

Zayd C Leseman

List of Publications by Year in descending order

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80
papers

1,512
citations

471509

17
h-index

315739

38
g-index

81
all docs

81
docs citations

81
times ranked

1692
citing authors

#	ARTICLE	IF	CITATIONS
1	Reduction in the Thermal Conductivity of Single Crystalline Silicon by Phononic Crystal Patterning. Nano Letters, 2011, 11, 107-112.	9.1	429
2	Thermal transport in phononic crystals and the observation of coherent phonon scattering at room temperature. Nature Communications, 2015, 6, 7228.	12.8	135
3	Sub-pg mass sensing and measurement with an optomechanical oscillator. Optics Express, 2013, 21, 19555.	3.4	109
4	Size effects on the thermal conductivity of amorphous silicon thin films. Physical Review B, 2016, 93, .	3.2	95
5	Realization of a phononic crystal operating at gigahertz frequencies. Applied Physics Letters, 2010, 96, .	3.3	64
6	Phononic crystals operating in the gigahertz range with extremely wide band gaps. Applied Physics Letters, 2010, 97, .	3.3	59
7	High In-Plane Thermal Conductivity of Aluminum Nitride Thin Films. ACS Nano, 2021, 15, 9588-9599.	14.6	58
8	Thermo-optomechanical oscillator for sensing applications. Optics Express, 2013, 21, 4653.	3.4	41
9	Acoustic waveguiding in a silicon carbide phononic crystals at microwave frequencies. Applied Physics Letters, 2018, 112, .	3.3	32
10	Demonstration of acoustic waveguiding and tight bending in phononic crystals. Applied Physics Letters, 2016, 109, .	3.3	29
11	Design and characterization of a low temperature gradient and large displacement thermal actuators for <i>in situ</i> mechanical testing of nanoscale materials. Journal of Micromechanics and Microengineering, 2012, 22, 125027.	2.6	26
12	Experimental Measurements of the Strain Energy Release Rate for Stiction-Failed Microcantilevers Using a Single-Cantilever Beam Peel Test. Journal of Microelectromechanical Systems, 2007, 16, 38-43.	2.5	23
13	On the Use of Structural Vibrations to Release Stiction Failed MEMS. Journal of Microelectromechanical Systems, 2007, 16, 163-173.	2.5	22
14	Thermal conductivity prediction of nanoscale phononic crystal slabs using a hybrid lattice dynamics-continuum mechanics technique. AIP Advances, 2011, 1, .	1.3	21
15	Direct synthesis and characterization of a nonwoven structure comprised of carbon nanofibers. Carbon, 2013, 57, 363-370.	10.3	19
16	The production of carbon nanofibers and thin films on palladium catalysts from ethylene-oxygen mixtures. Carbon, 2009, 47, 2269-2280.	10.3	18
17	Realization of a 33 GHz phononic crystal fabricated in a freestanding membrane. AIP Advances, 2011, 1, .	1.3	18
18	Thermal conductivity measurements of sub-surface buried substrates by steady-state thermoreflectance. Review of Scientific Instruments, 2021, 92, 064906.	1.3	17

