Joao Gaspar

List of Publications by Year in descending order

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IONO CASDAD

#	Article	IF	CITATIONS
1	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
2	Challenges and trends in magnetic sensor integration with microfluidics for biomedical applications. Journal Physics D: Applied Physics, 2017, 50, 213001.	2.8	81
3	Organâ€onâ€aâ€Chip: A Preclinical Microfluidic Platform for the Progress of Nanomedicine. Small, 2020, 16, e2003517.	10.0	80
4	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
5	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
6	Amorphous silicon electrostatic microresonators with high quality factors. Applied Physics Letters, 2004, 84, 622-624.	3.3	54
7	Electrostatic actuation of thin-film microelectromechanical structures. Journal of Applied Physics, 2003, 93, 10018-10029.	2.5	47
8	Low-frequency two-dimensional resonators for vibrational micro energy harvesting. Journal of Micromechanics and Microengineering, 2010, 20, 035016.	2.6	46
9	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
10	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
11	Wafer-Scale Microtensile Testing of Thin Films. Journal of Microelectromechanical Systems, 2009, 18, 1062-1076.	2.5	39
12	Insulator Materials for Interface Passivation of Cu(In,Ga)Se ₂ Thin Films. IEEE Journal of Photovoltaics, 2018, 8, 1313-1319.	2.5	39
13	Integration of TMR Sensors in Silicon Microneedles for Magnetic Measurements of Neurons. IEEE Transactions on Magnetics, 2013, 49, 3512-3515.	2.1	35
14	Hybrid Integration of Magnetoresistive Sensors with MEMS as a Strategy to Detect Ultra-Low Magnetic Fields. Micromachines, 2016, 7, 88.	2.9	34
15	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
16	Facile synthesis and defect optimization of 2D-layeredÂMoS2 on TiO2 heterostructure for industrial effluent, wastewater treatments. Scientific Reports, 2020, 10, 21625.	3.3	32
17	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
18	Electrostatically actuated thin-film amorphous silicon microbridge resonators. Journal of Applied Physics, 2005, 97, 094501.	2.5	30

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19	A Perspective on Microneedle-Based Drug Delivery and Diagnostics in Paediatrics. Journal of Personalized Medicine, 2019, 9, 49.	2.5	29
20	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
21	Electrostatically actuated polymer microresonators. Applied Physics Letters, 2005, 87, 104104.	3.3	27
22	Seamless interpretation of the strength and fatigue lifetime of polycrystalline silicon thin films. Journal of Micromechanics and Microengineering, 2008, 18, 095023.	2.6	25
23	Design of experiment characterization of microneedle fabrication processes based on dry silicon etching. Journal of Micromechanics and Microengineering, 2010, 20, 025024.	2.6	24
24	Integration of Magnetoresistive Biochips on a CMOS Circuit. IEEE Transactions on Magnetics, 2012, 48, 3784-3787.	2.1	23
25	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
26	Thermal actuation of thin film microelectromechanical structures. Journal of Non-Crystalline Solids, 2002, 299-302, 1224-1228.	3.1	22
27	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
28	Dissolving microneedles for the delivery of peptides – Towards tolerance-inducing vaccines. International Journal of Pharmaceutics, 2020, 586, 119590.	5.2	22
29	Mechanical properties of thin silicon films deposited at low temperatures by PECVD. Journal of Micromechanics and Microengineering, 2010, 20, 035022.	2.6	21
30	High-Resolution MEMS Inclinometer Based on Pull-In Voltage. Journal of Microelectromechanical Systems, 2015, 24, 931-939.	2.5	21
31	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
32	A 2D Electret-Based Resonant Micro Energy Harvester. , 2009, , .		20
33	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
34	Pull-in-based μg-resolution accelerometer: Characterization and noise analysis. Sensors and Actuators A: Physical, 2011, 172, 47-53.	4.1	20
35	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
36	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

