Joao Gaspar

List of Publications by Year
in descending order

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155 papers	1,983 citations	304743 22 h-index	345221 36 g-index
160 all docs	160 docs citations	160 times ranked	2423 citing authors

#	Article	IF	Citations
1	High precision, geometry independent analytical method for self-inductance calculation in planar coils. , 2021, , .		0
2	Hybrid Multisite Silicon Neural Probe with Integrated Flexible Connector for Interchangeable Packaging. Sensors, 2021, 21, 2605.	3.8	7
3	Double-Layer Flexible Neural Probe With Closely Spaced Electrodes for High-Density in vivo Brain Recordings. Frontiers in Neuroscience, 2021, 15, 663174.	2.8	20
4	Enhanced virtual reality application with tactile feedback for prototyping in-car dashboard surfaces. , 2021, , .		1
5	Recent Advances and Need of Green Synthesis in Two-Dimensional Materials for Energy Conversion and Storage Applications. Current Nanoscience, 2021, 17, 554-571.	1.2	8
6	Highâ€Performance and Industrially Viable Nanostructured SiO_x Layers for Interface Passivation in Thin Film Solar Cells. Solar Rrl, 2021, 5, 2000534.	5.8	15
7	Implant Stability of Osseodensification Drilling Versus Conventional Surgical Technique: A Systematic Review. International Journal of Oral and Maxillofacial Implants, 2021, 36, 1104-1110.	1.4	8
8	Field-effect transistors made of graphene grown on recycled copper foils. Materials Chemistry and Physics, 2020, 256, 123665.	4.0	4
9	Organâ€onâ€aâ€Chip: A Preclinical Microfluidic Platform for the Progress of Nanomedicine. Small, 2020, 16, e2003517.	10.0	80
10	Surface Texture Detection With a New Sub-mm Resolution Flexible Tactile Capacitive Sensor Array for Multimodal Artificial Finger. Journal of Microelectromechanical Systems, 2020, 29, 629-636.	2.5	16
11	Fabrication of a MEMS Micromirror Based on Bulk Silicon Micromachining Combined With Grayscale Lithography. Journal of Microelectromechanical Systems, 2020, 29, 734-740.	2.5	12
12	Industry 4.0: Real-time monitoring of an injection molding tool for smart predictive maintenance. , 2020, , .		10
13	Facile synthesis and defect optimization of 2D-layeredÂMoS2 on TiO2 heterostructure for industrial effluent, wastewater treatments. Scientific Reports, 2020, 10, 21625.	3.3	32
14	An Active Implant to Restore Dental Proprioceptivity. , 2020, , .		1
15	Design Optimization of a Lorentz Force, Amplitude Modulated, MEMS Space Magnetometer. , 2020, , .		2
16	Small-size MEMS Accelerometer Encapsulated in Vacuum Using Sigma-Delta Modulation. , 2020, , .		3
17	Influence of Mechanical Stress in a Packaged Frequency-Modulated MEMS Accelerometer. , 2020, , .		2
18	Engineering of 2D transition metal carbides and nitrides MXenes for cancer therapeutics and diagnostics. Journal of Materials Chemistry B, 2020, 8, 4990-5013.	5.8	76

