

Javier Tamayo

List of Publications by Year in descending order

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112
papers

6,292
citations

70961

41
h-index

69108

77
g-index

115
all docs

115
docs citations

115
times ranked

5693
citing authors

#	ARTICLE	IF	CITATIONS
1	Hydrodynamic assisted multiparametric particle spectrometry. Scientific Reports, 2021, 11, 3535.	1.6	4
2	Nanomechanical Molecular Mass Sensing Using Suspended Microchannel Resonators. Sensors, 2021, 21, 3337.	2.1	7
3	High Dynamic Range Nanowire Resonators. Nano Letters, 2021, 21, 6617-6624.	4.5	19
4	A Review on Theory and Modelling of Nanomechanical Sensors for Biological Applications. Processes, 2021, 9, 164.	1.3	18
5	Effects of energy metabolism on the mechanical properties of breast cancer cells. Communications Biology, 2020, 3, 590.	2.0	25
6	Effect of particle adsorption on the eigenfrequencies of nano-mechanical resonators. Journal of Applied Physics, 2020, 128, .	1.1	7
7	Optical Transduction for Vertical Nanowire Resonators. Nano Letters, 2020, 20, 2359-2369.	4.5	13
8	Optomechanical detection of vibration modes of a single bacterium. Nature Nanotechnology, 2020, 15, 469-474.	15.6	90
9	Real-Time Particle Spectrometry in Liquid Environment Using Microfluidic-Nanomechanical Resonators. , 2019, , .		2
10	Development of a methodology for reversible chemical modification of silicon surfaces with application in nanomechanical biosensors. Biosensors and Bioelectronics, 2019, 137, 287-293.	5.3	4
11	Coherent Optical Transduction of Suspended Microcapillary Resonators for Multi-Parameter Sensing Applications. Sensors, 2019, 19, 5069.	2.1	9
12	Mechano-Optical Analysis of Single Cells with Transparent Microcapillary Resonators. ACS Sensors, 2019, 4, 3325-3332.	4.0	18
13	Optomechanical devices for deep plasma cancer proteomics. Seminars in Cancer Biology, 2018, 52, 26-38.	4.3	32
14	Direct Detection of OXA-48 Carbapenemase Gene in Lysate Samples through Changes in Mechanical Properties of DNA Monolayers upon Hybridization. Analytical Chemistry, 2018, 90, 968-973.	3.2	3
15	Effect of surface stress induced curvature on the eigenfrequencies of microcantilever plates. AIP Advances, 2018, 8, .	0.6	14
16	Nanomechanical Plasmon Spectroscopy of Single Gold Nanoparticles. Nano Letters, 2018, 18, 7165-7170.	4.5	21
17	Effect of water-DNA interactions on elastic properties of DNA self-assembled monolayers. Scientific Reports, 2017, 7, 536.	1.6	33
18	Optimization of the readout of microdrum optomechanical resonators. Microelectronic Engineering, 2017, 183-184, 37-41.	1.1	5

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19	Ultrasensitive detection of HIV-1 p24 antigen by a hybrid nanomechanical-optoplasmonic platform with potential for detecting HIV-1 at first week after infection. PLoS ONE, 2017, 12, e0171899.	1.1	50
20	Spatially Multiplexed Micro-Spectrophotometry in Bright Field Mode for Thin Film Characterization. Sensors, 2016, 16, 926.	2.1	1
21	Mass and stiffness spectrometry of nanoparticles and whole intact bacteria by multimode nanomechanical resonators. Nature Communications, 2016, 7, 13452.	5.8	91
22	How two-dimensional bending can extraordinarily stiffen thin sheets. Scientific Reports, 2016, 6, 29627.	1.6	50
23	Spatially multiplexed dark-field microspectrophotometry for nanoplasmonics. Scientific Reports, 2016, 6, 22836.	1.6	22
24	Effect of Actin Organization on the Stiffness of Living Breast Cancer Cells Revealed by Peak-Force Modulation Atomic Force Microscopy. ACS Nano, 2016, 10, 3365-3374.	7.3	197
25	Label-Free DNA-Based Detection of <i>Mycobacterium tuberculosis</i> and Rifampicin Resistance through Hydration Induced Stress in Microcantilevers. Analytical Chemistry, 2015, 87, 1494-1498.	3.2	22
26	Highly Sensitive Measurement of Liquid Density in Air Using Suspended Microcapillary Resonators. Sensors, 2015, 15, 7650-7657.	2.1	23
27	Detection of cancer biomarkers in serum by merging nanomechanics and optoplasmonics. , 2015, , .		0
28	Optomechanics to the rescue. Nature Nanotechnology, 2015, 10, 738-739.	15.6	7
29	Detection of cancer biomarkers in serum using a hybrid mechanical and optoplasmonic nanosensor. Nature Nanotechnology, 2014, 9, 1047-1053.	15.6	221
30	Hydration Induced Stress on DNA Monolayers Grafted on Microcantilevers. Langmuir, 2014, 30, 10962-10969.	1.6	18
31	Monitoring swelling and deswelling of thin polymer films by microcantilever sensors. Sensors and Actuators B: Chemical, 2014, 204, 602-610.	4.0	12
32	Ultrasensitive thermometer for atmospheric pressure operation based on a micromechanical resonator. Sensors and Actuators B: Chemical, 2014, 202, 339-345.	4.0	6
33	Physics of Nanomechanical Spectrometry of Viruses. Scientific Reports, 2014, 4, 6051.	1.6	36
34	Atomic force microscopy reveals two phases in single stranded DNA self-assembled monolayers. Nanoscale, 2013, 5, 7425.	2.8	21
35	Biosensors based on nanomechanical systems. Chemical Society Reviews, 2013, 42, 1287-1311.	18.7	334
36	Tackling reproducibility in microcantilever biosensors: a statistical approach for sensitive and specific end-point detection of immunoreactions. Analyst, The, 2013, 138, 863-872.	1.7	25

