

Semyung Wang

List of Publications by Year in descending order

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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	A new segmentation method for point cloud data. International Journal of Machine Tools and Manufacture, 2002, 42, 167-178.	6.2	230
2	Efficient Response Surface Modeling by Using Moving Least-Squares Method and Sensitivity. AIAA Journal, 2005, 43, 2404-2411.	1.5	96
3	Maximization of acoustic energy difference between two spaces. Journal of the Acoustical Society of America, 2010, 128, 121-131.	0.5	89
4	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
5	Reliability-based topology optimization with uncertainties. Journal of Mechanical Science and Technology, 2006, 20, 494-504.	0.7	66
6	Topology optimization of electromagnetic systems considering magnetization direction. IEEE Transactions on Magnetics, 2005, 41, 1808-1811.	1.2	49
7	Acoustical topology optimization for Zwicker's loudness model " Application to noise barriers. Computer Methods in Applied Mechanics and Engineering, 2012, 237-240, 130-151.	3.4	48
8	Topology optimization of nonlinear magnetostatics. IEEE Transactions on Magnetics, 2002, 38, 1029-1032.	1.2	46
9	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
10	Reliability-Based Topology Optimization. , 2002, , .		42
11	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
12	Application of Reliability-Based Topology Optimization for Microelectromechanical Systems. AIAA Journal, 2007, 45, 2926-2934.	1.5	32
13	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
14	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
15	Topology Optimization of a Single-Phase Induction Motor for Rotary Compressor. IEEE Transactions on Magnetics, 2004, 40, 1591-1596.	1.2	29
16	Design Sensitivity Analysis of Noise, Vibration, and Harshness of Vehicle Body Structure—. Mechanics Based Design of Structures and Machines, 1999, 27, 317-335.	0.6	28
17	Continuous scanning laser Doppler vibrometer for mode shape analysis. Optical Engineering, 2003, 42, 730.	0.5	26
18	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

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19	Shape optimization of BLDC motor using 3-D finite element method. IEEE Transactions on Magnetics, 2000, 36, 1119-1123.	1.2	24
20	Acoustic Design Sensitivity Analysis and Optimization for Reduced Exterior Noise. AIAA Journal, 2001, 39, 574-580.	1.5	24
21	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
22	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
23	Comparison of negative and positive position feedback control of a flexible structure. Smart Materials and Structures, 2011, 20, 015011.	1.8	23
24	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
25	Smooth Vibrotactile Flow Generation Using Two Piezoelectric Actuators. IEEE Transactions on Haptics, 2012, 5, 21-32.	1.8	22
26	Acoustical topology optimization of Zwicker's loudness with Padé approximation. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 40-66.	3.4	22
27	Investigation of flexural wave band gaps in a locally resonant metamaterial with plate-like resonators. Wave Motion, 2020, 93, 102492.	1.0	22
28	Vibro-acoustic design sensitivity analysis using the wave-based method. Journal of Sound and Vibration, 2011, 330, 4340-4351.	2.1	21
29	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
30	Systematic realization of double-zero-index phononic crystals with hard inclusions. Scientific Reports, 2018, 8, 7288.	1.6	21
31	Topology optimization of thin plate structures with bending stress constraints. Computers and Structures, 2016, 175, 134-143.	2.4	20
32	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
33	Topology Optimization of Magneto-thermal Systems Considering Eddy Current as Joule Heat. IEEE Transactions on Magnetics, 2007, 43, 1617-1620.	1.2	19
34	Continuum design sensitivity of transient responses using Ritz and mode acceleration methods. AIAA Journal, 1992, 30, 1099-1109.	1.5	17
35	Noise reduction for compressors by modes control using topology optimization of eigenvalue. Journal of Sound and Vibration, 2008, 315, 836-848.	2.1	17
36	Level Set-Based Topology Optimization for Electromagnetic Systems. IEEE Transactions on Magnetics, 2009, 45, 1582-1585.	1.2	17

