

# Rongming Lin

## List of Publications by Year in descending order

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132  
papers

2,693  
citations

172457

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134  
docs citations

134  
times ranked

1899  
citing authors

#	ARTICLE	IF	CITATIONS
1	Application of generalized differential quadrature method to structural problems. International Journal for Numerical Methods in Engineering, 1994, 37, 1881-1896.	2.8	151
2	Structural damage detection using measured FRF data. Computer Methods in Applied Mechanics and Engineering, 1997, 147, 187-197.	6.6	133
3	Analytical model improvement using frequency response functions. Mechanical Systems and Signal Processing, 1994, 8, 437-458.	8.0	99
4	Model updating of damped structures using FRF data. Mechanical Systems and Signal Processing, 2006, 20, 2200-2218.	8.0	90
5	Structural dynamics of microsystems—current state of research and future directions. Mechanical Systems and Signal Processing, 2006, 20, 1015-1043.	8.0	82
6	Contribution of nonlocality to surface elasticity. International Journal of Engineering Science, 2020, 152, 103311.	5.0	77
7	Numerical investigations on an improved counterflow double-channel micro combustor fueled with hydrogen for enhancing thermal performance. Energy Conversion and Management, 2018, 159, 163-174.	9.2	73
8	A review on low dimensional carbon desalination and gas separation membrane designs. Journal of Membrane Science, 2020, 598, 117785.	8.2	64
9	Application of generalized differential quadrature to vibration analysis. Journal of Sound and Vibration, 1995, 181, 279-293.	3.9	56
10	Design considerations in micromachined silicon microphones. Microelectronics Journal, 2002, 33, 21-28.	2.0	54
11	Sensitivity-improved silicon condenser microphone with a novel single deeply corrugated diaphragm. Sensors and Actuators A: Physical, 2001, 92, 257-262.	4.1	53
12	Vibration reliability characterization of PBGA assemblies. Microelectronics Reliability, 2000, 40, 1097-1107.	1.7	52
13	Modeling of interfacial friction damping of carbon nanotube-based nanocomposites. Mechanical Systems and Signal Processing, 2010, 24, 2996-3012.	8.0	49
14	A new iterative order reduction (IOR) method for eigensolutions of large structures. International Journal for Numerical Methods in Engineering, 2004, 59, 153-172.	2.8	48
15	Improvement on the iterated IRS method for structural eigensolutions. Journal of Sound and Vibration, 2004, 270, 713-727.	3.9	45
16	Frequency selection method for FRF-based model updating. Journal of Sound and Vibration, 2004, 278, 285-306.	3.9	44
17	Numerical investigations on different configurations of a four-channel meso-scale planar combustor fueled by hydrogen/air mixture. Energy Conversion and Management, 2018, 160, 1-13.	9.2	41
18	Robust finite element model updating using Taguchi method. Journal of Sound and Vibration, 2005, 280, 77-99.	3.9	40