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37	Silicon nanowires: where mechanics and optics meet at the nanoscale. <i>Scientific Reports</i> , 2013, 3, 3445.	1.6	36
38	Tapered silicon nanowires for enhanced nanomechanical sensing. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	19
39	Optical back-action in silicon nanowire resonators: bolometric versus radiation pressure effects. <i>New Journal of Physics</i> , 2013, 15, 035001.	1.2	20
40	Horizontally patterned Si nanowire growth for nanomechanical devices. <i>Nanotechnology</i> , 2013, 24, 095303.	1.3	16
41	Imaging the surface stress and vibration modes of a microcantilever by laser beam deflection microscopy. <i>Nanotechnology</i> , 2012, 23, 315501.	1.3	36
42	Stepwise motion of a microcantilever driven by the hydrolysis of viral ATPases. <i>Nanotechnology</i> , 2012, 23, 015501.	1.3	5
43	Challenges for nanomechanical sensors in biological detection. <i>Nanoscale</i> , 2012, 4, 4925.	2.8	92
44	Interaction of viral ATPases with nucleotides measured with a microcantilever. <i>Sensors and Actuators B: Chemical</i> , 2012, 171-172, 263-270.	4.0	1
45	Optomechanics with Silicon Nanowires by Harnessing Confined Electromagnetic Modes. <i>Nano Letters</i> , 2012, 12, 932-937.	4.5	40
46	Quantification of the surface stress in microcantilever biosensors: revisiting Stoney's equation. <i>Nanotechnology</i> , 2012, 23, 475702.	1.3	40
47	Monitoring the hydration of DNA self-assembled monolayers using an extensional nanomechanical resonator. <i>Lab on A Chip</i> , 2012, 12, 2069.	3.1	10
48	Shedding Light on Axial Stress Effect on Resonance Frequencies of Nanocantilevers. <i>ACS Nano</i> , 2011, 5, 4269-4275.	7.3	34
49	Exponential tuning of the coupling constant of coupled microcantilevers by modifying their separation. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	37
50	Simultaneous imaging of the topography and dynamic properties of nanomechanical systems by optical beam deflection microscopy. <i>Journal of Applied Physics</i> , 2011, 109, 064315.	1.1	7
51	Observation of spermidine-induced attractive forces in self-assembled monolayers of single stranded DNA using a microcantilever sensor. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	12
52	Nanomechanical mass sensing and stiffness spectrometry based on two-dimensional vibrations of resonant nanowires. <i>Nature Nanotechnology</i> , 2010, 5, 641-645.	15.6	235
53	High throughput optical readout of dense arrays of nanomechanical systems for sensing applications. <i>Review of Scientific Instruments</i> , 2010, 81, 125109.	0.6	42
54	Stress and DNA Assembly Differences on Cantilevers Gold Coated by Resistive and E-Beam Evaporation Techniques. <i>Langmuir</i> , 2009, 25, 10633-10638.	1.6	16

