Semyung Wang

List of Publications by Year
in descending order

120 papers	1,852 citations	304602 22 h-index	330025 37 g-index
124 all docs	124 docs citations	124 times ranked	1415 citing authors

#	Article	IF	Citations
1	Derivation and Validation of Bandgap Equation Using Serpentine Resonator. Applied Sciences (Switzerland), 2022, 12, 3934.	1.3	0
2	Active structural acoustic control for radiated sound power reduction of enclosure with vent holes based on radiation modes. Journal of Mechanical Science and Technology, 2022, 36, 3313-3327.	0.7	1
3	Efficient topography optimization of a washing machine cabinet to reduce radiated noise during the dehydration process. Journal of Mechanical Science and Technology, 2021, 35, 973-978.	0.7	3
4	Optimizing a distribution of resonators on a thin plate for the desired sound radiation. Journal of Sound and Vibration, 2021, 496, 115926.	2.1	4
5	A Numerical and Experimental Study on an Interconnected Metamaterial for Flexural Vibration Control Based on Modal Strain Energy. Applied Sciences (Switzerland), 2021, 11, 4530.	1.3	2
6	A framework of flexible locally resonant metamaterials for attachment to curved structures. International Journal of Mechanical Sciences, 2021, 204, 106533.	3.6	8
7	Optimal Filter Design of a Virtual Mechanical Impedance Control System for Multifrequency Active Sound Power Reduction of Enclosure Panels. IEEE Access, 2021, 9, 104227-104241.	2.6	2
8	Investigation of flexural wave band gaps in a locally resonant metamaterial with plate-like resonators. Wave Motion, 2020, 93, 102492.	1.0	22
9	Development of a Personal Audio Performance Controller With Efficient, Fine, and Linear Tunable Functions. IEEE Access, 2020, 8, 123916-123928.	2.6	2
10	Effect of damping distribution on coupling in panel–cavity systems: Conditions for optimality through a modal approach. International Journal of Mechanical Sciences, 2020, 187, 105908.	3.6	4
11	Topology optimization of vibroacoustic problems using the hybrid finite element–wave based method. Computer Methods in Applied Mechanics and Engineering, 2020, 364, 112932.	3.4	6
12	Vibration localization prediction and optimal exciter placement for improving the sound field optimization performance of multi-channel distributed mode loudspeakers. Journal of Sound and Vibration, 2020, 481, 115424.	2.1	6
13	Topography optimization of an enclosure panel for low-frequency noise and vibration reduction using the equivalent radiated power approach. Materials and Design, 2019, 183, 108125.	3.3	15
14	On the formation of complex modes in non-proportionally damped systems. Journal of Sound and Vibration, 2019, 463, 114978.	2.1	3
15	Realisation of a locally resonant metamaterial on the automobile panel structure to reduce noise radiation. Mechanical Systems and Signal Processing, 2019, 122, 206-231.	4.4	80
16	Design optimization of a cellular-type noise insulation panel to improve transmission loss at low frequency. Journal of Sound and Vibration, 2019, 447, 105-119.	2.1	10
17	Multidisciplinary Analysis and Multiobjective Design Optimization of a Switched Reluctance Motor for Improving Sound Quality. IEEE Access, 2019, 7, 66020-66027.	2.6	5
18	Systematically engineered thermal metastructure for rapid heat dissipation/diffusion by considering the thermal eigenvalue. Applied Thermal Engineering, 2019, 157, 113487.	3.0	5