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37	Electrostatic microresonators from doped hydrogenated amorphous and nanocrystalline silicon thin films. Journal of Microelectromechanical Systems, 2005, 14, 1082-1088.	2.5	18
38	Calibration of optical systems for the measurement of microcomponents. Optics and Lasers in Engineering, 2009, 47, 203-210.	3.8	18
39	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
40	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
41	Microneedle arrays for intracellular recording applications. , 2008, , .		17
42	Integrated magnetic sensing of electrostatically actuated thin-film microbridges. Journal of Microelectromechanical Systems, 2003, 12, 550-556.	2.5	16
43	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
44	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
45	High-Resolution Seismocardiogram Acquisition and Analysis System. Sensors, 2018, 18, 3441.	3.8	15
46	Highâ€Performance and Industrially Viable Nanostructured SiO _{<i>x</i>} Layers for Interface Passivation in Thin Film Solar Cells. Solar Rrl, 2021, 5, 2000534.	5.8	15
47	Low-temperature thin-film silicon MEMS. Thin Solid Films, 2003, 427, 181-186.	1.8	14
48	Advanced silicon microstructures, sensors, and systems. IEEJ Transactions on Electrical and Electronic Engineering, 2007, 2, 199-215.	1.4	14
49	Study of the piezoresistivity of doped nanocrystalline silicon thin films. Journal of Applied Physics, 2011, 109, .	2.5	14
50	Statistical characterization of fatigue lifetime of polysilicon thin films. Sensors and Actuators A: Physical, 2012, 179, 251-262.	4.1	14
51	Microelectromechanical system microbridge deflection monitoring using integrated spin valve sensors and micromagnets. Journal of Applied Physics, 2002, 91, 7774.	2.5	13
52	Electrostatic Transducers for Micro Energy Harvesting Based on SOI Technology. , 2007, , .		13
53	On-Chip Magnetic Nanoparticle Manipulation and Trapping for Biomedical Applications. IEEE Transactions on Magnetics, 2017, 53, 1-6.	2.1	13
54	Flexible Magnetoresistive Sensors Designed for Conformal Integration. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	12

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55	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
56	Design of a Time-Based Micro-g Accelerometer. IEEE Sensors Journal, 2011, 11, 1677-1683.	4.7	11
57	Real-Time Operation and Characterization of a High-Performance Time-Based Accelerometer. Journal of Microelectromechanical Systems, 2015, 24, 1703-1711.	2.5	11
58	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
59	FIB Preparation and SEM Investigations for Threeâ€Dimensional Analysis of Cell Cultures on Microneedle Arrays. Scanning, 2012, 34, 221-229.	1.5	10
60	Industry 4.0: Real-time monitoring of an injection molding tool for smart predictive maintenance. , 2020, , .		10
61	An efficient and deterministic photon management using deep subwavelength features. Nano Energy, 2020, 70, 104521.	16.0	10
62	Opportunities for enhanced omnidirectional broadband absorption of the solar radiation using deep subwavelength structures. Nano Energy, 2020, 70, 104553.	16.0	10
63	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
64	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
65	Efficient light extraction in subwavelength GaAs/AlGaAs nanopillars for nanoscale light-emitting devices. Optics Express, 2020, 28, 32302.	3.4	9
66	Measurement of in-plane deformations of microsystems by digital holography and speckle interferometry. Chinese Optics Letters, 2009, 7, 1109-1112.	2.9	8
67	Small Size And Highly Sensitive Differential MEMS Accelerometer Based On Double-Ended Tuning Fork Resonators. , 2019, , .		8
68	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
69	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
70	Comparison of Improved Bulge and Microtensile Techniques for Mechanical Thin Film Characterization - Application to Polysilicon. , 2007, , .		7
71	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
72	Improving capacitance/damping ratio in a capacitive MEMS transducer. Journal of Micromechanics and Microengineering, 2014, 24, 015008.	2.6	7