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55	Arrays of Dual Nanomechanical Resonators for Selective Biological Detection. <i>Analytical Chemistry</i> , 2009, 81, 2274-2279.	3.2	58
56	Mass Sensing Based on Deterministic and Stochastic Responses of Elastically Coupled Nanocantilevers. <i>Nano Letters</i> , 2009, 9, 4122-4127.	4.5	104
57	Label-free detection of DNA hybridization based on hydration-induced tension in nucleic acid films. <i>Nature Nanotechnology</i> , 2008, 3, 301-307.	15.6	194
58	Detection of bacteria based on the thermomechanical noise of a nanomechanical resonator: origin of the response and detection limits. <i>Nanotechnology</i> , 2008, 19, 035503.	1.3	63
59	Photothermal self-excitation of nanomechanical resonators in liquids. <i>Applied Physics Letters</i> , 2008, 92, 173108.	1.5	62
60	Underlying mechanisms of the self-sustained oscillation of a nanomechanical stochastic resonator in a liquid. <i>Physical Review B</i> , 2007, 76, .	1.1	23
61	Role of the gold film nanostructure on the nanomechanical response of microcantilever sensors. <i>Journal of Applied Physics</i> , 2007, 101, 034904.	1.1	45
62	Study of the origin of bending induced by bimetallic effect on microcantilever. <i>Sensors</i> , 2007, 7, 1757-1765.	2.1	52
63	Measurement of the Mass and Rigidity of Adsorbates on a Microcantilever Sensor. <i>Sensors</i> , 2007, 7, 1834-1845.	2.1	27
64	Inside track weighs in with solution. <i>Nature Nanotechnology</i> , 2007, 2, 342-343.	15.6	1
65	Photothermal excitation of microcantilevers in liquids. <i>Journal of Applied Physics</i> , 2006, 99, 124904.	1.1	105
66	Effect of the adsorbate stiffness on the resonance response of microcantilever sensors. <i>Applied Physics Letters</i> , 2006, 89, 224104.	1.5	151
67	A highly sensitive microsystem based on nanomechanical biosensors for genomics applications. <i>Sensors and Actuators B: Chemical</i> , 2006, 118, 2-10.	4.0	68
68	Origin of the response of nanomechanical resonators to bacteria adsorption. <i>Journal of Applied Physics</i> , 2006, 100, 106105.	1.1	106
69	Low-noise polymeric nanomechanical biosensors. <i>Applied Physics Letters</i> , 2006, 88, 113901.	1.5	66
70	T-shaped microcantilever sensor with reduced deflection offset. <i>Applied Physics Letters</i> , 2006, 89, 094109.	1.5	16
71	Dimension dependence of the thermomechanical noise of microcantilevers. <i>Journal of Applied Physics</i> , 2006, 99, 024910.	1.1	24
72	Study of the Adsorption of Sulfur-Derivatized Single Stranded DNA on Gold by Atomic Force Microscopy and the Cantilever Bending Technique. <i>Sensor Letters</i> , 2006, 4, 275-280.	0.4	2

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73	Optical sequential readout of microcantilever arrays for biological detection. <i>Sensors and Actuators B: Chemical</i> , 2005, 106, 687-690.	4.0	54
74	Highly sensitive polymer-based cantilever-sensors for DNA detection. <i>Ultramicroscopy</i> , 2005, 105, 215-222.	0.8	153
75	Real-time profile of microcantilevers for sensing applications. <i>Applied Physics Letters</i> , 2005, 87, 234102.	1.5	45
76	Study of the noise of micromechanical oscillators under quality factor enhancement via driving force control. <i>Journal of Applied Physics</i> , 2005, 97, 044903.	1.1	71
77	Technological Platforms Based on Micro/Nanobiosensors as Early Warning Systems for Biological Warfare. , 2005, , 175-197.		1
78	Nanomechanics of the Formation of DNA Self-Assembled Monolayers and Hybridization on Microcantilevers. <i>Langmuir</i> , 2004, 20, 9663-9668.	1.6	97
79	Development of nanomechanical biosensors for detection of the pesticide DDT. <i>Biosensors and Bioelectronics</i> , 2003, 18, 649-653.	5.3	155
80	Digital tuning of the quality factor of micromechanical resonant biological detectors. <i>Sensors and Actuators B: Chemical</i> , 2003, 89, 33-39.	4.0	23
81	Structure of human chromosomes studied by atomic force microscopy. <i>Journal of Structural Biology</i> , 2003, 141, 198-207.	1.3	21
82	Structure of human chromosomes studied by atomic force microscopy. <i>Journal of Structural Biology</i> , 2003, 141, 189-197.	1.3	18
83	Decrease of the resonance bandwidth of micromechanical oscillators by phase control of the driving force. <i>Applied Physics Letters</i> , 2003, 82, 2919-2921.	1.5	12
84	Nanomechanics for specific biological detection. , 2003, 5118, 197.		3
85	Polymeric Cantilever Arrays for Biosensing Applications. <i>Sensor Letters</i> , 2003, 1, 20-24.	0.4	68
86	Scanning Probe Microscopy for Chromosomal Research.. <i>Archives of Histology and Cytology</i> , 2002, 65, 369-376.	0.2	8
87	High-Q Dynamic Force Microscopy in Liquid and Its Application to Living Cells. <i>Biophysical Journal</i> , 2001, 81, 526-537.	0.2	140
88	Interpretation of Contrast in Tapping Mode AFM and Shear Force Microscopy. A Study of Nafion. <i>Langmuir</i> , 2001, 17, 349-360.	1.6	195
89	Chemical sensors and biosensors in liquid environment based on microcantilevers with amplified quality factor. <i>Ultramicroscopy</i> , 2001, 86, 167-173.	0.8	175
90	Human chromosome structure studied by scanning force microscopy after an enzymatic digestion of the covering cell material. <i>Ultramicroscopy</i> , 2000, 82, 245-251.	0.8	36