#	ARTICLE	IF	CITATIONS
19	A state-of-the-art review on theory and engineering applications of eigenvalue and eigenvector derivatives. <i>Mechanical Systems and Signal Processing</i> , 2020, 138, 106536.	8.0	40
20	Nanoscale vibration characterization of multi-layered graphene sheets embedded in an elastic medium. <i>Computational Materials Science</i> , 2012, 53, 44-52.	3.0	39
21	A fractional nonlocal time-space viscoelasticity theory and its applications in structural dynamics. <i>Applied Mathematical Modelling</i> , 2020, 84, 116-136.	4.2	38
22	Resonance enhancement of micromachined resonators with strong mechanical-coupling between two degrees of freedom. <i>Microelectronic Engineering</i> , 2003, 65, 1-12.	2.4	36
23	Reliability of PBGA assemblies under out-of-plane vibration excitations. <i>IEEE Transactions on Components and Packaging Technologies</i> , 2002, 25, 293-300.	1.3	35
24	Large deflection analysis of plates under thermal loading. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1994, 117, 381-390.	6.6	32
25	Machine-learning assisted coarse-grained model for epoxies over wide ranges of temperatures and cross-linking degrees. <i>Materials and Design</i> , 2019, 183, 108130.	7.0	32
26	Investigations on different two-dimensional materials as slit membranes for enhanced desalination. <i>Journal of Membrane Science</i> , 2020, 598, 117653.	8.2	32
27	Complex eigensensitivity-based characterization of structures with viscoelastic damping. <i>Journal of the Acoustical Society of America</i> , 1996, 100, 3182-3191.	1.1	31
28	Studies on the formation of microcrystalline silicon with PECVD under low and high working pressure. <i>Thin Solid Films</i> , 2000, 376, 249-254.	1.8	31
29	Development of a novel Fabry-Perot pressure microsensor. <i>Sensors and Actuators A: Physical</i> , 2004, 116, 59-65.	4.1	31
30	Study of deep silicon etching for micro-gyroscope fabrication. <i>Applied Surface Science</i> , 2001, 177, 78-84.	6.1	30
31	A non-destructive experimental-cum-numerical methodology for the characterization of 3D-printed materials-polycarbonate-acrylonitrile butadiene styrene (PC-ABS). <i>Mechanics of Materials</i> , 2019, 132, 121-133.	3.2	30
32	On the relationship between viscous and hysteretic damping models and the importance of correct interpretation for system identification. <i>Journal of Sound and Vibration</i> , 2009, 325, 14-33.	3.9	29
33	Nanoscale vibration characteristics of multi-layered graphene sheets. <i>Mechanical Systems and Signal Processing</i> , 2012, 29, 251-261.	8.0	29
34	Control of stress in highly doped polysilicon multi-layer diaphragm structure. <i>Surface and Coatings Technology</i> , 2001, 141, 96-102.	4.8	26
35	Finite element model updating using vibration test data under base excitation. <i>Journal of Sound and Vibration</i> , 2007, 303, 596-613.	3.9	26
36	Cusp error reduction under high speed micro/meso- scale milling with ultrasonic vibration assistance. <i>International Journal of Precision Engineering and Manufacturing</i> , 2011, 12, 15-20.	2.2	26

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37	Maximum likelihood least squares-based iterative methods for output-error bilinear-parameter models with colored noises. <i>International Journal of Robust and Nonlinear Control</i> , 2020, 30, 6262-6280.	3.7	25
38	DERIVATION OF STRUCTURAL DESIGN SENSITIVITIES FROM VIBRATION TEST DATA. <i>Journal of Sound and Vibration</i> , 1997, 201, 613-631.	3.9	24
39	A new eigensolution of structures via dynamic condensation. <i>Journal of Sound and Vibration</i> , 2003, 266, 93-106.	3.9	24
40	Deflection of plates with nonlinear boundary supports using generalized differential quadrature. <i>Computers and Structures</i> , 1994, 53, 993-999.	4.4	23
41	THE APPLICATION OF PSEUDO-PHASE PORTRAIT IN MACHINE CONDITION MONITORING. <i>Journal of Sound and Vibration</i> , 2003, 259, 1-16.	3.9	23
42	A new complex inverse eigensensitivity method for structural damping model identification. <i>Computers and Structures</i> , 1994, 52, 905-915.	4.4	22
43	A practical algorithm for the efficient computation of eigenvector sensitivities. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1996, 130, 355-367.	6.6	22
44	A new REBO potential based atomistic structural model for graphene sheets. <i>Nanotechnology</i> , 2011, 22, 295711.	2.6	22
45	Evaluation of structural epoxy and cyanoacrylate adhesives on jointed 3D printed polymeric materials. <i>International Journal of Adhesion and Adhesives</i> , 2020, 100, 102602.	2.9	22
46	Applications of higher-order frequency response functions to the detection and damage assessment of general structural systems with breathing cracks. <i>International Journal of Mechanical Sciences</i> , 2018, 148, 652-666.	6.7	21
47	A novel integrated silicon capacitive microphone-floating electrode "electret" microphone (FEEM). <i>Journal of Microelectromechanical Systems</i> , 1998, 7, 224-234.	2.5	20
48	Carbon nanotube arrays as multilayer transverse flow carbon nanotube membrane for efficient desalination. <i>Journal of Membrane Science</i> , 2019, 581, 383-392.	8.2	20
49	Cross-section effect on mechanics of nonlocal beams. <i>Archive of Applied Mechanics</i> , 2021, 91, 1541-1556.	2.2	19
50	Chaotic vibration of mechanical systems with backlash. <i>Mechanical Systems and Signal Processing</i> , 1993, 7, 257-272.	8.0	18
51	Performance-enhanced Fabry-Pérot microcavity structure with a novel non-planar diaphragm. <i>Microelectronic Engineering</i> , 2003, 70, 102-108.	2.4	18
52	Structural sensitivity analysis via reduced-order analytical model. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1995, 121, 345-359.	6.6	17
53	A study on corrugated diaphragms for high-sensitivity structures. <i>Journal of Micromechanics and Microengineering</i> , 1997, 7, 310-315.	2.6	17
54	Experimental modeling and compensation of pivot nonlinearity in hard disk drives. <i>IEEE Transactions on Magnetics</i> , 2003, 39, 1064-1069.	2.1	17