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73	Digital Platform for Wafer-Level MEMS Testing and Characterization Using Electrical Response. Sensors, 2016, 16, 1553.	3.8	7
74	An Alternative Approach to Investigate V-Shaped Electrothermal Microactuators in Vacuum. Journal of Microelectromechanical Systems, 2020, 29, 387-396.	2.5	7
75	Hybrid Multisite Silicon Neural Probe with Integrated Flexible Connector for Interchangeable Packaging. Sensors, 2021, 21, 2605.	3.8	7
76	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
77	Development of Calibration Standards for the Optical Measurement of In-Plane Displacements of Micromechanical Components. , 2009, , .		6
78	Development of Reference Standards for the Calibration of Optical Systems Used in the Measurement of Microcomponents. Strain, 2010, 46, 79-88.	2.4	6
79	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
80	Fabrication and characterization of polymeric three-axis thermal accelerometers. Journal of Micromechanics and Microengineering, 2015, 25, 085005.	2.6	6
81	Bending Effect on Magnetoresistive Silicon Probes. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	6
82	Manipulation of Magnetic Beads with Thin Film Microelectromagnet Traps. Micromachines, 2019, 10, 607.	2.9	6
83	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
84	Systematic Characterization of DRIE-Based Fabrication Process of Silicon Microneedles. Materials Research Society Symposia Proceedings, 2007, 1052, 1.	0.1	5
85	Mechanical Properties and Reliability of Amorphous vs. Polycrystalline Silicon Thin Films. Materials Research Society Symposia Proceedings, 2008, 1066, 1.	0.1	5
86	Prediction of strength and fatigue lifetime of MEMS structures with arbitrary shapes. , 2009, , .		5
87	Characterization of Ultrathin Membranes to Enable TEM Observation of Gas Reactions at High Pressures. , 2009, , .		5
88	Out-of-plane electrostatic microactuators with tunable stiffness. , 2010, , .		5
89	A novel fatigue test with ramping stress amplitude to evaluate fatigue behavior of polysilicon thin films. , 2010, , .		5
90	Low-voltage, High-tuning Range MEMS Variable Capacitor Using Closed-loop Control. Procedia Engineering, 2016, 168, 1551-1554.	1.2	5

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91	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
92	Microneedles with integrated magnetoresistive sensors: A precision tool in biomedical instrumentation. , 2017, , .		5
93	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
94	MEMS microbridge vibration monitoring using spin-valve sensors. IEEE Transactions on Magnetics, 2002, 38, 3371-3373.	2.1	4
95	Full-Gap Positioning of Parallel-Plate Electrostatic MEMS Using On-off Control. , 2007, , .		4
96	Modeling and improvement of a metallization system subjected to fast temperature cycle stress. , 2008, , .		4
97	Hollow Microneedle Electrode Arrays for Intracellular Recording Applications. , 2009, , .		4
98	Highly Efficient Extraction of Mechanical and Linear and Quadratic Piezoresistive Properties of Poly-Si Films using Wafer-Scale Microtensile Testing. , 2009, , .		4
99	Bi-directional extended range parallel plate electrostatic actuator based on feedback linearization. , 2015, , .		4
100	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
101	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
102	Automated characterisation and analysis of large arrays of nanostructures fabricated at wafer scale. Precision Engineering, 2019, 60, 320-325.	3.4	4
103	Fatigue lifetime prediction of arbitrarily-shaped MEMS structures made of polysilicon thin films. Microsystem Technologies, 2019, 25, 2713-2726.	2.0	4
104	Field-effect transistors made of graphene grown on recycled copper foils. Materials Chemistry and Physics, 2020, 256, 123665.	4.0	4
105	Thin-Film Microelectromechanical Devices on Large-Area Substrates. Solid State Phenomena, 2001, 80-81, 429-440.	0.3	3
106	Finite fatigue lifetime of silicon under inert environment. , 2011, , .		3
107	The Use of Polymeric Technologies for Functional 3D Microdevices. Procedia Engineering, 2014, 87, 895-898.	1.2	3
108	3D Magnetic Field Reconstruction Methodology Based on a Scanning Magnetoresistive Probe. Sensors, 2018, 18, 2049.	3.8	3

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109	Sub-Micron Mems Accelerometer with Handle-Layer Patterning for Damping Enhancement Using Time Transduction. , 2019, , .		3
110	Small-size MEMS Accelerometer Encapsulated in Vacuum Using Sigma-Delta Modulation. , 2020, , .		3
111	Highly sensitive MEMS frequency modulated accelerometer with small footprint. Sensors and Actuators A: Physical, 2020, 307, 112005.	4.1	3
112	Nonlinear piezoresistance of silicon at large stresses. , 2011, , .		2
113	Estimation of the Parameters Determining Strength and Fatigue Behaviors of Arbitrarily-Shaped Polysilicon Thin Films. , 2011, , .		2
114	High resolution pull-in inclinometer. , 2013, , .		2
115	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
116	Thermal Compensated Pull-in Voltage MEMS Inclinometers. Procedia Engineering, 2014, 87, 831-834.	1.2	2
117	Embedded MEMS Platform for Structure Test and Characterization. Procedia Engineering, 2015, 120, 67-70.	1.2	2
118	Analysis and Characterization of Thermal-Piezoresistive MEMS Resonators. Procedia Engineering, 2016, 168, 872-875.	1.2	2
119	Ultra-Low Temperature FOWLP Process for the Embedding of Low Thermal Budget Sensors and Components Using SU-8 as Dielectric. , 2017, , .		2
120	Frequency Modulated Magnetometer Using a Double-Ended Tuning Fork Resonator. Proceedings (mdpi), 2018, 2, 1028.	0.2	2
121	Resonant Accelerometer based on Double-Ended Tuning Fork and a Force Amplification Mechanism. Proceedings (mdpi), 2018, 2, 1030.	0.2	2
122	Design Optimization of a Lorentz Force, Amplitude Modulated, MEMS Space Magnetometer. , 2020, , .		2
123	Influence of Mechanical Stress in a Packaged Frequency-Modulated MEMS Accelerometer. , 2020, , .		2
124	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
125	MEMS microbridge deflection monitoring using integrated spin valve sensors and micromagnets. , 0, , .		1
126	A study of prediction of static fracture strength of MEMS structure for strength design scheme. Procedia Engineering, 2010, 5, 1292-1295.	1.2	1