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91	Piconewton regime dynamic force microscopy in liquid. Applied Physics Letters, 2000, 77, 582-584.	1.5	137
92	Active Quality Factor Control in Liquids for Force Spectroscopy. Langmuir, 2000, 16, 7891-7894.	1.6	121
93	Phase contrast and surface energy hysteresis in tapping mode scanning force microscopy. Surface and Interface Analysis, 1999, 27, 312-316.	0.8	132
94	Energy dissipation in tapping-mode scanning force microscopy with low quality factors. Applied Physics Letters, 1999, 75, 3569-3571.	1.5	62
95	Selective Cleaning of the Cell Debris in Human Chromosome Preparations Studied by Scanning Force Microscopy. Journal of Structural Biology, 1999, 128, 200-210.	1.3	28
96	Phase contrast in tapping-mode scanning force microscopy. Applied Physics A: Materials Science and Processing, 1998, 66, S309-S312.	1.1	56
97	Buffer layer morphology effects on the ordering of epitaxial FePd(001) thin films. Acta Materialia, 1998, 46, 2299-2303.	3.8	4
98	Characterization of semiconductor heterostructures and quantum dots by friction force microscopy. Applied Surface Science, 1998, 123-124, 339-342.	3.1	1
99	Relationship between phase shift and energy dissipation in tapping-mode scanning force microscopy. Applied Physics Letters, 1998, 73, 2926-2928.	1.5	277
100	Submonolayer sensitivity of InSb on InP determined by friction-force microscopy. Physical Review B, 1997, 55, R13436-R13439.	1.1	13
101	Effects of elastic and inelastic interactions on phase contrast images in tapping-mode scanning force microscopy. Applied Physics Letters, 1997, 71, 2394-2396.	1.5	267
102	Scanning tunneling microscopy imaging and selective modification of purple membranes. International Journal of Imaging Systems and Technology, 1997, 8, 168-174.	2.7	6
103	Growth and characterization of self-organized InSb quantum dots and quantum dashes. Journal of Crystal Growth, 1997, 175-176, 725-729.	0.7	6
104	Compositional Characterization of III-V Semiconductor Heterostructures by Friction Force Microscopy. , 1997, , 275-282.		1
105	The Interaction of DNA with Bacteriophage ϕ 29 Connector: A Study by AFM and TEM. Journal of Structural Biology, 1996, 116, 390-398.	1.3	25
106	Deformation, Contact Time, and Phase Contrast in Tapping Mode Scanning Force Microscopy. Langmuir, 1996, 12, 4430-4435.	1.6	451
107	Friction force microscopy characterization of semiconductor heterostructures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1996, 42, 122-126.	1.7	3
108	Transition from self-organized InSb quantum dots to quantum dashes. Applied Physics Letters, 1996, 69, 2674-2676.	1.5	53

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109	Compositional mapping of semiconductor structures by friction force microscopy. Applied Physics Letters, 1996, 68, 2297-2299.	1.5	16
110	Scanning tunneling microscopy modification of purple membranes. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1995, 13, 1737-1741.	0.9	0
111	Physical Parameters That Control the Imaging of Purple Membranes with the Scanning Tunneling Microscope. Langmuir, 1995, 11, 2109-2114.	1.6	17
112	A very low current scanning tunneling microscope. Review of Scientific Instruments, 1995, 66, 4876-4879.	0.6	13