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19	Analysis of sound absorption performance of an electroacoustic absorber using a vented enclosure. Journal of Sound and Vibration, 2018, 417, 110-131.	2.1	2
20	Systematic realization of double-zero-index phononic crystals with hard inclusions. Scientific Reports, 2018, 8, 7288.	1.6	21
21	Vibro-Acoustic Noise Analysis of a Washing Machine. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 47-53.	0.3	4
22	Sound transmission analysis of plate structures using the finite element method and elementary radiator approach with radiator error index. Advances in Engineering Software, 2017, 112, 1-15.	1.8	15
23	Vibration Analysis of a Partially Connected Double-Beam System with the Transfer Matrix Method and Identification of the Slap Phenomenon in the System. International Journal of Applied Mechanics, 2017, 09, 1750093.	1.3	14
24	Topology optimization of bounded acoustic problems using the hybrid finite element-wave based method. Computer Methods in Applied Mechanics and Engineering, 2017, 313, 834-856.	3.4	11
25	Improved pillar shape for deterministic lateral displacement separation method to maintain separation efficiency over a long period of time. Separation and Purification Technology, 2017, 172, 258-267.	3.9	30
26	Numerical simulation of separation process for enhancing fine particle removal in tertiary sedimentation tank mounting adjustable baffle. Chemical Engineering Science, 2017, 158, 21-29.	1.9	20
27	Near perfect ultrasonic omnidirectional transducer using the optimal patterning of the zero-index acoustic metamaterials. Journal of Applied Physics, 2016, 120, 185103.	1.1	4
28	Topology optimization of thin plate structures with bending stress constraints. Computers and Structures, 2016, 175, 134-143.	2.4	20
29	Experimental study on variation of acoustical resonance frequency of duct with orifice depending on periodic motion. Applied Acoustics, 2016, 111, 96-104.	1.7	1
30	Topology optimization of a suction muffler in a fluid machine to maximize energy efficiency and minimize broadband noise. Journal of Sound and Vibration, 2016, 366, 27-43.	2.1	13
31	Topology Optimization of a Magnetic Resonator Using Finite-Difference Time-Domain Method for Wireless Energy Transfer. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	5
32	Hybrid coupling method to nonlinear acoustic source and linear duct system using parameter identification of the input impedance in fluid machinery. Journal of Sound and Vibration, 2016, 365, 102-118.	2.1	5
33	Identification of the direction and value of the wave length of each mode for a rotating tire using the phase difference method. Mechanical Systems and Signal Processing, 2016, 68-69, 292-301.	4.4	10
34	Experimental Modal Analysis of Rolled Multi Layer Cylindrical Shell. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 249-254.	0.3	1
35	A Geometric Compression Method Using Dominant Points for Transmission to LEO Satellites. International Journal of Aeronautical and Space Sciences, 2016, 17, 622-630.	1.0	1
36	Vibrational Properties of Sundatang Soundboard. Archives of Acoustics, 2015, 39, 177-187.	0.9	1

