

Jeffrey F Rhoads

List of Publications by Year in descending order

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107
papers

2,186
citations

304368

22
h-index

243296

44
g-index

113
all docs

113
docs citations

113
times ranked

1424
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct observations of ultrasonically generated hot spots in polymer composite energetic materials. <i>Combustion and Flame</i> , 2022, 235, 111704.	2.8	0
2	A Carbon Nanotube-Functional Polymer Composite Film for Low-Power Indoor CO ₂ Monitoring. <i>IEEE Sensors Journal</i> , 2022, 22, 11233-11240.	2.4	3
3	Energy Release Rate Characterization of Additively Manufactured Al/PVDF with Varying Infill Densities and Patterns. , 2022, , .		2
4	The thermomechanics of particulate composite mock energetic materials in response to high-frequency (1â€“100â€“kHz) excitation. <i>Journal of Applied Physics</i> , 2022, 131, 045103.	1.1	0
5	Vibration-assisted printing of highly viscous food. <i>Additive Manufacturing</i> , 2022, 56, 102851.	1.7	1
6	Sorption Kinetics of Poly(ethyleneimine)â€“Poly(ethylene Oxide) Blends and the Implication for Low-Cost, Small-Scale CO ₂ Sensors. <i>ACS Applied Polymer Materials</i> , 2022, 4, 4389-4397.	2.0	1
7	Poly (5-carboxyindole)â€“ β -cyclodextrin composite material for enhanced formaldehyde gas sensing. <i>Journal of Materials Science</i> , 2022, 57, 11460-11474.	1.7	2
8	Photoflash and laser ignition of Al/PVDF films and additively manufactured igniters for solid propellant. <i>Combustion and Flame</i> , 2022, 244, 112252.	2.8	10
9	Are resource-usage patterns related to achievement? A study of an active, blended, and collaborative learning environment for undergraduate engineering courses. <i>European Journal of Engineering Education</i> , 2021, 46, 416-440.	1.5	3
10	Tailoring the reactivity of printable Al/PVDF filament. <i>Combustion and Flame</i> , 2021, 223, 110-117.	2.8	30
11	Addressing the Practical Limitations of Volatile Organic Compound Sensors Through an Oscillator-Based Sensing Array. <i>IEEE Sensors Journal</i> , 2021, 21, 2169-2175.	2.4	1
12	Structural Energetic Properties of Al/PVDF Composite Materials Prepared Using Fused Filament Fabrication. <i>Propellants, Explosives, Pyrotechnics</i> , 2021, 46, 670-678.	1.0	9
13	Searching for bed bugs: The design, development, and evaluation of an oscillator-based trans-2-hexenal sensor array. <i>Sensors and Actuators B: Chemical</i> , 2021, 333, 129161.	4.0	2
14	Manipulating polymer composition to create low-cost, high-fidelity sensors for indoor CO ₂ monitoring. <i>Scientific Reports</i> , 2021, 11, 13237.	1.6	9
15	Extrusion of AP Composite Propellant with Self-aligned Reactive Fibers. , 2021, , .		0
16	Conductive Polymer Spark Gap Igniters. <i>Propellants, Explosives, Pyrotechnics</i> , 2021, 46, 1500.	1.0	0
17	Characterizing the vibration-assisted printing of high viscosity clay material. <i>Additive Manufacturing</i> , 2021, 47, 102256.	1.7	4
18	Modifying the Surface Chemistry and Nanostructure of Carbon Nanotubes Facilitates the Detection of Aromatic Hydrocarbon Gases. <i>ACS Applied Nano Materials</i> , 2020, 3, 10389-10398.	2.4	12