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19	An Alternative Approach to Investigate V-Shaped Electrothermal Microactuators in Vacuum. Journal of Microelectromechanical Systems, 2020, 29, 387-396.	2.5	7
20	Dissolving microneedles for the delivery of peptides â€“ Towards tolerance-inducing vaccines. International Journal of Pharmaceutics, 2020, 586, 119590.	5.2	22
21	An efficient and deterministic photon management using deep subwavelength features. Nano Energy, 2020, 70, 104521.	16.0	10
22	Opportunities for enhanced omnidirectional broadband absorption of the solar radiation using deep subwavelength structures. Nano Energy, 2020, 70, 104553.	16.0	10
23	Highly sensitive MEMS frequency modulated accelerometer with small footprint. Sensors and Actuators A: Physical, 2020, 307, 112005.	4.1	3
24	Fabrication and characterization of thin-film silicon resonators on 10 $oldsymbol{{mu}}$m-thick polyimide substrates. Journal of Micromechanics and Microengineering, 2020, 30, 045007.	2.6	7
25	Efficient light extraction in subwavelength GaAs/AlGaAs nanopillars for nanoscale light-emitting devices. Optics Express, 2020, 28, 32302.	3.4	9
26	A Smart Dental Prosthesis to Restore Dental Proprioceptivity. , 2020, , .		0
27	Manipulation of Magnetic Beads with Thin Film Microelectromagnet Traps. Micromachines, 2019, 10, 607.	2.9	6
28	Hybrid Rigid-Flexible Magnetoresistive Device Based on a Wafer Level Packaging Technology for Micrometric Proximity Measurements. IEEE Sensors Journal, 2019, 19, 12363-12368.	4.7	5
29	Small Size And Highly Sensitive Differential MEMS Accelerometer Based On Double-Ended Tuning Fork Resonators. , 2019, , .		8
30	Automated characterisation and analysis of large arrays of nanostructures fabricated at wafer scale. Precision Engineering, 2019, 60, 320-325.	3.4	4
31	Fatigue lifetime prediction of arbitrarily-shaped MEMS structures made of polysilicon thin films. Microsystem Technologies, 2019, 25, 2713-2726.	2.0	4
32	Fast and efficient microfluidic cell filter for isolation of circulating tumor cells from unprocessed whole blood of colorectal cancer patients. Scientific Reports, 2019, 9, 8032.	3.3	73
33	A Perspective on Microneedle-Based Drug Delivery and Diagnostics in Paediatrics. Journal of Personalized Medicine, 2019, 9, 49.	2.5	29
34	Strong Enhancement of Light Extraction Efficiency in Sub-Wavelength AlGaAs/GaAs Vertical-Emitting Nanopillars. , 2019, , .		0
35	Thin-Film Silicon Resonators on Ultra-Flexible 10 Micrometer-Thick Polyimide Substrates. , 2019, , .		1
36	Sub-Micron Mems Accelerometer with Handle-Layer Patterning for Damping Enhancement Using Time Transduction. , 2019, , .		3

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37	A morphological and electronic study of ultrathin rear passivated Cu(In,Ga)Se2 solar cells. Thin Solid Films, 2019, 671, 77-84.	1.8	21
38	Creative Approaches on Interactive Visualization and Characterization at the Nanoscale. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2019, , 121-132.	0.3	2
39	Digital platform for Sigma-Delta accelerometer assessment and test. Microsystem Technologies, 2018, 24, 2265-2276.	2.0	0
40	Conformal and continuous deposition of bifunctional cobalt phosphide layers on p-silicon nanowire arrays for improved solar hydrogen evolution. Nano Research, 2018, 11, 4823-4835.	10.4	28
41	Highly-ordered silicon nanowire arrays for photoelectrochemical hydrogen evolution: an investigation on the effect of wire diameter, length and inter-wire spacing. Sustainable Energy and Fuels, 2018, 2, 978-982.	4.9	31
42	Highly efficient DNA extraction and purification from olive oil on a washable and reusable miniaturized device. Analytica Chimica Acta, 2018, 1020, 30-40.	5.4	18
43	SU-8 Based Waveguide for Optrodes. Proceedings (mdpi), 2018, 2, .	0.2	1
44	Frequency Modulated Magnetometer Using a Double-Ended Tuning Fork Resonator. Proceedings (mdpi), 2018, 2, 1028.	0.2	2
45	High Frequency FM MEMS Accelerometer Using Piezoresistive Resonators. Proceedings (mdpi), 2018, 2, .	0.2	0
46	Resonant Accelerometer based on Double-Ended Tuning Fork and a Force Amplification Mechanism. Proceedings (mdpi), 2018, 2, 1030.	0.2	2
47	A novel synchronizer for a 17.9ps Nutt Time-to-Digital Converter implemented on FPGA. , 2018, , .		0
48	Efficient light trapping and broadband absorption of the solar spectrum in nanopillar arrays decorated with deep-subwavelength sidewall features. Nanoscale, 2018, 10, 18613-18621.	5.6	11
49	High-Resolution Seismocardiogram Acquisition and Analysis System. Sensors, 2018, 18, 3441.	3.8	15
50	3D Magnetic Field Reconstruction Methodology Based on a Scanning Magnetoresistive Probe. Sensors, 2018, 18, 2049.	3.8	3
51	Insulator Materials for Interface Passivation of Cu(In,Ga)Se₂ Thin Films. IEEE Journal of Photovoltaics, 2018, 8, 1313-1319.	2.5	39
52	Microneedles with integrated magnetoresistive sensors: A precision tool in biomedical instrumentation. , 2017, , .		5
53	On-Chip Magnetic Nanoparticle Manipulation and Trapping for Biomedical Applications. IEEE Transactions on Magnetics, 2017, 53, 1-6.	2.1	13
54	Challenges and trends in magnetic sensor integration with microfluidics for biomedical applications. Journal Physics D: Applied Physics, 2017, 50, 213001.	2.8	81