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37	Development procedure for a vibration transmission element using a reversed design optimization method. Journal of Sound and Vibration, 2015, 345, 72-85.	2.1	3
38	Reconstruction of the in-plane mode shape of a rotating tire with a continuous scanning measurement using the Hilbert–Huang transform. Review of Scientific Instruments, 2015, 86, 025108.	0.6	2
39	An efficient design sensitivity analysis using element energies for topology optimization of a frequency response problem. Computer Methods in Applied Mechanics and Engineering, 2015, 296, 196-210.	3.4	21
40	Development of Energy Efficiency Design Map based on acoustic resonance frequency of suction muffler in compressor. Applied Energy, 2015, 150, 233-244.	5.1	13
41	Efficient and stable model reduction scheme for the numerical simulation of broadband acoustic metamaterials. Computers and Mathematics With Applications, 2015, 69, 876-892.	1.4	5
42	A modified complex modal testing technique for a rotating tire with a flexible ring model. Mechanical Systems and Signal Processing, 2015, 60-61, 604-618.	4.4	10
43	Electroacoustic Absorber using Disturbance-observer-type Velocity Estimator. IEEE/ASME Transactions on Mechatronics, 2015, , 1-1.	3.7	2
44	Photovoltaic Detection of Hydrogen Peroxide over a Wide Range of Concentrations for Agricultural Applications. Journal of Chemical Engineering of Japan, 2015, 48, 575-583.	0.3	0
45	Novel Spacer Design Using Topology Optimization in a Reverse Osmosis Channel. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	4
46	Enhanced method to reconstruct mode shapes of continuous scanning measurements using the Hilbert Huang transform and the modal analysis method. Review of Scientific Instruments, 2014, 85, 095101.	0.6	5
47	DAMPING ANALYSIS WITH RESPECT TO ROLLING SPEED BY ANALYTIC SOLUTION OF A FLEXIBLE RING MODEL AND ITS FREQUENCY RESPONSE FUNCTION DERIVATION BY MODAL SUMMATION METHOD. International Journal of Applied Mechanics, 2014, 06, 1450054.	1.3	7
48	Topology optimization of the shear thinning non-Newtonian fluidic systems for minimizing wall shear stress. Computers and Mathematics With Applications, 2014, 67, 1154-1170.	1.4	26
49	Corrections to "3-D vibration measurement using a single laser scanning vibrometer by moving to three different locations" [Aug 14 2028-2033]. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 2504-2504.	2.4	3
50	3-D Vibration Measurement Using a Single Laser Scanning Vibrometer by Moving to Three Different Locations. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 2028-2033.	2.4	24
51	Generation of satellite tracking profile: Problems and validation algorithms. Advances in Space Research, 2014, 54, 1092-1107.	1.2	3
52	Analytic Formula Derivation for a Rolling Tire with a Ring Model. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 389-395.	0.3	0
53	Vibration Class at GIST, Korea. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 1-14.	0.3	0
54	Acoustical topology optimization of Zwicker's loudness with Padé approximation. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 40-66.	3.4	22

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55	Reliability-based topology optimization design of a linear piezoelectric micromotor using an optimum finite element method. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability, 2013, 227, 586-598.	0.6	2
56	Advanced total phosphorus removal approach: system design and combined sewer overflows (CSOs) sludge application. Desalination and Water Treatment, 2013, 51, 4072-4080.	1.0	0
57	Effects of amplitude modulation on vibrotactile flow displays on piezo-actuated thin touch screen. International Journal of Control, Automation and Systems, 2012, 10, 582-588.	1.6	9
58	Acoustical topology optimization for Zwickerâ€™s loudness model â€" Application to noise barriers. Computer Methods in Applied Mechanics and Engineering, 2012, 237-240, 130-151.	3.4	48
59	Topological Shape Optimization of Permanent Magnet in Voice Coil Motor Using Level Set Method. IEEE Transactions on Magnetics, 2012, 48, 931-934.	1.2	39
60	Multi-Domain Topology Optimization of Pulsed Magnetic Field Generator Sourced by Harmonic Current Excitation. IEEE Transactions on Magnetics, 2012, 48, 475-478.	1.2	7
61	Smooth Vibrotactile Flow Generation Using Two Piezoelectric Actuators. IEEE Transactions on Haptics, 2012, 5, 21-32.	1.8	22
62	Preliminary study for smoother vibrotactile flow generation on thin plates by using piezoelectric actuators. , 2011, , .		3
63	Comparison of negative and positive position feedback control of a flexible structure. Smart Materials and Structures, 2011, 20, 015011.	1.8	23
64	Maximization of the directivity ratio with the desired audible gain level for broadband design of near field loudspeaker arrays. Journal of Sound and Vibration, 2011, 330, 5517-5529.	2.1	12
65	Scaling the Operating Deflection Shapes Obtained from Scanning Laser Doppler Vibrometer. Journal of Nondestructive Evaluation, 2011, 30, 91-98.	1.1	14
66	Study of the Damping Mechanisms of Loose Spring Skirts on Vibrating Pipes. Experimental Mechanics, 2011, 51, 275-292.	1.1	1
67	Dynamic analysis and optimal design of a passive and an active piezo-electrical dynamic vibration absorber. Journal of Sound and Vibration, 2011, 330, 603-614.	2.1	43
68	Vibro-acoustic design sensitivity analysis using the wave-based method. Journal of Sound and Vibration, 2011, 330, 4340-4351.	2.1	21
69	Optimal and robust modal control of a flexible structure using an active dynamic vibration absorber. Smart Materials and Structures, 2011, 20, 045003.	1.8	22
70	Robust broadband vibration control of a flexible structure using an electrical dynamic absorber. Smart Materials and Structures, 2011, 20, 075002.	1.8	9
71	Topology Optimization of Spacers for Maximizing Permeate Flux on Membrane Surface in Reverse Osmosis Channel. , 2011, , .		0
72	Acoustic Topology Optimization of Noise Barrier by Considering Zwicker's Loudness. , 2010, , .		0