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19	The effect of powder sintering on the palladium-catalyzed formation of carbon nanofibers from ethylene-oxygen mixtures. Carbon, 2010, 48, 1932-1938.	10.3	15
20	Atomistic Field Theory for contact electrification of dielectrics. Journal of Electrostatics, 2018, 96, 10-15.	1.9	15
21	Effects of release holes on microscale solid-solid phononic crystals. Applied Physics Letters, 2010, 97, .	3.3	14
22	Effects of flexural and extensional excitation modes on the transmission spectrum of phononic crystals operating at gigahertz frequencies. Journal of Applied Physics, 2013, 113, .	2.5	14
23	Bioinspired Manufacturing of Aerogels with Precisely Manipulated Surface Microstructure through Controlled Local Temperature Gradients. ACS Applied Materials & Interfaces, 2021, 13, 924-931.	8.0	14
24	Mechanical and Electrical Characterization of Entangled Networks of Carbon Nanofibers. Materials, 2014, 7, 4845-4853.	2.9	13
25	Indentation testing of axisymmetric freestanding nanofilms using a MEMS load cell. Sensors and Actuators A: Physical, 2007, 134, 264-270.	4.1	12
26	Formation of Carbon Nanofibers and Thin Films Catalyzed by Palladium in Ethylene-Hydrogen Mixtures. Journal of Physical Chemistry C, 2010, 114, 5804-5810.	3.1	12
27	Enhanced plane wave expansion analysis for the band structure of bulk modes in two-dimensional high-contrast solid-solid phononic crystals. Photonics and Nanostructures - Fundamentals and Applications, 2014, 12, 487-492.	2.0	12
28	Ultra-high frequency, high Q/volume micromechanical resonators in a planar AlN phononic crystal. Journal of Applied Physics, 2016, 120, .	2.5	12
29	Microfabricated suspended island platform for the measurement of in-plane thermal conductivity of thin films and nanostructured materials with consideration of contact resistance. Review of Scientific Instruments, 2013, 84, 105003.	1.3	11
30	Nanoscale size effects on the mechanical properties of platinum thin films and cross-sectional grain morphology. Journal of Micromechanics and Microengineering, 2016, 26, 015007.	2.6	11
31	A Fracture Mechanics Description of Stress-Wave Repair in Stiction-Failed Microcantilevers: Theory and Experiments. Journal of Microelectromechanical Systems, 2007, 16, 904-911.	2.5	9
32	A traceable calibration procedure for MEMS-based load cells. International Journal of Mechanics and Materials in Design, 2008, 4, 383-389.	3.0	8
33	Improved model for the adhesion of $1/4$ cantilevers: theory and experiments. Journal of Micromechanics and Microengineering, 2013, 23, 115011.	2.6	8
34	The effect of stiffness and mass on coupled oscillations in a phononic crystal. AIP Advances, 2013, 3, 112121.	1.3	8
35	Mode II adhesion energy analysis of stiction-failed poly-Si μ cantilevers using a MEMS load cell. Journal of Micromechanics and Microengineering, 2019, 29, 075013.	2.6	8
36	Controlling carbon nanofibre morphology for improved composite reinforcement. International Journal of Materials and Structural Integrity, 2009, 3, 179.	0.1	7

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37	Accelerated growth of carbon nanofibers using physical mixtures and alloys of Pd and Co in an ethylene-hydrogen environment. Carbon, 2011, 49, 1058-1066.	10.3	7
38	Pulsed vacuum and etching systems: Theoretical design considerations for a pulsed vacuum system and its application to XeF ₂ etching of Si. Vacuum, 2014, 109, 216-222.	3.5	7
39	Enhancing Mechanical Quality Factors of Micro-Toroidal Optomechanical Resonators Using Phononic Crystals. Journal of Microelectromechanical Systems, 2016, 25, 311-319.	2.5	7
40	Thermal conductivity manipulation in single crystal silicon via lithographically defined phononic crystals. , 2012, , .		6
41	A Laboratory Project on the Theory, Fabrication, and Characterization of a Silicon-On-Insulator Micro-Comb Drive Actuator With Fixed-Fixed Beams. IEEE Transactions on Education, 2012, 55, 1-8.	2.4	6
42	Thermal conductivity and nanocrystalline structure of platinum deposited by focused ion beam. Nanotechnology, 2015, 26, 085704.	2.6	6
43	Thermal Conductivity of Turbostratic Carbon Nanofiber Networks. Journal of Heat Transfer, 2016, 138, .	2.1	5
44	Reduction and Increase in Thermal Conductivity of Si Irradiated with Ga ⁺ via Focused Ion Beam. ACS Applied Materials & Interfaces, 2018, 10, 37679-37684.	8.0	5
45	Micro and nano fabricated phononic crystals: technology and applications. , 2011, , .		4
46	Determination of etching parameters for pulsed XeF ₂ etching of silicon using chamber pressure data. Journal of Micromechanics and Microengineering, 2018, 28, 045007.	2.6	4
47	Basic MEMS Actuators. , 2016, , 1-16.		4
48	Novel Graphitic Structures by Design. , 2007, , .		4
49	Nano/Micro Patterned Phononic Crystals. ECS Transactions, 2013, 50, 449-458.	0.5	3
50	Design of a Microscale Optomechanical Load Cell for Micro-/Nanostructured Materials Testing Applications. Arabian Journal for Science and Engineering, 2022, 47, 1053-1067.	3.0	3
51	Theory, Fabrication, and Characterization of MEMS Devices: An Interdisciplinary Course for Mechanical Engineers. , 2006, , 3.		2
52	Mode I and Mixed Mode I and II Measurements for Stiction Failed MEMS Devices. , 2009, , .		2
53	Nonlinear Approach for Strain Energy Release Rate in Micro Cantilevers. , 2010, , .		2
54	Mode II Measurements for Stiction Failed MEMS Devices. , 2010, , .		2