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55	Novel magnetic readout for hybrid spintronic MEMS devices. , 2017, , .		0
56	Ultra-Low Temperature FOWLP Process for the Embedding of Low Thermal Budget Sensors and Components Using SU-8 as Dielectric. , 2017, , .		2
57	Flexible Magnetoresistive Sensors Designed for Conformal Integration. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	12
58	Towards high-resolution scanning magnetoresistance microscopy. , 2017, , .		0
59	Ultra-small packaged micro-cooler for medical applications. , 2017, , .		1
60	Hybrid Integration of Magnetoresistive Sensors with MEMS as a Strategy to Detect Ultra-Low Magnetic Fields. Micromachines, 2016, 7, 88.	2.9	34
61	Digital Platform for Wafer-Level MEMS Testing and Characterization Using Electrical Response. Sensors, 2016, 16, 1553.	3.8	7
62	Analysis and Characterization of Thermal-Piezoresistive MEMS Resonators. Procedia Engineering, 2016, 168, 872-875.	1.2	2
63	Low-voltage, High-tuning Range MEMS Variable Capacitor Using Closed-loop Control. Procedia Engineering, 2016, 168, 1551-1554.	1.2	5
64	Performance Comparison of Sigma-delta Modulator Architectures for MEMS Accelerometers Using a Fully-Digital Approach. Procedia Engineering, 2016, 168, 814-817.	1.2	1
65	Embedded Platform for Generic High-order Sigma-delta Accelerometers Testing. Procedia Engineering, 2016, 168, 954-957.	1.2	0
66	Full-gap tracking system for parallel plate electrostatic actuators using closed-loop control. Sensors and Actuators A: Physical, 2016, 244, 174-183.	4.1	5
67	Implementing a strategy for on-chip detection of cell-free DNA fragments using GMR sensors: A translational application in cancer diagnostics using ALU elements. Analytical Methods, 2016, 8, 119-128.	2.7	41
68	Integration of magnetoresistive sensors with atomic force microscopy cantilevers for scanning magnetoresistance microscopy applications. , 2015, , .		1
69	Embedded MEMS Platform for Structure Test and Characterization. Procedia Engineering, 2015, 120, 67-70.	1.2	2
70	Amorphous oxygen-rich molybdenum oxysulfide Decorated p-type silicon microwire Arrays for efficient photoelectrochemical water reduction. Nano Energy, 2015, 16, 130-142.	16.0	85
71	Bi-directional extended range parallel plate electrostatic actuator based on feedback linearization. , 2015, , .		4
72	Real-Time Operation and Characterization of a High-Performance Time-Based Accelerometer. Journal of Microelectromechanical Systems, 2015, 24, 1703-1711.	2.5	11