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55	Nonlocal Plate Model for the Free Vibration Analysis of Nanoplates with Different Boundary Conditions. <i>Journal of Computational and Theoretical Nanoscience</i> , 2011, 8, 2118-2128.	0.4	17
56	Location of localised stiffness non-linearity using measured modal data. <i>Mechanical Systems and Signal Processing</i> , 1995, 9, 329-339.	8.0	16
57	Nanoscale Fluid Mechanics Working Principles of Transverse Flow Carbon Nanotube Membrane for Enhanced Desalination. <i>International Journal of Applied Mechanics</i> , 2017, 09, 1750034.	2.2	16
58	Effects of CNT size on the desalination performance of an outer-wall CNT slit membrane. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 13896-13902.	2.8	16
59	Function-weighted frequency response function sensitivity method for analytical model updating. <i>Journal of Sound and Vibration</i> , 2017, 403, 59-74.	3.9	15
60	A new method for the accurate measurement of higher-order frequency response functions of nonlinear structural systems. <i>ISA Transactions</i> , 2018, 81, 270-285.	5.7	15
61	Eigenvector derivatives of structures with rigid body modes. <i>AIAA Journal</i> , 1996, 34, 1083-1085.	2.6	14
62	A study on micromachined bimetallic actuation. <i>Sensors and Actuators A: Physical</i> , 1999, 78, 212-219.	4.1	14
63	Servo system modeling and reduction of mechatronic system through finite element analysis for control design. <i>Mechatronics</i> , 2008, 18, 466-474.	3.3	14
64	An iterative method for exact eigenvalues and eigenvectors of general nonviscously damped structural systems. <i>Engineering Structures</i> , 2019, 180, 630-641.	5.3	14
65	Improving finite element models in the higher frequency range using modified frequency response function sensitivity method. <i>Finite Elements in Analysis and Design</i> , 1993, 15, 157-175.	3.2	13
66	A study of the scale effects on the flexural vibration of graphene sheets using REBO potential based atomistic structural and nonlocal couple stress thin plate models. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2013, 50, 22-28.	2.7	12
67	Exact vibration modes of multiple-stepped beams with arbitrary steps and supports using elemental impedance method. <i>Engineering Structures</i> , 2017, 152, 24-34.	5.3	12
68	Development of a theoretical framework for vibration analysis of the class of problems described by fractional derivatives. <i>Mechanical Systems and Signal Processing</i> , 2019, 116, 78-96.	8.0	12
69	Sensitivity based method for structural dynamic model improvement. <i>Computers and Structures</i> , 1993, 47, 349-369.	4.4	11
70	Performance-enhanced micro-machined resonant systems with two-degrees-of-freedom resonators. <i>Journal of Micromechanics and Microengineering</i> , 2000, 10, 534-539.	2.6	11
71	Modelling, detection and identification of flexural crack damages in beams using frequency response functions. <i>Meccanica</i> , 2016, 51, 2027-2044.	2.0	11
72	Gaussian-optics-based optical modeling and characterization of a Fabry-Pérot microcavity for sensing applications. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2005, 22, 1577.	1.5	10