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37	Reliability-based topology optimization for electromagnetic systems. <i>COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering</i> , 2004, 23, 715-723.	0.5	15
38	Sound transmission analysis of plate structures using the finite element method and elementary radiator approach with radiator error index. <i>Advances in Engineering Software</i> , 2017, 112, 1-15.	1.8	15
39	Topography optimization of an enclosure panel for low-frequency noise and vibration reduction using the equivalent radiated power approach. <i>Materials and Design</i> , 2019, 183, 108125.	3.3	15
40	Shape design sensitivity analysis for the radiated noise from the thin-body. <i>Journal of Sound and Vibration</i> , 2003, 261, 895-910.	2.1	14
41	Multi-domain topology optimization of electromagnetic systems. <i>COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering</i> , 2004, 23, 1036-1044.	0.5	14
42	Scaling the Operating Deflection Shapes Obtained from Scanning Laser Doppler Vibrometer. <i>Journal of Nondestructive Evaluation</i> , 2011, 30, 91-98.	1.1	14
43	Vibration Analysis of a Partially Connected Double-Beam System with the Transfer Matrix Method and Identification of the Slap Phenomenon in the System. <i>International Journal of Applied Mechanics</i> , 2017, 09, 1750093.	1.3	14
44	Development of Energy Efficiency Design Map based on acoustic resonance frequency of suction muffler in compressor. <i>Applied Energy</i> , 2015, 150, 233-244.	5.1	13
45	Topology optimization of a suction muffler in a fluid machine to maximize energy efficiency and minimize broadband noise. <i>Journal of Sound and Vibration</i> , 2016, 366, 27-43.	2.1	13
46	Maximization of the directivity ratio with the desired audible gain level for broadband design of near field loudspeaker arrays. <i>Journal of Sound and Vibration</i> , 2011, 330, 5517-5529.	2.1	12
47	Topology optimization of bounded acoustic problems using the hybrid finite element-wave based method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 313, 834-856.	3.4	11
48	A method for improving dynamic solutions in flexible multibody dynamics. <i>Computers and Structures</i> , 1998, 66, 765-776.	2.4	10
49	A Wiener filter approach to the binaural reproduction of stereo sound. <i>Journal of the Acoustical Society of America</i> , 2003, 114, 3179-3188.	0.5	10
50	A modified complex modal testing technique for a rotating tire with a flexible ring model. <i>Mechanical Systems and Signal Processing</i> , 2015, 60-61, 604-618.	4.4	10
51	Identification of the direction and value of the wave length of each mode for a rotating tire using the phase difference method. <i>Mechanical Systems and Signal Processing</i> , 2016, 68-69, 292-301.	4.4	10
52	Design optimization of a cellular-type noise insulation panel to improve transmission loss at low frequency. <i>Journal of Sound and Vibration</i> , 2019, 447, 105-119.	2.1	10
53	Topology Optimization for Compliance Reduction of Magnetomechanical Systems. <i>IEEE Transactions on Magnetics</i> , 2008, 44, 346-351.	1.2	9
54	Robust broadband vibration control of a flexible structure using an electrical dynamic absorber. <i>Smart Materials and Structures</i> , 2011, 20, 075002.	1.8	9

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55	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
56	Flux leakage effect on subsidiary resonance of optical disk drives. IEEE Transactions on Magnetics, 1999, 35, 3676-3678.	1.2	8
57	A framework of flexible locally resonant metamaterials for attachment to curved structures. International Journal of Mechanical Sciences, 2021, 204, 106533.	3.6	8
58	Continuum sizing design sensitivity analysis of eigenvectors using Ritz vectors. Journal of Aircraft, 1994, 31, 457-459.	1.7	7
59	High-speed FM demodulator of a homodyne laser interferometer for measuring mechanical vibration. Optical Engineering, 2004, 43, 1341.	0.5	7
60	Reliability-Based Topology Optimization (RBTO). , 2006, , 493-504.		7
61	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
62	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
63	An Application of Acoustic Metamaterial for Reducing Noise Transfer through Car Body Panels. , 0, , .		7
64	New feedback detection method for performance evaluation of hearing aids. Journal of Sound and Vibration, 2007, 302, 350-360.	2.1	6
65	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
66	3-D Optimal Design of Induction Motor Used in High-Pressure Scroll Compressor. IEEE Transactions on Magnetics, 2009, 45, 2076-2084.	1.2	6
67	Topology optimization of vibroacoustic problems using the hybrid finite elementâ€“wave based method. Computer Methods in Applied Mechanics and Engineering, 2020, 364, 112932.	3.4	6
68	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
69	A Method of Improving Dynamic Stress Computation for Fatigue Life Prediction of Vehicle Structure. , 1997, , .		5
70	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
71	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
72	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

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73	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
74	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
75	Multidisciplinary Analysis and Multiobjective Design Optimization of a Switched Reluctance Motor for Improving Sound Quality. IEEE Access, 2019, 7, 66020-66027.	2.6	5
76	Systematically engineered thermal metastructure for rapid heat dissipation/diffusion by considering the thermal eigenvalue. Applied Thermal Engineering, 2019, 157, 113487.	3.0	5
77	A Comparison of Mode-Acceleration and Ritz Vector Reduced Basis Procedures in Transient Analysis. , 1988, , .		4
78	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
79	Novel Spacer Design Using Topology Optimization in a Reverse Osmosis Channel. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	4
80	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
81	Vibro-Acoustic Noise Analysis of a Washing Machine. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 47-53.	0.3	4
82	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
83	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
84	Continuum Design Sensitivity Analysis of Structural Dynamic Response using Ritz Sequence. , 1990, , .		3
85	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
86	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
87	Design of a New Linear Magnetic Damper for Shock-Absorbing from Crash Accident of High Speed Vehicles. , 0, , .		3
88	Preliminary study for smoother vibrotactile flow generation on thin plates by using piezoelectric actuators. , 2011, , .		3
89	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
90	Generation of satellite tracking profile: Problems and validation algorithms. Advances in Space Research, 2014, 54, 1092-1107.	1.2	3

