Shuaishuai Sun

List of Publications by Year
in descending order

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120 papers	3,210 citations	147566 31 h-index	189595 50 g-index
121 all docs	121 docs citations	121 times ranked	2167 citing authors

#	Article	IF	Citations
1	Innovative variable stiffness and variable damping magnetorheological actuation system for robotic arm positioning. Journal of Intelligent Material Systems and Structures, 2023, 34, 123-137.	1.4	8
2	Smart Refreshable Braille Display Device Based on Magnetoâ€Resistive Composite with Triple Shape Memory. Advanced Materials Technologies, 2022, 7, 2100777.	3.0	14
3	Numerical Study of Rotary Magnetorheological Seat Suspension on the Impact Protection. Lecture Notes in Electrical Engineering, 2022, , 1003-1017.	0.3	6
4	Development and Experimental Study of an MRF Engine Mount with Controllable Stiffness. Lecture Notes in Electrical Engineering, 2022, , 1018-1030.	0.3	0
5	Variable Admittance Network with Indirect Energy Supply for Semiactive Vibration Control. Lecture Notes in Electrical Engineering, 2022, , 987-1002.	0.3	0
6	Design, Fabrication, and Testing of a Novel Ferrofluid Soft Capsule Robot. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1403-1413.	3.7	9
7	A hybrid MRE isolation system integrated with ball-screw inerter for vibration control. Smart Materials and Structures, 2022, 31, 025009.	1.8	3
8	Investigation of a new metamaterial magnetorheological elastomer isolator with tunable vibration bandgaps. Mechanical Systems and Signal Processing, 2022, 170, 108806.	4.4	29
9	Real-time adaptive leg-stiffness for roll compensation via magnetorheological control in a legged robot. Smart Materials and Structures, 2022, 31, 045003.	1.8	6
10	Development of a magnetorheological elastomer rubber joint with fail-safe characteristics for high-speed trains. Smart Materials and Structures, 2022, 31, 045008.	1.8	2
11	Investigation of a seat suspension installed with compact variable stiffness and damping rotary magnetorheological dampers. Mechanical Systems and Signal Processing, 2022, 171, 108802.	4.4	24
12	Investigation of a novel MRE metamaterial sandwich beam with real-time tunable band gap characteristics. Journal of Sound and Vibration, 2022, 527, 116870.	2.1	20
13	A semi-active suspension using a magnetorheological damper with nonlinear negative-stiffness component. Mechanical Systems and Signal Processing, 2021, 147, 107071.	4.4	95
14	Event-triggered <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si10.svg"><mml:mrow><mml:msub><mml:mrow><mml:mi>H</mml:mi></mml:mrow><mml:mrow><mml:mi>â^ž</mml:mi></mml:mrow></mml:msub></mml:mrow></mml:math> control for active seat suspension systems based on relaxed conditions for stability. Mechanical Systems and Signal Processing, 2021, 149, 107210.	4.4	26
15	Modelling and experimental evaluation of a variable stiffness MR suspension with self-powering capability. Journal of Intelligent Material Systems and Structures, 2021, 32, 1473-1483.	1.4	2
16	A smart passive MR damper with a hybrid powering system for impact mitigation: An experimental study. Journal of Intelligent Material Systems and Structures, 2021, 32, 1452-1461.	1.4	5
17	Precise locomotion controller design for a novel magnetorheological fluid robot based on improved gray wolf optimization algorithm. Smart Materials and Structures, 2021, 30, 025038.	1.8	8
18	Experimental Study of a Variable Stiffness Seat Suspension Installed With a Compact Rotary MR Damper. Frontiers in Materials, 2021, 8, .	1.2	11