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19	A Chemiresistive CO ₂ Sensor Based on CNT-Functional Polymer Composite Films. , 2020, , .		4
20	A Vapor Phase Trinitrotoluene Threshold Detector Enabled by Nonlinear Feedback. , 2020, 4, 1-4.		0
21	Development and Characterization of a Photopolymeric Binder for Additively Manufactured Composite Solid Propellant Using Vibration Assisted Printing. Propellants, Explosives, Pyrotechnics, 2020, 45, 853-863.	1.0	27
22	Motivators and barriers in undergraduate mechanical engineering students' use of learning resources. European Journal of Engineering Education, 2020, 45, 879-899.	1.5	10
23	Student Perspectives on the Learning Resources in an Active, Blended, and Collaborative (ABC) Pedagogical Environment. International Journal of Engineering Pedagogy, 2020, 10, 7.	0.7	13
24	The Effect of Process Parameters on the Structural Energetic Properties of Additively Manufactured Reactive Structures. Journal of Engineering Materials and Technology, Transactions of the ASME, 2020, 142, .	0.8	8
25	Synchronization in a network of coupled MEMS-Colpitts oscillators. Nonlinear Dynamics, 2019, 98, 3037-3050.	2.7	2
26	Mesoscale observations of the thermal decomposition of energetic composites under ultrasonic excitation. Journal of Applied Physics, 2019, 125, 215114.	1.1	4
27	In-situ X-ray observations of ultrasound-induced explosive decomposition. Applied Materials Today, 2019, 15, 286-294.	2.3	6
28	A Resonant CO ₂ Sensor Functionalized with a Polymerized Ionic Liquid. , 2019, , .		3
29	Addressing Sensing Statistics through Oscillator-Based Sensing Arrays. , 2019, , .		0
30	Threshold Color Sensing Using Coupled Oscillator Networks. , 2019, , .		1
31	The Effects of Confinement on the Fracturing Performance of Printed Nanothermites. Propellants, Explosives, Pyrotechnics, 2019, 44, 47-54.	1.0	17
32	10.1063/1.5088153.3. , 2019, , .		0
33	Influence of Stoichiometry on the Thrust and Heat Deposition of On-Chip Nanothermites. Propellants, Explosives, Pyrotechnics, 2018, 43, 258-266.	1.0	13
34	Perspectives on pedagogical change: instructor and student experiences of a newly implemented undergraduate engineering dynamics curriculum. European Journal of Engineering Education, 2018, 43, 664-678.	1.5	10
35	Video coding of classroom observations for research and instructional support in an innovative learning environment. Australasian Journal of Engineering Education, 2018, 23, 95-105.	0.2	2
36	The Dynamics of Large Systems of Globally Coupled, Mistuned Electromechanical Resonators. , 2018, , .		1

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37	The effect of interlayer cooling on the mechanical properties of components printed via fused deposition. Additive Manufacturing, 2018, 24, 243-248.	1.7	16
38	A megahertz-frequency tunable piecewise-linear electromechanical resonator realized via nonlinear feedback. Journal of Sound and Vibration, 2018, 425, 257-274.	2.1	7
39	Least-squares reconstruction of low-frequency inhomogeneous plane waves. Journal of Sound and Vibration, 2018, 430, 134-149.	2.1	2
40	The Influence of Formulation Variation and Thermal Boundary Conditions on the Near-Resonant Thermomechanics of Mock Explosives. Conference Proceedings of the Society for Experimental Mechanics, 2018, , 47-55.	0.3	2
41	Localized Heating Near a Rigid Spherical Inclusion in a Viscoelastic Binder Material Under Compressional Plane Wave Excitation. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	1.1	4
42	Shaping the Frequency Response of Electromechanical Resonators Using a Signal Interference Control Topology. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	0.9	3
43	Special Section on the Dynamics of MEMS and NEMS. Journal of Vibration and Acoustics, Transactions of the ASME, 2017, 139, .	1.0	3
44	Bounded inhomogeneous wave profiles for increased surface wave excitation efficiency at fluid–solid interfaces. Journal of the Acoustical Society of America, 2017, 141, 2779-2787.	0.5	1
45	Controlled Substrate Destruction Using Nanothermite. Propellants, Explosives, Pyrotechnics, 2017, 42, 579-584.	1.0	16
46	The dynamics of large-scale arrays of coupled resonators. Journal of Sound and Vibration, 2017, 392, 232-239.	2.1	7
47	Additive manufacturing of multifunctional reactive materials. Additive Manufacturing, 2017, 17, 176-182.	1.7	72
48	Two-component additive manufacturing of nanothermite structures via reactive inkjet printing. Journal of Applied Physics, 2017, 122, .	1.1	34
49	Characterizing the Spatially Dependent Sensitivity of Resonant Mass Sensors Using Inkjet Deposition. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	0.9	8
50	Parametric system identification of resonant micro/nanosystems operating in a nonlinear response regime. Mechanical Systems and Signal Processing, 2017, 84, 241-264.	4.4	15
51	The effects of crystal proximity and crystal-binder adhesion on the thermal responses of ultrasonically-excited composite energetic materials. Journal of Applied Physics, 2017, 122, .	1.1	17
52	Longitudinal analysis of instructor actions in an active, blended, and collaborative classroom environment. , 2017, , .		1
53	Detection of Traumatic Brain Injury Protein Biomarkers With Resonant Microsystems. , 2017, 1, 1-4.		5
54	Phase Changes in Embedded HMX in Response to Periodic Mechanical Excitation. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 79-86.	0.3	3