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73	Identification of modal parameters of unmeasured modes using multiple FRF modal analysis method. <i>Mechanical Systems and Signal Processing</i> , 2011, 25, 151-162.	8.0	10
74	Frequency response functions and modal analysis of general nonviscously damped dynamic systems with and without repeated modes. <i>Mechanical Systems and Signal Processing</i> , 2019, 120, 744-764.	8.0	10
75	Effects of oscillating pressure on desalination performance of transverse flow CNT membrane. <i>Desalination</i> , 2019, 451, 35-44.	8.2	10
76	Experimental modal analysis of PBGA printed circuit board assemblies. , 0, , .		9
77	Many-body dissipative particle dynamics simulations of nanodroplet formation in 3D nano-inkjet printing. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019, 27, 055005.	2.0	9
78	Eigenvalue and eigenvector derivatives of fractional vibration systems. <i>Mechanical Systems and Signal Processing</i> , 2019, 127, 423-440.	8.0	9
79	Modal analysis of close modes using perturbative sensitivity approach. <i>Engineering Structures</i> , 1997, 19, 397-406.	5.3	7
80	Novel method for minimizing track seeking residual vibrations of hard disk drives. <i>IEEE Transactions on Magnetics</i> , 2001, 37, 1146-1156.	2.1	7
81	Design and fabrication of high sensitive microphone diaphragm using deep corrugation technique. <i>Microsystem Technologies</i> , 2004, 10, 142-146.	2.0	7
82	Optimization of Sensing and Feedback Control for Vibration/Flutter of Rotating Disk by PZT Actuators via Air Coupled Pressure. <i>Sensors</i> , 2011, 11, 3094-3116.	3.8	7
83	Higher-order FRFs and their applications to the identifications of continuous structural systems with discrete localized nonlinearities. <i>Mechanical Systems and Signal Processing</i> , 2018, 108, 326-346.	8.0	7
84	Identification of Volterra kernels for improved predictions of nonlinear aeroelastic vibration responses and flutter. <i>Engineering Structures</i> , 2018, 171, 15-28.	5.3	7
85	An investigation on the effects of nanoplastic particles on nanoporous graphene membrane desalination. <i>Desalination</i> , 2020, 496, 114765.	8.2	7
86	Natural frequencies of plates with arbitrary concentrated mass and stiffness modifications. <i>Computers and Structures</i> , 1995, 57, 721-729.	4.4	6
87	A dynamic analysis for the suspension structure in hard disk drives using piezofilm actuators. <i>Smart Materials and Structures</i> , 2001, 10, 409-413.	3.5	6
88	Performance of a novel non-planar diaphragm for high-sensitivity structures. <i>Microelectronics Journal</i> , 2003, 34, 791-796.	2.0	6
89	Analytical and experimental investigations on vibrational control mechanisms for flexible active structures. <i>Smart Materials and Structures</i> , 2003, 12, 500-506.	3.5	6
90	A single-chip diaphragm-type miniature Fabry-Pérot pressure sensor with improved cross-sensitivity to temperature. <i>Measurement Science and Technology</i> , 2004, 15, 905-910.	2.6	6

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91	Robust Damage Location in Structures Using Taguchi Method. Journal of Structural Engineering, 2005, 131, 629-642.	3.4	6
92	General optimization of sizes or placement for various sensors/actuators in structure testing and control. Smart Materials and Structures, 2006, 15, 724-736.	3.5	6
93	Comments on "Nonlinear vibration of viscoelastic beams described using fractional order derivatives". Journal of Sound and Vibration, 2018, 428, 195-204.	3.9	6
94	Secure Image Encryption Based on an Ideal New Nonlinear Discrete Dynamical System. Mathematical Problems in Engineering, 2018, 2018, 1-12.	1.1	6
95	New Type of Spectral Nonlinear Resonance Enhances Identification of Weak Signals. Scientific Reports, 2019, 9, 14125.	3.3	6
96	On the Performance of Vertically Aligned Graphene Array Membranes for Desalination. ACS Applied Materials & Interfaces, 2022, 14, 27405-27412.	8.0	6
97	Analytical model updating and model reduction. AIAA Journal, 1996, 34, 1966-1969.	2.6	5
98	Study on convex-corner undercutting formed by masked-maskless etching in aqueous KOH. Journal of Micromechanics and Microengineering, 2000, 10, 309-313.	2.6	5
99	Extrinsic Fabry-Perot pressure sensor using single deeply corrugated diaphragm technique. , 2004, 5346, 15.		5
100	Fabry-Perot microcavity pressure sensor with a novel single deeply corrugated diaphragm. Microwave and Optical Technology Letters, 2003, 39, 240-243.	1.4	4
101	Surface Quality Improvement in Meso-Scale Milling with Spindle Axial Directional Ultrasonic Vibration Assistance. Advanced Materials Research, 0, 565, 508-513.	0.3	4
102	Parameter estimation for a special class of nonlinear systems by using the over-parameterisation method and the linear filter. International Journal of Systems Science, 2019, 50, 1689-1702.	5.5	4
103	New theoretical developments on eigenvector derivatives with repeated eigenvalues. Mechanical Systems and Signal Processing, 2019, 129, 677-693.	8.0	4
104	CoMSaT: a single-chip fabrication technique for three-dimensional integrated fluid systems. Sensors and Actuators A: Physical, 1999, 72, 115-124.	4.1	3
105	<title>Test and reliability analysis of PBGA assemblies under random vibration</title>. , 2000, , .		3
106	Discrete-time sliding mode repetitive control for track-following of optical disk drives. , 0, , .		3
107	Design and fabrication of silicon condenser microphone using single deeply corrugated diaphragm technique. Microelectronics International, 2003, 20, 36-40.	0.6	3
108	Theoretical analysis and measurement of the temperature dependence of a micromachined Fabry-Perot pressure sensor. Applied Optics, 2005, 44, 249.	2.1	3

