Horacio D Espinosa

List of Publications by Year
in descending order

182 papers	12,568 citations	22099 59 h-index	25716 108 g-index
197 all docs	197 docs citations	197 times ranked	11266 citing authors

#	Article	IF	Citations
1	Edgeâ€Mediated Annihilation of Vacancy Clusters in Monolayer Molybdenum Diselenide (MoSe₂) under Electron Beam Irradiation. Small, 2022, 18, e2105194.	5.2	4
2	Facile fabrication of 2D material multilayers and vdW heterostructures with multimodal microscopy and AFM characterization. Materials Today, 2022, 52, 31-42.	8.3	6
3	Revealing Layerâ€Specific Ultrastructure and Nanomechanics of Fibrillar Collagen in Human Aorta via Atomic Force Microscopy Testing: Implications on Tissue Mechanics at Macroscopic Scale. Advanced NanoBiomed Research, 2022, 2, .	1.7	15
4	Deep Learningâ€Assisted Automated Single Cell Electroporation Platform for Effective Genetic Manipulation of Hardâ€toâ€Transfect Cells. Small, 2022, 18, e2107795.	5.2	14
5	High-Throughput Microfluidics Platform for Intracellular Delivery and Sampling of Biomolecules from Live Cells. ACS Nano, 2022, 16, 7937-7946.	7.3	10
6	Deep Learningâ€Assisted Automated Single Cell Electroporation Platform for Effective Genetic Manipulation of Hardâ€toâ€Transfect Cells (Small 20/2022). Small, 2022, 18, .	5.2	2
7	Programmable 3D structures via Kirigami engineering and controlled stretching. Extreme Mechanics Letters, 2021, 43, 101146.	2.0	11
8	Kirigami Engineeringâ€”Nanoscale Structures Exhibiting a Range of Controllable 3D Configurations. Advanced Materials, 2021, 33, e2005275.	11.1	21
9	Deep Learning and Computer Vision Strategies for Automated Gene Editing with a Single-Cell Electroporation Platform. SLAS Technology, 2021, 26, 26-36.	1.0	10
10	A matter of size? Material, structural and mechanical strategies for size adaptation in the elytra of Cetoniinae beetles. Acta Biomaterialia, 2021, 122, 236-248.	4.1	14
11	In-Situ SEM High Strain Rate Testing of Large Diameter Micropillars Followed by TEM and EBSD Postmortem Analysis. Experimental Mechanics, 2021, 61, 739-752.	1.1	4
12	Magnetically induced micropillar arrays for an ultrasensitive flexible sensor with a wireless recharging system. Science China Materials, 2021, 64, 1977-1988.	3.5	13
13	Multi-objective parametrization of interatomic potentials for large deformation pathways and fracture of two-dimensional materials. Npj Computational Materials, 2021, 7, .	3.5	9
14	Atomistic mechanisms of adhesion and shear strength in graphene oxide-polymer interfaces. Journal of the Mechanics and Physics of Solids, 2021, 156, 104578.	2.3	10
15	Nanofountain Probe Electroporation Enables Versatile Singleâ€Cell Intracellular Delivery and Investigation of Postpulse Electropore Dynamics. Small, 2020, 16, e2002616.	5.2	17
16	High Throughput and Highly Controllable Methods for In Vitro Intracellular Delivery. Small, 2020, 16, e2004917.	5.2	32
17	Folding at the Microscale: Enabling Multifunctional 3D Origamiâ€Architected Metamaterials. Small, 2020, 16, e2002229.	5.2	30
18	Mechanical Metamaterials: Folding at the Microscale: Enabling Multifunctional 3D Origamiâ€Architected Metamaterials (Small 35/2020). Small, 2020, 16, 2070192.	5.2	1