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19	A magnetorheological fluid based planetary gear transmission for mechanical power-flow control. Smart Materials and Structures, 2021, 30, 045013.	1.8	3
20	Georeferencing kinematic modeling and error correction of terrestrial laser scanner for 3D scene reconstruction. Automation in Construction, 2021, 126, 103673.	4.8	2
21	A novel magneto-rheological fluid dual-clutch design for two-speed transmission of electric vehicles. Smart Materials and Structures, 2021, 30, 075035.	1.8	5
22	A bionic soft tongue driven by shape memory alloy and pneumatics. Bioinspiration and Biomimetics, 2021, 16, .	1.5	9
23	Liquid Metal Hybrid Composites with High-Sensitivity and Large Dynamic Range Enabled by Micro- and Macrostructure Engineering. ACS Applied Polymer Materials, 2021, 3, 5302-5315.	2.0	22
24	Design a Novel Target to Improve Positioning Accuracy of Autonomous Vehicular Navigation System in GPS Denied Environments. IEEE Transactions on Industrial Informatics, 2021, 17, 7575-7588.	7.2	23
25	Building Vibration Suppression Through a Magnetorheological Variable Resonance Pendulum Tuned Mass Damper. , 2021, , 281-287.		1
26	An Electromagnetic Variable Stiffness Device for Semiactive Seat Suspension Vibration Control. IEEE Transactions on Industrial Electronics, 2020, 67, 6773-6784.	5.2	29
27	Development and evaluation of a versatile semi-active suspension system for high-speed railway vehicles. Mechanical Systems and Signal Processing, 2020, 135, 106338.	4.4	49
28	Using Weighted Total Least Squares and 3-D Conformal Coordinate Transformation to Improve the Accuracy of Mobile Laser Scanning. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 203-217.	2.7	9
29	Development of a variable stiffness magnetorheological damper with self-powered generation capability. Journal of Intelligent Material Systems and Structures, 2020, 31, 209-219.	1.4	12
30	A magnetorheological elastomer rail damper for wideband attenuation of rail noise and vibration. Journal of Intelligent Material Systems and Structures, 2020, 31, 220-228.	1.4	16
31	A single-shot pose estimation approach for a 2D laser rangefinder. Measurement Science and Technology, 2020, 31, 025105.	1.4	3
32	Comparison of dynamic models based on backbone curve for rotary magneto-rheological damper. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2020, 234, 2732-2740.	1.1	3
33	Development of a smart rubber joint for train using shear thickening fluids. Smart Materials and Structures, 2020, 29, 055036.	1.8	6
34	The variable resonance magnetorheological pendulum tuned mass damper: Mathematical modelling and seismic experimental studies. Journal of Intelligent Material Systems and Structures, 2020, 31, 263-276.	1.4	10
35	A Magnetorheological Fluid-Filled Soft Crawling Robot With Magnetic Actuation. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2700-2710.	3.7	39
36	Design and experimental evaluation of a new modular underactuated multi-fingered robot hand. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2020, 234, 3709-3724.	1.1	6

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37	Development of a biomimetic scallop robot capable of jet propulsion. Bioinspiration and Biomimetics, 2020, 15, 036008.	1.5	11
38	Controllable magnetorheological fluid damper-based seat suspension. , 2020, , 37-56.		3
39	Self-powered MR seat suspension. , 2020, , 57-77.		0
40	Variable equivalent inertance seat suspension. , 2020, , 121-167.		0
41	Single-DOF active seat suspension. , 2020, , 171-179.		0
42	Multiple-DOF active seat suspension. , 2020, , 181-208.		0
43	Theoretical and experimental investigation of a stiffness-controllable suspension for railway vehicles to avoid resonance. International Journal of Mechanical Sciences, 2020, 187, 105901.	3.6	23
44	Liquid Metal Composites with Anisotropic and Unconventional Piezoconductivity. Matter, 2020, 3, 824-841.	5.0	77
45	Variable equivalent stiffness seat suspension. , 2020, , 79-119.		0
46	Active seat suspension control algorithm. , 2020, , 209-242.		1
47	Hybrid active and semi-active seat suspension. , 2020, , 245-265.		0
48	A new AI-surrogate model for dynamics analysis of a magnetorheological damper in the semi-active seat suspension. Smart Materials and Structures, 2020, 29, 037001.	1.8	17
49	Microscopic characteristics of magnetorheological fluids subjected to magnetic fields. Journal of Magnetism and Magnetic Materials, 2020, 501, 166443.	1.0	40
50	Controllable Electrically Interconnected Suspension System for Improving Vehicle Vibration Performance. IEEE/ASME Transactions on Mechatronics, 2020, 25, 859-871.	3.7	30
51	Compensation of Geometric Parameter Errors for Terrestrial Laser Scanner by Integrating Intensity Correction. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 7483-7495.	2.7	2
52	Integration of an omnidirectional self-powering component to an MRE isolator towards a smart passive isolation system. Mechanical Systems and Signal Processing, 2020, 144, 106853.	4.4	13
53	A novel negative stiffness magnetic spring design for vehicle seat suspension system. Mechatronics, 2020, 68, 102370.	2.0	27
54	Vibration suppression of tunnel boring machines using non-resonance approach. Mechanical Systems and Signal Processing, 2020, 145, 106969.	4.4	17

