.7	6
101	Interrogative Testing for Nonlinear Identification of Aeroelastic Systems. AIAA Journal, 2008, 46, 2657-2658.	1.5	6
102	Piezoelectric energy harvesting from flexible delta wings. Theoretical and Applied Mechanics Letters, 2018, 8, 267-271.	1.3	6
103	Acoustic-electroelastic interactions in ultrasound energy transfer systems: Reduced-order modeling and experiment. Journal of Sound and Vibration, 2020, 475, 115255.	2.1	6
104	Passive metamaterial-based acoustic holograms in ultrasound energy transfer systems. , 2018, , .		6
105	Stability characteristics of a periodically unsteady mixing layer. Physics of Fluids, 1997, 9, 392-398.	1.6	5
106	Multi-physics modelling and sensitivity analysis of olympic rowing boat dynamics. Sports Engineering, 2011, 14, 85-94.	0.5	5
107	Integrated Piezoelectric Energy Harvesting and Organic Storage System. Energy Harvesting and Systems, 2016, 3, 113-119.	1.7	5
108	Characterization of CdS and AgPt nanofillers used in organic capacitors. Synthetic Metals, 2017, 223, 26-33.	2.1	5

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109	A computational study of vortex shedding from a NACA-0012 airfoil at high angles of attack. International Journal of Aerodynamics, 2018, 6, 1.	0.1	5
110	Holographic mirrors for spatial ultrasound modulation in contactless acoustic energy transfer systems. Applied Physics Letters, 2021, 119, .	1.5	5
111	Analysis and prediction of shock formation in acoustic energy transfer systems. Journal of Applied Physics, 2020, 128, 234902.	1.1	5
112	Characterization of turbulence scales in the atmospheric surface layer with the continuous wavelet transform. Journal of Wind Engineering and Industrial Aerodynamics, 1997, 69-71, 709-716.	1.7	4
113	Velocityâ€“pressure correlation in stagnation and separation regions on surface-mounted prisms. Journal of Wind Engineering and Industrial Aerodynamics, 1998, 77-78, 567-578.	1.7	4
114	Characterization of the LCO Response Behaviors of the NATA model. , 2006, , .		4
115	Low-Frequency Variations of Force Coefficients on Square Cylinders with Sharp and Rounded Corners. Journal of Structural Engineering, 2009, 135, 828-835.	1.7	4
116	Experimnetal Investigations of the Lift Frequency Response at High Angels of Attack. , 2015, , .		4
117	Single-degree-of-freedom model of displacement in vortex-induced vibrations. Nonlinear Dynamics, 2021, 103, 1305-1320.	2.7	4
118	Lift enhancement by a flapped trailing edge at low Reynolds number: A frequency response approach. Journal of Fluids and Structures, 2022, 110, 103518.	1.5	4
119	Investigation on the Effectiveness of a Nonlinear Energy Sink on an Aeroelastic System. , 2014, , .		3
120	Calculus of Variations Approach for Optimum Maneuverability of Flapping Micro-Air-Vehicles Near Hover. Journal of Guidance, Control, and Dynamics, 2014, 37, 1367-1373.	1.6	3
121	Flow Control of Extreme Pressure Loads Associated with Flow Separation. Journal of Engineering Mechanics - ASCE, 2016, 142, 04015068.	1.6	3
122	PIV Measurements of a plunging Airfoil at High Angles of Attack. , 2016, , .		3
123	Stable, Planar Self Propulsion Using a Hinged Flap. IFAC-PapersOnLine, 2018, 51, 395-399.	0.5	3
124	Uncertainty Quantification of Piezoelectric Energy Harvesters from Aeroelastic Vibrations. MATEC Web of Conferences, 2012, 1, 03007.	0.1	2
125	Power Generation from Galloping-based Piezoaeroelastic Energy Harvesters for Different Cross-Section Geometries. , 2013, , .		2
126	Nonlinear Dynamics Characterization of Piezoelectric Energy Harvesters from Hybrid Vibrations. , 2014, , .		2