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19	Enzyme Sampling: Temporal Sampling of Enzymes from Live Cells by Localized Electroporation and Quantification of Activity by SAMDI Mass Spectrometry (Small 26/2020). Small, 2020, 16, 2070144.	5.2	0
20	Scaling up single-cell mechanics to multicellular tissues â€" the role of the intermediate filamentâ€"desmosome network. Journal of Cell Science, 2020, 133, .	1.2	42
21	Temporal Sampling of Enzymes from Live Cells by Localized Electroporation and Quantification of Activity by SAMDI Mass Spectrometry. Small, 2020, 16, e2000584.	5.2	17
22	Nanofountain Probe Electroporation for Monoclonal Cell Line Generation. Methods in Molecular Biology, 2020, 2050, 59-68.	0.4	2
23	Stiffening of graphene oxide films by soft porous sheets. Nature Communications, 2019, 10, 3677.	5.8	48
24	Atomically Thin Polymer Layer Enhances Toughness of Graphene Oxide Monolayers. Matter, 2019, 1, 369-388.	5.0	32
25	Nonlinear Mode Coupling and One-to-One Internal Resonances in a Monolayer WS₂ Nanoresonator. Nano Letters, 2019, 19, 4052-4059.	4.5	24
26	Nanoscale toughening of ultrathin graphene oxide-polymer composites: mechanochemical insights into hydrogen-bonding/van der Waals interactions, polymer chain alignment, and steric parameters. Nanoscale, 2019, 11, 12305-12316.	2.8	22
27	An Experimental Setup for Combined In-Vacuo Raman Spectroscopy and Cavity-Interferometry Measurements on TMDC Nano-resonators. Experimental Mechanics, 2019, 59, 349-359.	1.1	6
28	Load Sensor Instability and Optimization of MEMS-based Tensile Testing Devices. Frontiers in Materials, 2019, 6, .	1.2	4
29	Localized electroporation with track-etched membranes. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22909-22910.	3.3	8
30	Lessons from the Ocean: Whale Baleen Fracture Resistance. Advanced Materials, 2019, 31, e1804574.	11.1	40
31	Identification of Deformation Mechanisms in Biomaterials Through AFM and Digital Image Correlation. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 89-93.	0.3	1
32	Monoclonal Cell Line Generation and CRISPR/Cas9 Manipulation via Singleâ€Cell Electroporation. Small, 2018, 14, e1702495.	5.2	37
33	Formulation and validation of a reduced order model of 2D materials exhibiting a two-phase microstructure as applied to graphene oxide. Journal of the Mechanics and Physics of Solids, 2018, 112, 66-88.	2.3	26
34	Techniques to stimulate and interrogate cellâ€"cell adhesion mechanics. Extreme Mechanics Letters, 2018, 20, 125-139.	2.0	16
35	Combined Numerical and Experimental Investigation of Localized Electroporation-Based Cell Transfection and Sampling. ACS Nano, 2018, 12, 12118-12128.	7.3	85
36	Revealing the Mechanics of Helicoidal Composites through Additive Manufacturing and Beetle Developmental Stage Analysis. Advanced Functional Materials, 2018, 28, 1803073.	7.8	55

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37	The Role of Water in Mediating Interfacial Adhesion and Shear Strength in Graphene Oxide. ACS Nano, 2018, 12, 6089-6099.	7.3	70
38	Lessons from tooth enamel. Nature, 2017, 543, 42-43.	13.7	11
39	Extreme lightweight structures: avian feathers and bones. Materials Today, 2017, 20, 377-391.	8.3	104
40	The desmoplakinâ€“intermediate filament linkage regulates cell mechanics. Molecular Biology of the Cell, 2017, 28, 3156-3164.	0.9	70
41	Reliability of Single Crystal Silver Nanowire-Based Systems: Stress Assisted Instabilities. ACS Nano, 2017, 11, 4768-4776.	7.3	26
42	Lamellae spatial distribution modulates fracture behavior and toughness of african pangolin scales. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 76, 30-37.	1.5	12
43	A coarse-grained model for the mechanical behavior of graphene oxide. Carbon, 2017, 117, 476-487.	5.4	47
44	AFM Identification of Beetle Exocuticle: Bouligand Structure and Nanofiber Anisotropic Elastic Properties. Advanced Functional Materials, 2017, 27, 1603993.	7.8	50
45	Hierarchical structure and compressive deformation mechanisms of bighorn sheep (Ovis canadensis) horn. Acta Biomaterialia, 2017, 64, 1-14.	4.1	60
46	Preface. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 76, 1-3.	1.5	0
47	Reversible Attachment with Tailored Permeability: The Feather Vane and Bioinspired Designs. Advanced Functional Materials, 2017, 27, 1702954.	7.8	18
48	Micro- and Nanoscale Technologies for Delivery into Adherent Cells. Trends in Biotechnology, 2016, 34, 665-678.	4.9	44
49	Engineering the Mechanical Properties of Monolayer Graphene Oxide at the Atomic Level. Journal of Physical Chemistry Letters, 2016, 7, 2702-2707.	2.1	60
50	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. ACS Nano, 2016, 10, 1820-1828.	7.3	112
51	Sustaining dry surfaces under water. Scientific Reports, 2015, 5, 12311.	1.6	56
52	Plasticity and ductility in graphene oxide through a mechanochemically induced damage tolerance mechanism. Nature Communications, 2015, 6, 8029.	5.8	95
53	Statistical shear lag model â€“ Unraveling the size effect in hierarchical composites. Acta Biomaterialia, 2015, 18, 206-212.	4.1	39
54	Singleâ€Cell Detection of mRNA Expression Using Nanofountainâ€Probe Electroporated Molecular Beacons. Small, 2015, 11, 2386-2391.	5.2	32