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55	A controllable mechanical motion rectifier-based semi-active magnetorheological inerter for vibration control. Smart Materials and Structures, 2020, 29, 114005.	1.8	13
56	Development and damping properties of a seismic linear motion damper with MR fluid porous composite rotary brake. Smart Materials and Structures, 2020, 29, 115043.	1.8	9
57	Singular System-Based Approach for Active Vibration Control of Vehicle Seat Suspension. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2020, 142, .	0.9	5
58	Mode coupling chatter suppression for robotic machining using semi-active magnetorheological elastomers absorber. Mechanical Systems and Signal Processing, 2019, 117, 221-237.	4.4	82
59	A variable resonance magnetorheological-fluid-based pendulum tuned mass damper for seismic vibration suppression. Mechanical Systems and Signal Processing, 2019, 116, 530-544.	4.4	60
60	Improving Positioning Accuracy of the Mobile Laser Scanning in GPS-Denied Environments: An Experimental Case Study. IEEE Sensors Journal, 2019, 19, 10753-10763.	2.4	17
61	Design and testing of a novel two-way controllable overrunning clutch based magneto-rheological brake. Smart Materials and Structures, 2019, 28, 095013.	1.8	4
62	An electromagnetic variable inertance device for seat suspension vibration control. Mechanical Systems and Signal Processing, 2019, 133, 106259.	4.4	49
63	Development and evaluation of a highly adaptive MRF-based absorber with a large effective frequency range. Smart Materials and Structures, 2019, 28, 105003.	1.8	10
64	A Novel Electrical Variable Stiffness Device for Vehicle Seat Suspension Control With Mismatched Disturbance Compensation. IEEE/ASME Transactions on Mechatronics, 2019, 24, 2019-2030.	3.7	23
65	Vibration control of a tunnel boring machine using adaptive magnetorheological damper. Smart Materials and Structures, 2019, 28, 115012.	1.8	13
66	Numerical and experimental studies on a new variable stiffness and damping magnetorheological fluid damper. Journal of Intelligent Material Systems and Structures, 2019, 30, 1639-1652.	1.4	23
67	A rotary variable admittance device and its application in vehicle seat suspension vibration control. Journal of the Franklin Institute, 2019, 356, 7873-7895.	1.9	28
68	Liquid metal-filled magnetorheological elastomer with positive piezoconductivity. Nature Communications, 2019, 10, 1300.	5.8	267
69	Experimental testing and modelling of a rotary variable stiffness and damping shock absorber using magnetorheological technology. Journal of Intelligent Material Systems and Structures, 2019, 30, 1453-1465.	1.4	23
70	A highly stiffness-adjustable robot leg for enhancing locomotive performance. Mechanical Systems and Signal Processing, 2019, 126, 458-468.	4.4	25
71	A New Generation of Magnetorheological Vehicle Suspension System With Tunable Stiffness and Damping Characteristics. IEEE Transactions on Industrial Informatics, 2019, 15, 4696-4708.	7.2	47
72	Soft magneto-sensitive elastomer and polyvinylidene fluoride polymer based nonlinear piezoelectric energy harvesting: design, modelling and experiment. Smart Materials and Structures, 2019, 28, 015031.	1.8	14