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73	Acoustical Design Optimization of Speaker System for Sound Focusing using Evolutionary Weighted Sum. , 2010, , .		0
74	Maximization of acoustic energy difference between two spaces. Journal of the Acoustical Society of America, 2010, 128, 121-131.	0.5	89
75	3-D Optimal Design of Induction Motor Used in High-Pressure Scroll Compressor. IEEE Transactions on Magnetics, 2009, 45, 2076-2084.	1.2	6
76	Level Set-Based Topology Optimization for Electromagnetic Systems. IEEE Transactions on Magnetics, 2009, 45, 1582-1585.	1.2	17
77	Mass loaded resonance of a single unit impact damper caused by impacts and the resulting kinetic energy influx. Journal of Sound and Vibration, 2009, 323, 877-895.	2.1	23
78	Noise reduction for compressors by modes control using topology optimization of eigenvalue. Journal of Sound and Vibration, 2008, 315, 836-848.	2.1	17
79	Topology Optimization for Compliance Reduction of Magnetomechanical Systems. IEEE Transactions on Magnetics, 2008, 44, 346-351.	1.2	9
80	Mode shape reconstruction of an impulse excited structure using continuous scanning laser Doppler vibrometer and empirical mode decomposition. Review of Scientific Instruments, 2008, 79, 075103.	0.6	6
81	Application of Reliability-Based Topology Optimization for Microelectromechanical Systems. AIAA Journal, 2007, 45, 2926-2934.	1.5	32
82	New feedback detection method for performance evaluation of hearing aids. Journal of Sound and Vibration, 2007, 302, 350-360.	2.1	6
83	Topology Optimization of Magnetothermal Systems Considering Eddy Current as Joule Heat. IEEE Transactions on Magnetics, 2007, 43, 1617-1620.	1.2	19
84	New Design Process for Reliability-Based Topology Optimization of a Laser Scanned Model. Mechanics Based Design of Structures and Machines, 2006, 34, 325-347.	3.4	2
85	Iron loss analysis of linear oscillating actuator for linear compressor. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 487-495.	0.5	5
86	3D topology optimization of magneto€thermal systems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 572-580.	0.5	3
87	Reliability-based topology optimization with uncertainties. Journal of Mechanical Science and Technology, 2006, 20, 494-504.	0.7	66
88	Application of Petri net in development of finite element analysis package for electromagnetic fields. IEEE Transactions on Magnetics, 2006, 42, 1255-1258.	1.2	4
89	Derivation of the Fixed-Points Theory with Some Numerical Simulations for Global Vibration Control of Structure with Closely Spaced Natural Frequencies#. Mechanics Based Design of Structures and Machines, 2006, 34, 49-68.	3.4	3
90	Reliability-Based Topology Optimization (RBTO). , 2006, , 493-504.		7