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55	Molecular-Level Engineering of Adhesion in Carbon Nanomaterial Interfaces. Nano Letters, 2015, 15, 4504-4516.	4.5	25
56	Pushing the Envelope of <i>In Situ</i> Transmission Electron Microscopy. ACS Nano, 2015, 9, 4675-4685.	7.3	80
57	Double-tilt in situ TEM holder with multiple electrical contacts and its application in MEMS-based mechanical testing of nanomaterials. Ultramicroscopy, 2015, 156, 23-28.	0.8	32
58	A new Monte Carlo model for predicting the mechanical properties of fiber yarns. Journal of the Mechanics and Physics of Solids, 2015, 84, 325-335.	2.3	22
59	Isolating single cells in a neurosphere assay using inertial microfluidics. Lab on A Chip, 2015, 15, 4591-4597.	3.1	48
60	Multiphysics design and implementation of a microsystem for displacement-controlled tensile testing of nanomaterials. Meccanica, 2015, 50, 549-560.	1.2	28
61	Defectâ€Tolerant Nanocomposites through Bioâ€Inspired Stiffness Modulation. Advanced Functional Materials, 2014, 24, 2883-2891.	7.8	28
62	Optimization of a microfluidic device for localized electroporation of cells. , 2014, , .		2
63	Microfluidic Parallel Patterning and Cellular Delivery of Molecules with a Nanofountain Probe. Journal of the Association for Laboratory Automation, 2014, 19, 100-109.	2.8	14
64	Microfluidics & nanotechnology: towards fully integrated analytical devices for the detection of cancer biomarkers. RSC Advances, 2014, 4, 55590-55598.	1.7	30
65	Atomistic Mechanical Testing of Nanostructures â€“ Seeing the Invisible and Bridging Theory and Experiments. Procedia IUTAM, 2014, 10, 447-452.	1.2	1
66	In Situ Scanning Electron Microscope Peeling To Quantify Surface Energy between Multiwalled Carbon Nanotubes and Graphene. ACS Nano, 2014, 8, 124-138.	7.3	37
67	Key Factors Limiting Carbon Nanotube Yarn Strength: Exploring Processing-Structure-Property Relationships. ACS Nano, 2014, 8, 11454-11466.	7.3	68
68	Shear and Friction between Carbon Nanotubes in Bundles and Yarns. Nano Letters, 2014, 14, 6138-6147.	4.5	37
69	Microfluidic device for stem cell differentiation and localized electroporation of postmitotic neurons. Lab on A Chip, 2014, 14, 4486-4495.	3.1	62
70	In Situ Electron Microscopy Fourâ€Point Electromechanical Characterization of Freestanding Metallic and Semiconducting Nanowires. Small, 2014, 10, 725-733.	5.2	40
71	USNCTAM perspectives on mechanics in medicine. Journal of the Royal Society Interface, 2014, 11, 20140301.	1.5	35
72	Experimental and Theoretical Studies of Fiber-Reinforced Composite Panels Subjected to Underwater Blast Loading. , 2014, , 91-122.		1