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109	<title>Design and simulation of a novel micromachined vibratory gyroscope with enhanced-sensitivity performance</title>. , 2001, 4593, 72.		2
110	Finite element analysis of 3D-Printed Acrylonitrile Styrene Acrylate (ASA) with Ultrasonic material characterization. International Journal of Computational Materials Science and Engineering, 2019, 08, 1950002.	0.7	2
111	Repeated eigenvalues and their derivatives of structural vibration systems with general nonproportional viscous damping. Mechanical Systems and Signal Processing, 2021, 159, 107750.	8.0	2
112	New method for accurate and consistent identification of modal parameters. Journal of Guidance, Control, and Dynamics, 1996, 19, 992-999.	2.8	1
113	Design considerations in micromachined silicon microphones. , 2000, , .		1
114	<title>Control of stresses in highly doped multilayer polysilicon structures used in MEMS applications</title>. , 2001, , .		1
115	Analytical and experimental investigations on vibration control mechanisms for flexible active structures. , 2002, , .		1
116	The effect of baking conditions on the effective contact areas of screen-printed silver layer on silicon substrate. Solar Energy Materials and Solar Cells, 2004, 85, 73-73.	6.2	1
117	Prediction of mistuning effect of bladed disks using eigensensitivity analysis. Engineering Structures, 2020, 212, 110416.	5.3	1
118	Nanopumping of water via rotation of graphene nanoribbons. Nanotechnology, 2020, 31, 175704.	2.6	1
119	Elastic Buckling Behaviour of General Multi-Layered Graphene Sheets. AIMS Materials Science, 2015, 2, 61-78.	1.4	1
120	Particle filter-based algorithm of simultaneous output and parameter estimation for output nonlinear systems under low measurement rate constraints. Nonlinear Dynamics, 2022, 107, 727-741.	5.2	1
121	Design and fabrication of a novel integrated floating-electrode-"electret"-microphone (FFEM). , 0, , .		0
122	Generalized receptance-based method for accurate and efficient modal synthesis. International Journal for Numerical Methods in Engineering, 1999, 44, 1749-1767.	2.8	0
123	<title>Which etchant used and whether an etching mask exists: how they make differences on convex-corner undercutting configuration and compensation criteria</title>. , 1999, , .		0
124	<title>Deep cavity-shaped diaphragm for enhancement of microphone mechanical sensitivity</title>. , 2000, , .		0
125	<title>Scalable free-space optical switches based on MEMS vertical mirrors</title>. , 2002, , .		0
126	Optimization of track seeking pulse waveform in hard disk drives. , 0, , .		0



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127	Image measurement of geometrical size for three-dimensional microstructure of MEMS. Journal of Micromechanics and Microengineering, 2003, 13, 300-306.	2.6	0
128	Vibration interaction characteristics of disks-spindle. , 0, , .		0
129	Performance of a novel nonplanar diaphragm and its application to optical sensing devices. , 2004, , .		0
130	Nonlinear Structural and Vibration Analysis of Graphene Sheets. Journal of Computational and Theoretical Nanoscience, 2013, 10, 1941-1951.	0.4	0
131	Commentary on "Discussion on "Function-weighted frequency response function sensitivity method for analytical model updating"™ by A. Esfandiari and M. Sanayei" Journal of Sound and Vibration, 2018, 432, 706-714.	3.9	0
132	A Novel Perturbative Iteration Algorithm for Effective and Efficient Solution of Frequency-Dependent Eigenvalue Problems. Advances in Applied Mathematics and Mechanics, 2012, 4, 325-339.	1.2	0