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73	High-performance pull-in time accelerometer. , 2015, , .		0
74	Design, fabrication and test of an integrated multi-microchannel heat sink for electronics cooling. Sensors and Actuators A: Physical, 2015, 235, 14-27.	4.1	22
75	Fabrication and characterization of polymeric three-axis thermal accelerometers. Journal of Micromechanics and Microengineering, 2015, 25, 085005.	2.6	6
76	Sub-micron gap in-plane micromechanical resonators based on low-temperature amorphous silicon thin-films on glass substrates. Journal of Micromechanics and Microengineering, 2015, 25, 075026.	2.6	4
77	Bending Effect on Magnetoresistive Silicon Probes. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	6
78	Integration of Magnetoresistive Sensors With Atomic Force Microscopy Cantilevers for Scanning Magnetoresistance Microscopy Applications. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	4
79	High-Resolution MEMS Inclinometer Based on Pull-In Voltage. Journal of Microelectromechanical Systems, 2015, 24, 931-939.	2.5	21
80	Thermal Compensated Pull-in Voltage MEMS Inclinometers. Procedia Engineering, 2014, 87, 831-834.	1.2	2
81	Piezoresistor Sensor Fabrication by Direct Laser Writing on Hydrogenated Amorphous Silicon. Materials Research Society Symposia Proceedings, 2014, 1594, 1.	0.1	0
82	Improving capacitance/damping ratio in a capacitive MEMS transducer. Journal of Micromechanics and Microengineering, 2014, 24, 015008.	2.6	7
83	The Use of Polymeric Technologies for Functional 3D Microdevices. Procedia Engineering, 2014, 87, 895-898.	1.2	3
84	Full-gap Tracking System for Parallel-plate Electrostatic Microactuatores. Procedia Engineering, 2014, 87, 1386-1389.	1.2	1
85	Measuring brain activity with magnetoresistive sensors integrated in micromachined probe needles. Applied Physics A: Materials Science and Processing, 2013, 111, 407-412.	2.3	20
86	High resolution pull-in inclinometer. , 2013, , .		2
87	Integration of TMR Sensors in Silicon Microneedles for Magnetic Measurements of Neurons. IEEE Transactions on Magnetics, 2013, 49, 3512-3515.	2.1	35
88	A fully integrated three-axis thermal accelerometer. , 2013, , .		1
89	A prediction scheme of the static fracture strength of MEMS structures based on the characterization of damage distribution on a processed surface. Journal of Micromechanics and Microengineering, 2013, 23, 045008.	2.6	2
90	Sub-micron gap a-Si:H thin film Lamé-mode resonator processed at low temperature on a glass substrate. , 2013, , .		0

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91	Micro-fabricated channel with ultra-thin yet ultra-strong windows enables electron microscopy under 4-bar pressure. Applied Physics Letters, 2012, 100, .	3.3	40
92	Mechanical and piezoresistive properties of thin silicon films deposited by plasma-enhanced chemical vapor deposition and hot-wire chemical vapor deposition at low substrate temperatures. Journal of Applied Physics, 2012, 112, 024906.	2.5	16
93	Statistical Characterization of Fracture Strength and Fatigue Lifetime of Polysilicon Thin Films with Different Stress Concentration Fields. Journal of Solid Mechanics and Materials Engineering, 2012, 6, 1013-1029.	0.5	6
94	Integration of Magnetoresistive Biochips on a CMOS Circuit. IEEE Transactions on Magnetics, 2012, 48, 3784-3787.	2.1	23
95	Identification of fatigue crack extension process in zero-tension cyclic stress test of polysilicon films. , 2012, , .		0
96	FIB Preparation and SEM Investigations for Threeâ€Ðimensional Analysis of Cell Cultures on Microneedle Arrays. Scanning, 2012, 34, 221-229.	1.5	10
97	Statistical characterization of fatigue lifetime of polysilicon thin films. Sensors and Actuators A: Physical, 2012, 179, 251-262.	4.1	14
98	Study of the piezoresistivity of doped nanocrystalline silicon thin films. Journal of Applied Physics, 2011, 109, .	2.5	14
99	Nonlinear piezoresistance of silicon at large stresses. , 2011, , .		2
100	Finite fatigue lifetime of silicon under inert environment. , 2011, , .		3
101	Measurement of nano/micro out-of-plane and in-plane displacements of micromechanical components by using digital holography and speckle interferometry. Optical Engineering, 2011, 50, 101504.	1.0	20
102	Design of a Time-Based Micro-g Accelerometer. IEEE Sensors Journal, 2011, 11, 1677-1683.	4.7	11
103	Estimation of the Parameters Determining Strength and Fatigue Behaviors of Arbitrarily-Shaped Polysilicon Thin Films. , 2011, , .		2
104	Pull-in-based Î¼g-resolution accelerometer: Characterization and noise analysis. Sensors and Actuators A: Physical, 2011, 172, 47-53.	4.1	20
105	Effect of humidity and temperature on the fatigue behavior of polysilicon thin film. Sensors and Actuators A: Physical, 2011, 170, 187-195.	4.1	18
106	A study of prediction of static fracture strength of MEMS structure for strength design scheme. Procedia Engineering, 2010, 5, 1292-1295.	1.2	1
107	Development of Reference Standards for the Calibration of Optical Systems Used in the Measurement of Microcomponents. Strain, 2010, 46, 79-88.	2.4	6
108	Accuracy of the Fatigue Lifetime of Polysilicon Predicted from its Strength Distribution. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0