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73	Development of magnetorheological elastomersâ€“based tuned mass damper for building protection from seismic events. Journal of Intelligent Material Systems and Structures, 2018, 29, 1777-1789.	1.4	37
74	Experimental Nonlinear Model Identification of a Highly Nonlinear Resonator. Journal of Vibration and Acoustics, Transactions of the ASME, 2018, 140, .	1.0	2
75	Versatile Microfluidic Platforms Enabled by Novel Magnetorheological Elastomer Microactuators. Advanced Functional Materials, 2018, 28, 1705484.	7.8	71
76	Vibration control of an energy regenerative seat suspension with variable external resistance. Mechanical Systems and Signal Processing, 2018, 106, 94-113.	4.4	62
77	An Energy Saving Variable Damping Seat Suspension System With Regeneration Capability. IEEE Transactions on Industrial Electronics, 2018, 65, 8080-8091.	5.2	63
78	Overcoming the conflict requirement between high-speed stability and curving trafficability of the train using an innovative magnetorheological elastomer rubber joint. Journal of Intelligent Material Systems and Structures, 2018, 29, 214-222.	1.4	12
79	Development of a nonlinear adaptive absorber based on magnetorheological elastomer. Journal of Intelligent Material Systems and Structures, 2018, 29, 194-204.	1.4	20
80	Integrated active and semi-active control for seat suspension of a heavy duty vehicle. Journal of Intelligent Material Systems and Structures, 2018, 29, 91-100.	1.4	24
81	Design of a Bionic Scallop Robot Based on Jet Propulsion. , 2018, , .		4
82	Design and modeling analysis of a changeable stiffness robotic leg working with magnetorheological technology. Journal of Intelligent Material Systems and Structures, 2018, 29, 3725-3736.	1.4	7
83	Hysteretic Model of a Rotary Magnetorheological Damper in Helical Flow Mode. Communications in Computer and Information Science, 2018, , 15-24.	0.4	1
84	An Innovative Two-Layer Multiple-DOF Seat Suspension for Vehicle Whole Body Vibration Control. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1787-1799.	3.7	16
85	Broadband nonlinear behaviour of a soft magneto-sensitive elastomer cantilever under low-frequency and low-magnitude excitation. Journal of Intelligent Material Systems and Structures, 2018, 29, 3165-3184.	1.4	4
86	A Liquidâ€Metalâ€Based Magnetoactive Slurry for Stimuliâ€Responsive Mechanically Adaptive Electrodes. Advanced Materials, 2018, 30, e1802595.	11.1	106
87	A Review on Chatter in Robotic Machining Process Regarding Both Regenerative and Mode Coupling Mechanism. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2240-2251.	3.7	74
88	Control of a multiple-DOF vehicle seat suspension with roll and vertical vibration. Journal of Sound and Vibration, 2018, 435, 170-191.	2.1	34
89	Development and evaluation of an MRE-based absorber with two individually controllable natural frequencies. Smart Materials and Structures, 2018, 27, 095002.	1.8	10
90	Development of a self-sensing magnetorheological damper with magnets in-line coil mechanism. Sensors and Actuators A: Physical, 2017, 255, 71-78.	2.0	22