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127	Shape and Kinematic Design Optimization of the Pterosaur replica. , 2014, , .		2
128	A novel imaging technique for measuring kinematics of light-weight flexible structures. Review of Scientific Instruments, 2016, 87, 075108.	0.6	2
129	Use of thermoelectric generator for water flow metering. Applied Physics Letters, 2016, 109, 033903.	1.5	2
130	Nonlinear Passive Control Strategies for Suppression of Transonic Flutter. , 2016, , .		2
131	Effect of embedding ZnO nanorods on nonlinear response of composite beams. Nonlinear Dynamics, 2017, 90, 1179-1189.	2.7	2
132	Integrated Thermoelectric Energy Generator and Organic Storage Device. Energy Harvesting and Systems, 2018, 5, 73-79.	1.7	2
133	Analysis Tools for the Detection of Intermittent Nonlinear Aeroelastic Phenomena. , 2005, , .		1
134	Nonlinear Response Characteristics of the Flexible HSCT Semispan Model Over Different Flight Regimes. , 2008, , .		1
135	Thermochemical Energy Storage Using Salt Hydrates. , 2010, , .		1
136	Parameter sensitivities to damage progression. Structural Control and Health Monitoring, 2011, 18, 481-491.	1.9	1
137	Optimization of Wing Kinematics for Hovering MAVs Using Calculus of Variation. , 2012, , .		1
138	Piezoelectric energy harvesting from an oscillating wing. , 2012, , .		1
139	A geometric control approach for optimum maneuverability of flapping wing MAVs near hover. , 2013, , .		1
140	Wirelessly controlled harvester/sensor of air speed. Multiscale and Multidisciplinary Modeling, Experiments and Design, 2018, 1, 97-101.	0.9	1
141	A Modular Biolocomotion Emulator for Hydrodynamic Testing in a Towing Tank. , 2018, , .		1
142	A Variational Approach for the Dynamics of Unsteady Point Vortices with Application to Impulsively Started Aerofoil. , 2018, , .		1
143	Material and geometric effects on propulsion of a fish tail. Bioinspiration and Biomimetics, 2021, 16, 066008.	1.5	1
144	Spatial Coherence in the Wake of a Flat Plate. Applied Mechanics Reviews, 1997, 50, S36-S38.	4.5	0

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145	Estimation of response amplitude operators for ships via the circular-hyperbolic decomposition. , 2000, , .		0
146	Nonlinear X-DIA Wing Response to the Oscillations of a Control Surface. , 2007, , .		0
147	Damage detection in structures through nonlinear excitation and system identification. , 2008, , .		0
148	Hydrodynamic Stability of a Periodically Unsteady Swirling Jet. Journal of Engineering Mechanics - ASCE, 2009, 135, 1000-1005.	1.6	0
149	Sensitivity Analysis of Extreme Pressure Loads to Inflow Disturbance Parameters. , 2012, , .		0
150	Experimental Identification of Concentrated Nonlinearity in Aeroelastic System. MATEC Web of Conferences, 2012, 1, 03001.	0.1	0
151	Camber Effects on the Power Harvesting from Piezoaeroelastic Systems. MATEC Web of Conferences, 2012, 1, 03008.	0.1	0
152	Exploitation of the Saturation Phenomenon for Actuation of a Flapping MAV in Hovering and Forward Flight. , 2013, , .		0
153	Unsteady Aeroelastic Response of Rigid Airfoils with Nonzero Angles of Attack. , 2013, , .		0
154	Nonlinear analysis of piezoelectric energy harvesters from ambient and galloping vibrations. , 2013, , .		0
155	Eff[|#27#|]ect of the Parametric Excitation on the Longitudinal Stability of Hovering MAVs/Insects. , 2014, , .		0
156	Nonlinear Modeling and Analysis of Wind Turbine Blades. , 2014, , .		0
157	Effect of Aerodynamic Modeling on Optimum Wing Kinematics for Hovering MAVs. , 2014, , .		0
158	Control of Extreme Loads on Structures Using Membrane Vibrations. Journal of Engineering Mechanics - ASCE, 2015, 141, .	1.6	0
159	A Combined Geometric-Control-Averaging to Optimum Trim of Hovering FWMAVs and Insects. , 2016, , .		0
160	Effects of Flexible Propulsors on Hydrodynamic Forces. IFAC-PapersOnLine, 2019, 52, 14-20.	0.5	0
161	Hydrodynamic Performance of a Modular Biolocomotion Emulator. IFAC-PapersOnLine, 2019, 52, 1-7.	0.5	0
162	Modeling and identification of nonlinear piezoelectric material properties for energy harvesting. , 2021, , 147-185.		0

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163	Parameter Sensitivities to Damage Progression in Structures. , 2009, , .		0
164	Preface to the special issue NODYCON 2021, Second International Nonlinear Dynamics Conference, Feb. 16â€“19, 2021. Nonlinear Dynamics, 2022, 107, 1413-1415.	2.7	0