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73	In situ transmission electron microscope tensile testing reveals structureâ€“property relationships in carbon nanofibers. Carbon, 2013, 60, 246-253.	5.4	55
74	Three-dimensional numerical modeling of composite panels subjected to underwater blast. Journal of the Mechanics and Physics of Solids, 2013, 61, 1319-1336.	2.3	78
75	Extraordinary Improvement of the Graphitic Structure of Continuous Carbon Nanofibers Templated with Double Wall Carbon Nanotubes. ACS Nano, 2013, 7, 126-142.	7.3	84
76	A new rate-dependent unidirectional composite model â€“ Application to panels subjected to underwater blast. Journal of the Mechanics and Physics of Solids, 2013, 61, 1305-1318.	2.3	47
77	Bio-Inspired Carbon Nanotubeâ€“Polymer Composite Yarns with Hydrogen Bond-Mediated Lateral Interactions. ACS Nano, 2013, 7, 3434-3446.	7.3	103
78	Atomistic Investigation of Load Transfer Between DWNT Bundles â€œCrosslinkedâ€•by PMMA Oligomers. Advanced Functional Materials, 2013, 23, 1883-1892.	7.8	48
79	Nanofountain Probe Electroporation (NFP-E) of Single Cells. Nano Letters, 2013, 13, 2448-2457.	4.5	102
80	Carbon Nanotubes: Atomistic Investigation of Load Transfer Between DWNT Bundles â€œCrosslinkedâ€•by PMMA Oligomers (Adv. Funct. Mater. 15/2013). Advanced Functional Materials, 2013, 23, 1976-1976.	7.8	0
81	Optimization of nanofountain probe microfabrication enables large-scale nanopatterning. Journal of Micromechanics and Microengineering, 2013, 23, 125014.	1.5	6
82	In Situ TEM Electromechanical Testing of Nanowires and Nanotubes. Small, 2012, 8, 3233-3252.	5.2	79
83	Individual GaN Nanowires Exhibit Strong Piezoelectricity in 3D. Nano Letters, 2012, 12, 970-976.	4.5	125
84	Experimental-Computational Study of Shear Interactions within Double-Walled Carbon Nanotube Bundles. Nano Letters, 2012, 12, 732-742.	4.5	53
85	Nucleationâ€Controlled Distributed Plasticity in Pentaâ€twinned Silver Nanowires. Small, 2012, 8, 2986-2993.	5.2	101
86	Nanoelectromechanical contact switches. Nature Nanotechnology, 2012, 7, 283-295.	15.6	355
87	A Review of Mechanical and Electromechanical Properties of Piezoelectric Nanowires. Advanced Materials, 2012, 24, 4656-4675.	11.1	259
88	Optimal Length Scales Emerging from Shear Load Transfer in Natural Materials: Application to Carbon-Based Nanocomposite Design. ACS Nano, 2012, 6, 2333-2344.	7.3	186
89	Multiscale Experimental Mechanics of Hierarchical Carbonâ€Based Materials. Advanced Materials, 2012, 24, 2805-2823.	11.1	52
90	Carbonâ€Carbon Contacts for Robust Nanoelectromechanical Switches. Advanced Materials, 2012, 24, 2463-2468.	11.1	35

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91	Mechanical characterization of materials at small length scales. Journal of Mechanical Science and Technology, 2012, 26, 545-561.	0.7	82
92	Design and identification of high performance steel alloys for structures subjected to underwater impulsive loading. International Journal of Solids and Structures, 2012, 49, 1573-1587.	1.3	31
93	Tablet-level origin of toughening in abalone shells and translation to synthetic composite materials. Nature Communications, 2011, 2, 173.	5.8	324
94	Characterizing Atomic Composition and Dopant Distribution in Wide Band Gap Semiconductor Nanowires Using Laser-Assisted Atom Probe Tomography. Journal of Physical Chemistry C, 2011, 115, 17688-17694.	1.5	75
95	Effect of Growth Orientation and Diameter on the Elasticity of GaN Nanowires. A Combined in Situ TEM and Atomistic Modeling Investigation. Nano Letters, 2011, 11, 548-555.	4.5	85
96	Giant Piezoelectric Size Effects in Zinc Oxide and Gallium Nitride Nanowires. A First Principles Investigation. Nano Letters, 2011, 11, 786-790.	4.5	267
97	The Evolving Role of Experimental Mechanics in 1-D Nanostructure-Based Device Development. Experimental Mechanics, 2011, 51, 1-9.	1.1	10
98	In-situ AFM Experiments with Discontinuous DIC Applied to Damage Identification in Biomaterials. Experimental Mechanics, 2011, 51, 591-607.	1.1	21
99	Robust Carbonâ€Nanotubeâ€Based Nanoâ€electromechanical Devices: Understanding and Eliminating Prevalent Failure Modes Using Alternative Electrode Materials. Small, 2011, 7, 79-86.	5.2	35
100	Ultrahigh Strength and Stiffness in Crossâ€Linked Hierarchical Carbon Nanotube Bundles. Advanced Materials, 2011, 23, 2855-2860.	11.1	213
101	Dimensional analysis and parametric studies for designing artificial nacre. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 190-211.	1.5	58
102	Failure mechanisms in composite panels subjected to underwater impulsive loads. Journal of the Mechanics and Physics of Solids, 2011, 59, 1623-1646.	2.3	84
103	Strong piezoelectricity in individual GaN nanowires. MRS Communications, 2011, 1, 45-48.	0.8	15
104	Experimental Characterization of Composite Structures Subjected to Underwater Impulsive Loadings. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 239-240.	0.3	0
105	Novel Synthetic Material Mimicking Mechanisms from Natural Nacre. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 289-290.	0.3	0
106	Arrays of Robust Carbon Nanotube-Based NEMS: A Combined Experimental/Computational Investigation. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 81-82.	0.3	0
107	Numerical Study of Composite Panels Subjected to Underwater Blasts. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 169-170.	0.3	0
108	Celebrating 50 Years of Experimental Mechanics. Experimental Mechanics, 2010, 50, 1-2.	1.1	4