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91	Feature-based fuzzy control adaptive finite-element mesh generation for electromagnetic fields. IEEE Transactions on Magnetics, 2005, 41, 1688-1691.	1.2	1
92	Topology optimization of electromagnetic systems considering magnetization direction. IEEE Transactions on Magnetics, 2005, 41, 1808-1811.	1.2	49
93	Efficient Response Surface Modeling by Using Moving Least-Squares Method and Sensitivity. AIAA Journal, 2005, 43, 2404-2411.	1.5	96
94	High-speed FM demodulator of a homodyne laser interferometer for measuring mechanical vibration. Optical Engineering, 2004, 43, 1341.	0.5	7
95	Multi€domain topology optimization of electromagnetic systems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 1036-1044.	0.5	14
96	Topology Optimization of a Single-Phase Induction Motor for Rotary Compressor. IEEE Transactions on Magnetics, 2004, 40, 1591-1596.	1.2	29
97	Topology optimization for the radiation and scattering of sound from thin-body using genetic algorithms. Journal of Sound and Vibration, 2004, 276, 899-918.	2.1	31
98	Reliability€based topology optimization for electromagnetic systems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 715-723.	0.5	15
99	Shape design sensitivity analysis for the radiated noise from the thin-body. Journal of Sound and Vibration, 2003, 261, 895-910.	2.1	14
100	A Wiener filter approach to the binaural reproduction of stereo sound. Journal of the Acoustical Society of America, 2003, 114, 3179-3188.	0.5	10
101	Continuous scanning laser Doppler vibrometer for mode shape analysis. Optical Engineering, 2003, 42, 730.	0.5	26
102	Configuration Design Sensitivity Analysis for Dynamic Systems Using CAD-Based Velocity Field. AIAA Journal, 2002, 40, 1241-1244.	1.5	1
103	Reliability-Based Topology Optimization. , 2002, , .		42
104	Topology optimization of nonlinear magnetostatics. IEEE Transactions on Magnetics, 2002, 38, 1029-1032.	1.2	46
105	A new segmentation method for point cloud data. International Journal of Machine Tools and Manufacture, 2002, 42, 167-178.	6.2	230
106	Acoustic Design Sensitivity Analysis and Optimization for Reduced Exterior Noise. AIAA Journal, 2001, 39, 574-580.	1.5	24
107	Shape optimization of BLDC motor using 3-D finite element method. IEEE Transactions on Magnetics, 2000, 36, 1119-1123.	1.2	24
108	Flux leakage effect on subsidiary resonance of optical disk drives. IEEE Transactions on Magnetics, 1999, 35, 3676-3678.	1.2	8

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109	Design Sensitivity Analysis of Noise, Vibration, and Harshness of Vehicle Body Structureâ^—. Mechanics Based Design of Structures and Machines, 1999, 27, 317-335.	0.6	28
110	A method for improving dynamic solutions in flexible multibody dynamics. Computers and Structures, 1998, 66, 765-776.	2.4	10
111	A Method of Improving Dynamic Stress Computation for Fatigue Life Prediction of Vehicle Structure. , 1997, , .		5
112	Continuum sizing design sensitivity analysis of eigenvectors using Ritz vectors. Journal of Aircraft, 1994, 31, 457-459.	1.7	7
113	Design Sensitivity Analysis of Dynamics of Built-Up Structures Using Ritz and Mode Acceleration Methods. , 1993, , 313-328.		3
114	Continuum design sensitivity of transient responses using Ritz and mode acceleration methods. AIAA Journal, 1992, 30, 1099-1109.	1.5	17
115	Configuration design sensitivity analysis of transient response. , 1992, , .		3
116	Continuum Design Sensitivity Analysis of Structural Dynamic Responseusing Ritz Sequence. , 1990, , .		3
117	A Comparison of Mode-Acceleration and Ritz Vector Reduced Basis Procedures in Transient Analysis. , 1988, , .		4
118	Topology Optimization of Magneto-thermal Systems Considering Eddy Current as Joule Heat. , 0, , .		0
119	Design of a New Linear Magnetic Damper for Shock-Absorbing from Crash Accident of High Speed Vehicles. , 0, , .		3
120	An Application of Acoustic Metamaterial for Reducing Noise Transfer through Car Body Panels. , 0, , .		7