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55	Finite Element Analysis of a Phononic Crystal at Gigahertz Frequencies. , 2010, , .		2
56	Unveiling the nature of nanoscale crystal plasticity using straws. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, L13-L16.	1.2	2
57	Manipulation of thermal phonons: a phononic crystal route to High-ZT thermoelectrics. Proceedings of SPIE, 2011, , .	0.8	2
58	Measurement of In-Plane Thermal Conductivity Using Suspended SiNx Islands. , 2012, , .		2
59	Planes approximation method for investigating the physical origins of deep, wide phononic bandgaps. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 446, 128267.	2.1	2
60	A Fracture Mechanics Model for the Repair of Microcantilevers by Laser Induced Stress Waves. , 2005, , 353.		1
61	Repair of Stiction Failed MEMS Using Structural Vibrations. , 2007, , 105.		1
62	The Effect of Temperature on the Etch Rate and Roughness of Surfaces Etched With XEF2. , 2010, , .		1
63	Mechanical Testing of Freestanding Nano-Films Using a Novel Finite Diameter Tip MEMS-Based Testing Machine. , 2005, , .		1
64	A Standard Approach for Measuring Adhesion Energies in Stiction-Failed Microdevices. , 2006, , .		1
65	Mechanical Testing of Freestanding Nano-Films Using a Novel Finite Diameter Tip MEMS-Based Testing Machine. , 2005, , 473.		0
66	Measurements of the Mechanical Properties of Freestanding Nanoscale Membranes. , 2006, , 323.		0
67	Aerosol Synthesis of Nano and Micro-Scale Zero Valent Nickel Particles From Oxide Precursors. , 2010, , .		0
68	Characterization of T8 Tempered Al-Li-Cu alloy (AA2195) by Using AC- STEM. Microscopy and Microanalysis, 2016, 22, 1946-1947.	0.4	0
69	Two-Dimensional Heat Transfer Considerations for Thermoreflectance Measurements. , 2018, , .		0
70	1D thermal characterization of micro/nano-cantilevers for Suspended ThermoReflectance measurements. AIP Advances, 2019, 9, 085315.	1.3	0
71	Planar Miniaturized Fast Neutron Detector spectroscopy evaluation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1020, 165865.	1.6	0
72	Ultra Low Cycle Fatigue of Axisymmetric Freestanding Nanoscale Gold Films. , 2007, , .		0

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73	Use of Radiation Pressure to Calibrate Sub Micro-Newton Forces and Damping Ratios. , 2010, , .		0
74	Thermo-optomechanical oscillator for sensing applications. , 2013, , .		0
75	On the Performance and Sensitivity Limit of Mass Sensing with Optomechanical Oscillation. , 2013, , .		0
76	Basic MEMS Actuators. , 2016, , 205-220.		0
77	Fabrication, Modeling, and Testing of a Miniaturized Fast Neutron Detector. , 2019, , .		0
78	Thermal Property Measurements of Si $\hat{\mu}$ -Cantilever Beams Using the Suspended Thermoreflectance Technique. , 2019, , .		0
79	Opportunities for Radiation Pressure in Characterization of Micro- / Nano-Materials. , 2019, , .		0
80	Validation of an Atomistic Field Theory for Contact Electrification Using a MEMS Load Cell. , 2019, , .		0