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127	Nonlinear piezoresistance of silicon. , 2010, , .		1
128	A fully integrated three-axis thermal accelerometer. , 2013, , .		1
129	Full-gap Tracking System for Parallel-plate Electrostatic Microactuatores. Procedia Engineering, 2014, 87, 1386-1389.	1.2	1
130	Integration of magnetoresistive sensors with atomic force microscopy cantilevers for scanning magnetoresistance microscopy applications. , 2015, , .		1
131	Performance Comparison of Sigma-delta Modulator Architectures for MEMS Accelerometers Using a Fully-Digital Approach. Procedia Engineering, 2016, 168, 814-817.	1.2	1
132	Ultra-small packaged micro-cooler for medical applications. , 2017, , .		1
133	SU-8 Based Waveguide for Optrodes. Proceedings (mdpi), 2018, 2, .	0.2	1
134	Thin-Film Silicon Resonators on Ultra-Flexible 10 Micrometer-Thick Polyimide Substrates. , 2019, , .		1
135	An Active Implant to Restore Dental Proprioceptivity. , 2020, , .		1
136	Enhanced virtual reality application with tactile feedback for prototyping in-car dashboard surfaces. , 2021, , .		1
137	Evaluation of the Mechanical Properties of Aluminum Thin Films as a Function of Strain Rate using the Wafer-Scale Microtensile Technique. , 2008, , .		1
138	Photocurrent Enhancement with Arrays of Silicon Light Nanotowers for Photovoltaic Applications. ACS Applied Nano Materials, 0, , .	5.0	1
139	Mechanical characterization of CMOS metal layers. , 2009, , .		0
140	Accuracy of the Fatigue Lifetime of Polysilicon Predicted from its Strength Distribution. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0
141	Identification of fatigue crack extension process in zero-tension cyclic stress test of polysilicon films. , 2012, , .		0
142	Sub-micron gap a-Si:H thin film Lamé-mode resonator processed at low temperature on a glass substrate. , 2013, , .		0
143	Piezoresistor Sensor Fabrication by Direct Laser Writing on Hydrogenated Amorphous Silicon. Materials Research Society Symposia Proceedings, 2014, 1594, 1.	0.1	0

144 High-performance pull-in time accelerometer. , 2015, , .

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145	Embedded Platform for Generic High-order Sigma-delta Accelerometers Testing. Procedia Engineering, 2016, 168, 954-957.	1.2	0
146	Novel magnetic readout for hybrid spintronic MEMS devices. , 2017, , .		0
147	Towards high-resolution scanning magnetoresistance microscopy. , 2017, , .		0
148	Digital platform for Sigma-Delta accelerometer assessment and test. Microsystem Technologies, 2018, 24, 2265-2276.	2.0	0
149	High Frequency FM MEMS Accelerometer Using Piezoresistive Resonators. Proceedings (mdpi), 2018, 2, .	0.2	0
150	A novel synchronizer for a 17.9ps Nutt Time-to-Digital Converter implemented on FPGA. , 2018, , .		0
151	Strong Enhancement of Light Extraction Efficiency in Sub-Wavelength AlGaAs/GaAs Vertical-Emitting Nanopillars. , 2019, , .		0
152	High precision, geometry independent analytical method for self-inductance calculation in planar coils. , 2021, , .		0
153	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
154	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
155	A Smart Dental Prosthesis to Restore Dental Proprioceptivity. , 2020, , .		0