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91	Development procedure for a vibration transmission element using a reversed design optimization method. <i>Journal of Sound and Vibration</i> , 2015, 345, 72-85.	2.1	3
92	On the formation of complex modes in non-proportionally damped systems. <i>Journal of Sound and Vibration</i> , 2019, 463, 114978.	2.1	3
93	Efficient topography optimization of a washing machine cabinet to reduce radiated noise during the dehydration process. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 973-978.	0.7	3
94	Design Sensitivity Analysis of Dynamics of Built-Up Structures Using Ritz and Mode Acceleration Methods. , 1993, , 313-328.		3
95	Configuration design sensitivity analysis of transient response. , 1992, , .		3
96	New Design Process for Reliability-Based Topology Optimization of a Laser Scanned Model. <i>Mechanics Based Design of Structures and Machines</i> , 2006, 34, 325-347.	3.4	2
97	Reliability-based topology optimization design of a linear piezoelectric micromotor using an optimum finite element method. <i>Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability</i> , 2013, 227, 586-598.	0.6	2
98	Reconstruction of the in-plane mode shape of a rotating tire with a continuous scanning measurement using the Hilbert–Huang transform. <i>Review of Scientific Instruments</i> , 2015, 86, 025108.	0.6	2
99	Electroacoustic Absorber using Disturbance-observer-type Velocity Estimator. <i>IEEE/ASME Transactions on Mechatronics</i> , 2015, , 1-1.	3.7	2
100	Analysis of sound absorption performance of an electroacoustic absorber using a vented enclosure. <i>Journal of Sound and Vibration</i> , 2018, 417, 110-131.	2.1	2
101	Development of a Personal Audio Performance Controller With Efficient, Fine, and Linear Tunable Functions. <i>IEEE Access</i> , 2020, 8, 123916-123928.	2.6	2
102	A Numerical and Experimental Study on an Interconnected Metamaterial for Flexural Vibration Control Based on Modal Strain Energy. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 4530.	1.3	2
103	Optimal Filter Design of a Virtual Mechanical Impedance Control System for Multifrequency Active Sound Power Reduction of Enclosure Panels. <i>IEEE Access</i> , 2021, 9, 104227-104241.	2.6	2
104	Configuration Design Sensitivity Analysis for Dynamic Systems Using CAD-Based Velocity Field. <i>AIAA Journal</i> , 2002, 40, 1241-1244.	1.5	1
105	Feature-based fuzzy control adaptive finite-element mesh generation for electromagnetic fields. <i>IEEE Transactions on Magnetics</i> , 2005, 41, 1688-1691.	1.2	1
106	Study of the Damping Mechanisms of Loose Spring Skirts on Vibrating Pipes. <i>Experimental Mechanics</i> , 2011, 51, 275-292.	1.1	1
107	Vibrational Properties of Sundatang Soundboard. <i>Archives of Acoustics</i> , 2015, 39, 177-187.	0.9	1
108	Experimental study on variation of acoustical resonance frequency of duct with orifice depending on periodic motion. <i>Applied Acoustics</i> , 2016, 111, 96-104.	1.7	1

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109	Experimental Modal Analysis of Rolled Multi Layer Cylindrical Shell. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 249-254.	0.3	1
110	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
111	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
112	Topology Optimization of Magneto-thermal Systems Considering Eddy Current as Joule Heat. , 0, , .		0
113	Acoustic Topology Optimization of Noise Barrier by Considering Zwicker's Loudness. , 2010, , .		0
114	Acoustical Design Optimization of Speaker System for Sound Focusing using Evolutionary Weighted Sum. , 2010, , .		0
115	Topology Optimization of Spacers for Maximizing Permeate Flux on Membrane Surface in Reverse Osmosis Channel. , 2011, , .		0
116	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
117	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
118	Vibration Class at GIST, Korea. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 1-14.	0.3	0
119	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
120	Derivation and Validation of Bandgap Equation Using Serpentine Resonator. Applied Sciences (Switzerland), 2022, 12, 3934.	1.3	0