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109	Shear and tensile plastic behavior of austenitic steel TRIP-120 compared with martensitic steel HSLA-100. International Journal of Fracture, 2010, 162, 187-204.	1.1	9
110	Comparison of the Ewald and Wolf methods for modeling electrostatic interactions in nanowires. International Journal for Numerical Methods in Engineering, 2010, 84, 1541-1551.	1.5	27
111	MEMS for <i>In Situ</i> Testingâ€"Handling, Actuation, Loading, and Displacement Measurements. MRS Bulletin, 2010, 35, 375-381.	1.7	81
112	Large-Scale Density Functional Theory Investigation of Failure Modes in ZnO Nanowires. Nano Letters, 2010, 10, 3432-3438.	4.5	33
113	A Multiscale Study of High Performance Double-Walled Nanotubeâˆ'Polymer Fibers. ACS Nano, 2010, 4, 6463-6476.	7.3	120
114	Nanofountain Probes for direct-write nanomanufacturing and in vitro single cell studies. , 2010, , .		0
115	Scanning Probes for the Life Sciences. , 2010, , 27-61.		0
116	An energy-based model to predict wear in nanocrystalline diamond atomic force microscopy tips. Journal of Applied Physics, 2009, 106, .	1.1	31
117	Multiscale Experiments: State of the Art and Remaining Challenges. Journal of Engineering Materials and Technology, Transactions of the ASME, 2009, 131, .	0.8	32
118	Merger of structure and material in nacre and bone â€" Perspectives on de novo biomimetic materials. Progress in Materials Science, 2009, 54, 1059-1100.	16.0	659
119	The Potential of MEMS for Advancing Experiments and Modeling in Cell Mechanics. Experimental Mechanics, 2009, 49, 105-124.	1.1	59
120	Deformation and Failure Modes of I-Core Sandwich Structures Subjected to Underwater Impulsive Loads. Experimental Mechanics, 2009, 49, 257-275.	1.1	60
121	Tailoring the Load Carrying Capacity of MWCNTs Through Inter-shell Atomic Bridging. Experimental Mechanics, 2009, 49, 169-182.	1.1	45
122	Modeling and Experiments in Cell and Biomolecular Mechanics. Experimental Mechanics, 2009, 49, 1-2.	1.1	3
123	Rodney James Clifton. Experimental Mechanics, 2009, 49, 165-168.	1.1	0
124	Nanofountainâ€Probeâ€Based Highâ€Resolution Patterning and Singleâ€Cell Injection of Functionalized Nanodiamonds. Small, 2009, 5, 1667-1674.	5.2	74
125	Mechanics of Crystalline Nanowires. MRS Bulletin, 2009, 34, 178-183.	1.7	166
126	Experimental-Computational Investigation of ZnO nanowires Strength and Fracture. Nano Letters, 2009, 9, 4177-4183.	4.5	189