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109	Nonlinear piezoresistance of silicon. , 2010, , .		1
110	Low-frequency two-dimensional resonators for vibrational micro energy harvesting. Journal of Micromechanics and Microengineering, 2010, 20, 035016.	2.6	46
111	Mechanical properties of thin silicon films deposited at low temperatures by PECVD. Journal of Micromechanics and Microengineering, 2010, 20, 035022.	2.6	21
112	Out-of-plane electrostatic microactuators with tunable stiffness. , 2010, , .		5
113	A novel fatigue test with ramping stress amplitude to evaluate fatigue behavior of polysilicon thin films. , 2010, , .		5
114	Design of experiment characterization of microneedle fabrication processes based on dry silicon etching. Journal of Micromechanics and Microengineering, 2010, 20, 025024.	2.6	24
115	T0302-1-4 Statistical Evaluation of Fracture and Fatigue Behavior of Polysilicon Thin Films with Arbitrary Shapes. The Proceedings of the JSME Annual Meeting, 2010, 2010.8, 249-250.	0.0	0
116	Mechanical characterization of CMOS metal layers. , 2009, , .		0
117	A 2D Electret-Based Resonant Micro Energy Harvester. , 2009, , .		20
118	Wafer-Scale Microtensile Testing of Thin Films. Journal of Microelectromechanical Systems, 2009, 18, 1062-1076.	2.5	39
119	Hollow Microneedle Electrode Arrays for Intracellular Recording Applications. , 2009, , .		4
120	Highly Efficient Extraction of Mechanical and Linear and Quadratic Piezoresistive Properties of Poly-Si Films using Wafer-Scale Microtensile Testing. , 2009, , .		4
121	Calibration of optical systems for the measurement of microcomponents. Optics and Lasers in Engineering, 2009, 47, 203-210.	3.8	18
122	Measurement of in-plane deformations of microsystems by digital holography and speckle interferometry. Chinese Optics Letters, 2009, 7, 1109-1112.	2.9	8
123	Development of Calibration Standards for the Optical Measurement of In-Plane Displacements of Micromechanical Components. , 2009, , .		6
124	Prediction of strength and fatigue lifetime of MEMS structures with arbitrary shapes. , 2009, , .		5
125	Characterization of Ultrathin Membranes to Enable TEM Observation of Gas Reactions at High Pressures. , 2009, , .		5
126	J0103-2-4 Evaluation of Fatigue Behavior of Polysilicon Thin Films. The Proceedings of the JSME Annual Meeting, 2009, 2009.6, 59-60.	0.0	0