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91	Disturbance observer based Takagi-Sugeno fuzzy control for an active seat suspension. Mechanical Systems and Signal Processing, 2017, 93, 515-530.	4.4	94
92	Advanced vehicle suspension with variable stiffness and damping MR damper. , 2017, , .		12
93	Vibration reduction of seat suspension using observer based terminal sliding mode control with acceleration data fusion. Mechatronics, 2017, 44, 71-83.	2.0	42
94	Design of an enhanced wideband energy harvester using a parametrically excited array. Journal of Sound and Vibration, 2017, 410, 416-428.	2.1	22
95	Takagiâ€“Sugeno Fuzzy Control for Semi-Active Vehicle Suspension With a Magnetorheological Damper and Experimental Validation. IEEE/ASME Transactions on Mechatronics, 2017, 22, 291-300.	3.7	107
96	Semi-Active Chatter Reduction for Robotic Machining Using Magnetorheological Elastomers (MREs). , 2017, , .		5
97	Performance Analysis of a Magnetorheological Damper with Energy Harvesting Ability. Shock and Vibration, 2016, 2016, 1-10.	0.3	14
98	An innovative MRE absorber with double natural frequencies for wide frequency bandwidth vibration absorption. Smart Materials and Structures, 2016, 25, 055035.	1.8	19
99	Active control of an innovative seat suspension system with acceleration measurement based friction estimation. Journal of Sound and Vibration, 2016, 384, 28-44.	2.1	81
100	A highly adaptive magnetorheological fluid robotic leg for efficient terrestrial locomotion. Smart Materials and Structures, 2016, 25, 095019.	1.8	12
101	An active seat suspension design for vibration control of heavy-duty vehicles. Journal of Low Frequency Noise Vibration and Active Control, 2016, 35, 264-278.	1.3	75
102	Development and characterization of a multi-layer magnetorheological elastomer isolator based on a Halbach array. Smart Materials and Structures, 2016, 25, 105015.	1.8	19
103	A hybrid magnetorheological elastomer-fluid (MRE-F) isolation mount: development and experimental validation. Smart Materials and Structures, 2016, 25, 015026.	1.8	35
104	Development of a novel multi-layer MRE isolator for suppression of building vibrations under seismic events. Mechanical Systems and Signal Processing, 2016, 70-71, 811-820.	4.4	96
105	Development of a linear damper working with magnetorheological shear thickening fluids. Journal of Intelligent Material Systems and Structures, 2015, 26, 1811-1817.	1.4	34
106	Development of a novel variable stiffness and damping magnetorheological fluid damper. Smart Materials and Structures, 2015, 24, 085021.	1.8	53
107	An adaptive tuned vibration absorber based on multilayered MR elastomers. Smart Materials and Structures, 2015, 24, 045045.	1.8	64
108	Performance evaluation and comparison of magnetorheological elastomer absorbers working in shear and squeeze modes. Journal of Intelligent Material Systems and Structures, 2015, 26, 1757-1763.	1.4	40

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109	A Compact Variable Stiffness and Damping Shock Absorber for Vehicle Suspension. IEEE/ASME Transactions on Mechatronics, 2015, 20, 2621-2629.	3.7	77
110	Development of an MRE adaptive tuned vibration absorber with self-sensing capability. Smart Materials and Structures, 2015, 24, 095012.	1.8	23
111	Fabrication and Characterization of Magneto-Rheological Shear-Stiffened Elastomers. Frontiers in Materials, 2014, 1, .	1.2	2
112	Variable stiffness and damping suspension system for train. Proceedings of SPIE, 2014, , .	0.8	15
113	Variable stiffness and damping semi-active vibration control technology based on magnetorheological fluids. , 2013, , .		1
114	Experimental study and modeling of a novel magnetorheological elastomer isolator. Smart Materials and Structures, 2013, 22, 117001.	1.8	111
115	Improving the critical speeds of high-speed trains using magnetorheological technology. Smart Materials and Structures, 2013, 22, 115012.	1.8	35
116	A Novel MR Device with Variable Stiffness and Damping Capability. International Journal of Aerospace and Lightweight Structures (IJALS), 2013, 3, 325.	0.1	6
117	Dynamic characteristics modelling and adaptability research of the balise transmission module in high speed railways. WIT Transactions on the Built Environment, 2010, , .	0.0	5
118	Study on lateral dynamic characteristics of vehicle/turnout system. Vehicle System Dynamics, 2005, 43, 285-303.	2.2	44
119	Design and Analysis of a Novel Magnetorheological Fluid Dual Clutch for Electric Vehicle Transmission. , 0, , .		7
120	Development of a magnetorheological elastomer rubber joint with fail-safe characteristics for high-speed trains. Smart Materials and Structures, 0, , .	1.8	0