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127	Special Issue on Advances in Impact Engineering. Journal of Applied Mechanics, Transactions ASME, 2009, 76, .	1.1	0
128	Measurements of near-ultimate strength for multiwalled carbon nanotubes and irradiation-induced crosslinking improvements. Nature Nanotechnology, 2008, 3, 626-631.	15.6	972
129	Elasticity Size Effects in ZnO Nanowiresâ˘'A Combined Experimental-Computational Approach. Nano Letters, 2008, 8, 3668-3674.	4.5	378
130	Dislocation-Source Shutdown and the Plastic Behavior of Single-Crystal Micropillars. Physical Review Letters, 2008, 100, 185503.	2.9	122
131	Electric field-induced direct delivery of proteins by a nanofountain probe. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 16438-16443.	3.3	50
132	Nano-Scale Testing of Nanowires and Carbon Nanotubes Using a Micro-Electro-Mechanical System. Computational and Experimental Methods in Structures, 2008, , 455-489.	0.2	1
133	Scanning Probes for the Life Sciences. , 2008, , 183-217.		0
134	Nanoelectromechanical Systems â€" Experiments and Modeling. Nanoscience and Technology, 2007, , 135-196.	1.5	3
135	Design and Operation of a MEMS-Based Material Testing System for Nanomechanical Characterization. Journal of Microelectromechanical Systems, 2007, 16, 1219-1231.	1.7	159
136	Study of the Size Effects and Friction Conditions in Microextrusionâ€"Part II: Size Effect in Dynamic Friction for Brass-Steel Pairs. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2007, 129, 677-689.	1.3	39
137	Fracture size effect in ultrananocrystalline diamond: Applicability of Weibull theory. Journal of Materials Research, 2007, 22, 913-925.	1.2	13
138	Direct Deposition and Assembly of Gold Colloidal Particles Using a Nanofountain Probe. Langmuir, 2007, 23, 9120-9123.	1.6	46
139	Experimental Techniques for the Mechanical Characterization of One-Dimensional Nanostructures. Experimental Mechanics, 2007, 47, 7-24.	1.1	69
140	An Experimental Investigation of Deformation and Fracture of Nacreâ€"Mother of Pearl. Experimental Mechanics, 2007, 47, 311-324.	1.1	415
141	Novel AFM Nanoprobes. Nanoscience and Technology, 2007, , 77-134.	1.5	2
142	In-Situ Electron Microscopy Testing of Nanostructures. , 2007, , 9-10.		0
143	A thermal actuator for nanoscalein situmicroscopy testing: design and characterization. Journal of Micromechanics and Microengineering, 2006, 16, 242-253.	1.5	262
144	Inâ€..Situ Electron Microscopy Electromechanical Characterization of a Bistable NEMS Device. Small, 2006, 2, 1484-1489.	5.2	75

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145	A Novel Fluid Structure Interaction Experiment to Investigate Deformation of Structural Elements Subjected to Impulsive Loading. Experimental Mechanics, 2006, 46, 805-824.	1.1	145
146	A multi-ink linear array of nanofountain probes. Journal of Micromechanics and Microengineering, 2006, 16, 1935-1942.	1.5	35
147	Elasticity, strength, and toughness of single crystal silicon carbide, ultrananocrystalline diamond, and hydrogen-free tetrahedral amorphous carbon. Applied Physics Letters, 2006, 89, 073111.	1.5	69
148	Mechanical properties of nacre constituents and their impact on mechanical performance. Journal of Materials Research, 2006, 21, 1977-1986.	1.2	334
149	An atomistic investigation of elastic and plastic properties of Au nanowires. Jom, 2005, 57, 62-66.	0.9	67
150	A Nanofountain Probe with Sub-100â€...nm Molecular Writing Resolution. Small, 2005, 1, 632-635.	5.2	145
151	Novel Ultrananocrystalline Diamond Probes for High-Resolution Low-Wear Nanolithographic Techniques. Small, 2005, 1, 866-874.	5.2	61
152	Analysis of Doubly Clamped Nanotube Devices in the Finite Deformation Regime. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 445-449.	1.1	40
153	Numerical Analysis of Nanotube Based NEMS Devices â€" Part II: Role of Finite Kinematics, Stretching and Charge Concentrations. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 726-731.	1.1	94
154	Epitaxially influenced boundary layer model for size effect in thin metallic films. Journal of Applied Physics, 2005, 97, 073506.	1.1	18
155	A microelectromechanical load sensor for in situ electron and x-ray microscopy tensile testing of nanostructures. Applied Physics Letters, 2005, 86, 013506.	1.5	119
156	An interpretation of size-scale plasticity in geometrically confined systems. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16933-16938.	3.3	66
157	An electromechanical material testing system for in situ electron microscopy and applications. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14503-14508.	3.3	328
158	Numerical Analysis of Nanotube-Based NEMS Devicesâ€"Part I: Electrostatic Charge Distribution on Multiwalled Nanotubes. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 721-725.	1.1	67
159	Feedback controlled nanocantilever device. Applied Physics Letters, 2004, 85, 681-683.	1.5	71
160	Mechanical Properties of Nacre Constituents: An Inverse Method Approach. Materials Research Society Symposia Proceedings, 2004, 844, 1.	0.1	2
161	Fracture Size Effect in Ultrananocrystalline Diamond: Weibull Theory Applicability. , 2004, , 341.		3
162	Reliability of capacitive RF MEMS switches at high and low temperatures. International Journal of RF and Microwave Computer-Aided Engineering, 2004, 14, 317-328.	0.8	22