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127	Seamless interpretation of the strength and fatigue lifetime of polycrystalline silicon thin films. Journal of Micromechanics and Microengineering, 2008, 18, 095023.	2.6	25
128	Prediction of fatigue lifetime based on static strength and crack extension law - Fatigue test of mems materials becomes unnecessary. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	9
129	Fracture Properties of LPCVD Silicon Nitride and Thermally Grown Silicon Oxide Thin Films From the Load-Deflection of Long $hbox{Si}_{3}hbox{N}_{4}$ and $hbox{SiO}_{2}/hbox{Si}_{3}hbox{N}_{4}$ Diaphragms. Journal of Microelectromechanical Systems, 2008, 17, 1120-1134.	2.5	33
130	Modeling and improvement of a metallization system subjected to fast temperature cycle stress. , 2008, , .		4
131	Mechanical Properties and Reliability of Amorphous vs. Polycrystalline Silicon Thin Films. Materials Research Society Symposia Proceedings, 2008, 1066, 1.	0.1	5
132	Microneedle arrays for intracellular recording applications. , 2008, , .		17
133	High-throughput wafer-scale microtensile testing of thin films. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	9
134	Evaluation of the Mechanical Properties of Aluminum Thin Films as a Function of Strain Rate using the Wafer-Scale Microtensile Technique. , 2008, , .		1
135	Full-Gap Positioning of Parallel-Plate Electrostatic MEMS Using On-off Control. , 2007, , .		4
136	Systematic Characterization of DRIE-Based Fabrication Process of Silicon Microneedles. Materials Research Society Symposia Proceedings, 2007, 1052, 1.	0.1	5
137	Comparison of Improved Bulge and Microtensile Techniques for Mechanical Thin Film Characterization - Application to Polysilicon. , 2007, , .		7
138	Reliability of MEMS Materials: Mechanical Characterization of Thin-Films using the Wafer Scale Bulge Test and Improved Microtensile Techniques. Materials Research Society Symposia Proceedings, 2007, 1052, 1.	0.1	7
139	Electrostatic Transducers for Micro Energy Harvesting Based on SOI Technology. , 2007, , .		13
140	Advanced silicon microstructures, sensors, and systems. IEEJ Transactions on Electrical and Electronic Engineering, 2007, 2, 199-215.	1.4	14
141	Mechanical Characterization of Thin-Film Composites using the Load-Deflection Response of Multilayer Membranes - Elastic and Fracture Properties. Materials Research Society Symposia Proceedings, 2006, 977, 1.	0.1	5
142	Electrostatically actuated thin-film amorphous silicon microbridge resonators. Journal of Applied Physics, 2005, 97, 094501.	2.5	30
143	Electrostatically actuated polymer microresonators. Applied Physics Letters, 2005, 87, 104104.	3.3	27
144	Electrostatic microresonators from doped hydrogenated amorphous and nanocrystalline silicon thin films. Journal of Microelectromechanical Systems, 2005, 14, 1082-1088.	2.5	18

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145	Amorphous silicon electrostatic microresonators with high quality factors. Applied Physics Letters, 2004, 84, 622-624.	3.3	54
146	Low-temperature thin-film silicon MEMS. Thin Solid Films, 2003, 427, 181-186.	1.8	14
147	Integrated magnetic sensing of electrostatically actuated thin-film microbridges. Journal of Microelectromechanical Systems, 2003, 12, 550-556.	2.5	16
148	Electrostatic actuation of thin-film microelectromechanical structures. Journal of Applied Physics, 2003, 93, 10018-10029.	2.5	47
149	Microelectromechanical system microbridge deflection monitoring using integrated spin valve sensors and micromagnets. Journal of Applied Physics, 2002, 91, 7774.	2.5	13
150	MEMS microbridge vibration monitoring using spin-valve sensors. IEEE Transactions on Magnetics, 2002, 38, 3371-3373.	2.1	4
151	Thermal actuation of thin film microelectromechanical structures. Journal of Non-Crystalline Solids, 2002, 299-302, 1224-1228.	3.1	22
152	Amorphous and microcrystalline silicon deposited by hot-wire chemical vapor deposition at low substrate temperatures: application to devices and thin-film microelectromechanical systems. Thin Solid Films, 2001, 395, 105-111.	1.8	22
153	Thin-Film Microelectromechanical Devices on Large-Area Substrates. Solid State Phenomena, 2001, 80-81, 429-440.	0.3	3
154	MEMS microbridge deflection monitoring using integrated spin valve sensors and micromagnets. , 0, , .		1
155	Photocurrent Enhancement with Arrays of Silicon Light Nanotowers for Photovoltaic Applications. ACS Applied Nano Materials, 0, , .	5.0	1