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55	Enhanced acoustic transmission into dissipative solid materials through the use of inhomogeneous plane waves. <i>Journal of Physics: Conference Series</i> , 2016, 744, 012188.	0.3	1
56	Localized Heating due to Stress Concentrations Induced in a Lossy Elastic Medium via the Scattering of Compressional Waves by a Rigid Spherical Inclusion. , 2016, , .		2
57	Improved Perturbative Solution of Yaroshevskii's Planetary Entry Equation. <i>Journal of Computational and Nonlinear Dynamics</i> , 2016, 11, .	0.7	2
58	The impact of crystal morphology on the thermal responses of ultrasonically-excited energetic materials. <i>Journal of Applied Physics</i> , 2016, 119, .	1.1	20
59	On the use of evanescent plane waves for low-frequency energy transmission across material interfaces. <i>Journal of the Acoustical Society of America</i> , 2015, 138, 2062-2078.	0.5	15
60	A model to investigate the mechanisms underlying the emergence and development of independent sitting. <i>Developmental Science</i> , 2015, 18, 622-634.	1.3	2
61	Towards a comprehensive model for a resonant nanoelectromechanical system. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 095010.	1.5	2
62	Dynamics of Globally and Dissipatively Coupled Resonators. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2015, 137, .	1.0	7
63	On the Thermomechanical Response of HTPB-Based Composite Beams Under Near-Resonant Excitation. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2015, 137, .	1.0	8
64	On the Thermomechanical Response of HTPB Composite Beams Under Near-Resonant Base Excitation. , 2014, , .		2
65	Thermal and mechanical response of particulate composite plates under inertial excitation. <i>Journal of Applied Physics</i> , 2014, 116, .	1.1	18
66	Heat generation in an elastic binder system with embedded discrete energetic particles due to high-frequency, periodic mechanical excitation. <i>Journal of Applied Physics</i> , 2014, 116, .	1.1	17
67	A single-input, single-output electromagnetically-transduced microresonator array. <i>Journal of Micromechanics and Microengineering</i> , 2014, 24, 065005.	1.5	7
68	The non-linear dynamics of electromagnetically actuated microbeam resonators with purely parametric excitations. <i>International Journal of Non-Linear Mechanics</i> , 2013, 55, 79-89.	1.4	36
69	On the Nonlinear Dynamics of Electromagnetically Transduced Microresonators. <i>Journal of Microelectromechanical Systems</i> , 2013, 22, 1020-1031.	1.7	10
70	Thermal and mechanical response of PBX 9501 under contact excitation. <i>Journal of Applied Physics</i> , 2013, 113, 084904.	1.1	33
71	Thermal and Mechanical Responses of Particulate Composite Plates Under Direct Excitation. , 2013, , .		2
72	Defect-Induced Mechanical Mode Splitting in Carbon Nanotube Resonators. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2013, 135, .	1.0	5