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163	Effect of temperature on capacitive RF MEMS switch performanceâ€"a coupled-field analysis. Journal of Micromechanics and Microengineering, 2004, 14, 1270-1279.	1.5	74
164	Materials science and fabrication processes for a new MEMS technology based on ultrananocrystalline diamond thin films. Journal of Physics Condensed Matter, 2004, 16, R539-R552.	0.7	162
165	Size effects on the mechanical behavior of gold thin films. Journal of Materials Science, 2003, 38, 4125-4128.	1.7	153
166	Mechanical properties of ultrananocrystalline diamond thin films relevant to MEMS/NEMS devices. Experimental Mechanics, 2003, 43, 256-268.	1.1	71
167	An experimental/computational approach to identify moduli and residual stress in MEMS radio-frequency switches. Experimental Mechanics, 2003, 43, 309-316.	1.1	19
168	Dynamic torsion testing of nanocrystalline coatings using high-speed photography and digital image correlation. Experimental Mechanics, 2003, 43, 331-340.	1.1	27
169	A grain level model for the study of failure initiation and evolution in polycrystalline brittle materials. Part I: Theory and numerical implementation. Mechanics of Materials, 2003, 35, 333-364.	1.7	310
170	A grain level model for the study of failure initiation and evolution in polycrystalline brittle materials. Part II: Numerical examples. Mechanics of Materials, 2003, 35, 365-394.	1.7	133
171	A Novel AFM Chip for Fountain Pen Nanolithography - Design and Microfabrication. Materials Research Society Symposia Proceedings, 2003, 782, 1.	0.1	3
172	Fracture strength of ultrananocrystalline diamond thin filmsâ€"identification of Weibull parameters. Journal of Applied Physics, 2003, 94, 6076-6084.	1.1	98
173	Strength of Ultrananocrystalline Diamond Thin films â€" Identification of Weibull Parameters. Materials Research Society Symposia Proceedings, 2003, 778, 2101.	0.1	0
174	An experimental/computational approach to identify moduli and residual stress in MEMS radio-frequency switches. , 2003, 43, 309.		2
175	Mechanical Properties of Ultrananocrystalline Diamond Thin Films for MEMS Applications. Materials Research Society Symposia Proceedings, 2002, 741, 921.	0.1	8
176	Modelling of failure mode transition in ballistic penetration with a continuum model describing microcracking and flow of pulverized media. International Journal for Numerical Methods in Engineering, 2002, 54, 365-398.	1.5	39
177	Effects of Film Thickness on the Yielding Behavior of Polycrystalline Gold Films. Materials Research Society Symposia Proceedings, 2001, 695, 1.	0.1	11
178	Dynamic Friction Measurements at Sliding Velocities Representative of High-Speed Machining Processes. Journal of Tribology, 2000, 122, 834-848.	1.0	23
179	A novel dynamic friction experiment using a modified kolsky bar apparatus. Experimental Mechanics, 2000, 40, 138-153.	1.1	50
180	A finite deformation continuumdiscrete model for the description of fragmentation and damage in brittle materials. Journal of the Mechanics and Physics of Solids, 1998, 46, 1909-1942.	2.3	154

#	Article	IF	Citations
181	Adaptive FEM computation of geometric and material nonlinearities with application to brittle failure. Mechanics of Materials, 1998, 29, 275-305.	1.7	58
182	Performance of the starâ€shaped flyer in the study of brittle materials: Three dimensional computer simulations and experimental observations. Journal of Applied Physics, 1992, 72, 3451-3457.	1.1	23