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73	Parametric noise squeezing and parametric resonance of microcantilevers in air and liquid environments. Review of Scientific Instruments, 2012, 83, 065109.	0.6	61
74	Modeling and Analysis of an Optically-Actuated, Bistable MEMS Device. Journal of Computational and Nonlinear Dynamics, 2012, 7, .	0.7	5
75	Low-frequency meandering piezoelectric vibration energy harvester. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 846-858.	1.7	94
76	Wide-bandwidth, meandering vibration energy harvester with distributed circuit board inertial mass. Sensors and Actuators A: Physical, 2012, 188, 148-157.	2.0	31
77	Modeling, Analysis, and Experimental Validation of a Bifurcation-Based Microsensor. Journal of Microelectromechanical Systems, 2012, 21, 549-558.	1.7	48
78	Tunable, Dual-Gate, Silicon-on-Insulator (SOI) Nanoelectromechanical Resonators. IEEE Nanotechnology Magazine, 2012, 11, 1093-1099.	1.1	16
79	A band-pass filter approach within molecular dynamics for the prediction of intrinsic quality factors of nanoresonators. Journal of Applied Physics, 2012, 112, .	1.1	14
80	On the Dynamics of Two Mutually-Coupled, Electromagnetically-Actuated Microbeam Oscillators. Journal of Computational and Nonlinear Dynamics, 2012, 7, .	0.7	5
81	On the Nonlinear Dynamics of Electromagnetically-Transduced Microresonators. , 2012, , .		1
82	Sources and implications of resonant mode splitting in silicon nanowire devices. Nanotechnology, 2011, 22, 455502.	1.3	9
83	On the Dynamics of Two Mutually-Coupled, Electromagnetically-Actuated Microbeam Oscillators. , 2011, , .		2
84	Observation of nonclassical scaling laws in the quality factors of cantilevered carbon nanotube resonators. Journal of Applied Physics, 2011, 110, .	1.1	33
85	Nonlinear parametric amplification and attenuation in a base-excited cantilever beam. Journal of Sound and Vibration, 2011, 330, 5401-5409.	2.1	20
86	Bifurcation-based mass sensing using piezoelectrically-actuated microcantilevers. Applied Physics Letters, 2011, 98, .	1.5	118
87	Modeling, Analysis, and Experimental Validation of a Bifurcation-Based Microsensor. , 2011, , .		2
88	Linear and Nonlinear Mass Sensing Using Piezoelectrically-Actuated Microcantilevers. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 57-65.	0.3	3
89	Microelectromechanical bandpass filters based on cyclic coupling architectures. Journal of Sound and Vibration, 2010, 329, 4313-4332.	2.1	26
90	Modeling and Analysis of an Optically-Actuated, Bistable MEMS Device. , 2010, , .		1

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91	Nonlinear Dynamics and Its Applications in Micro- and Nanoresonators. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2010, 132, .	0.9	217
92	The impact of nonlinearity on degenerate parametric amplifiers. Applied Physics Letters, 2010, 96, .	1.5	62
93	MEMS Bandpass Filters Based on Cyclic Coupling Architectures. , 2009, , .		4
94	Nonlinear Dynamics and Its Applications in Micro- and Nanoresonators. , 2008, , .		30
95	A single input-single output coupled microresonator array for the detection and identification of multiple analytes. Applied Physics Letters, 2008, 93, .	1.5	75
96	Mechanical Domain Parametric Amplification. Journal of Vibration and Acoustics, Transactions of the ASME, 2008, 130, .	1.0	47
97	The Effects of Nonlinearity on Parametric Amplifiers. , 2008, , .		3
98	Linear and Nonlinear Tuning of Parametrically Excited MEMS Oscillators. Journal of Microelectromechanical Systems, 2007, 16, 310-318.	1.7	94
99	A single inputâ€“single output mass sensor based on a coupled array of microresonators. Sensors and Actuators A: Physical, 2007, 137, 147-156.	2.0	47
100	The nonlinear response of resonant microbeam systems with purely-parametric electrostatic actuation. Journal of Micromechanics and Microengineering, 2006, 16, 890-899.	1.5	158
101	Generalized parametric resonance in electrostatically actuated microelectromechanical oscillators. Journal of Sound and Vibration, 2006, 296, 797-829.	2.1	194
102	Nonlinear Response of Parametrically-Excited MEMS. , 2005, , 453.		3
103	Tunable Microelectromechanical Filters that Exploit Parametric Resonance. Journal of Vibration and Acoustics, Transactions of the ASME, 2005, 127, 423-430.	1.0	122
104	Parametrically Excited MEMS-Based Filters. , 2005, , 137-146.		15
105	Use of workedâ€“example videos to support problemâ€“solving: An analysis of student behavior. Computer Applications in Engineering Education, 0, , .	2.2	1
106	Work in Progress: Active Learning Activities to Improve Conceptual Understanding in an Undergraduate Mechanics of Materials Course. , 0, , .		1
107	What does an In-Class Meeting Entail? A Characterization and Assessment of Instructor Actions in an Active, Blended, and Collaborative Classroom. , 0, , .		0