

Yong Zhu

List of Publications by Year in descending order

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152
papers

10,741
citations

41258

49
h-index

30848

102
g-index

157
all docs

157
docs citations

157
times ranked

13057
citing authors

#	ARTICLE	IF	CITATIONS
1	Highly Conductive and Stretchable Silver Nanowire Conductors. <i>Advanced Materials</i> , 2012, 24, 5117-5122.	11.1	1,139
2	Wearable multifunctional sensors using printed stretchable conductors made of silver nanowires. <i>Nanoscale</i> , 2014, 6, 2345.	2.8	895
3	Nanomaterial-Enabled Stretchable Conductors: Strategies, Materials and Devices. <i>Advanced Materials</i> , 2015, 27, 1480-1511.	11.1	594
4	Surface-Energy-Assisted Perfect Transfer of Centimeter-Scale Monolayer and Few-Layer MoS ₂ Films onto Arbitrary Substrates. <i>ACS Nano</i> , 2014, 8, 11522-11528.	7.3	367
5	Mechanical Properties of Vapor-Liquid-Solid Synthesized Silicon Nanowires. <i>Nano Letters</i> , 2009, 9, 3934-3939.	4.5	363
6	An electromechanical material testing system for in situ electron microscopy and applications. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 14503-14508.	3.3	328
7	Size effects on elasticity, yielding, and fracture of silver nanowires: In situ experiments. <i>Physical Review B</i> , 2012, 85, .	1.1	266
8	A thermal actuator for nanoscale in situ microscopy testing: design and characterization. <i>Journal of Micromechanics and Microengineering</i> , 2006, 16, 242-253.	1.5	262
9	Stretchable and Reversibly Deformable Radio Frequency Antennas Based on Silver Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 4248-4253.	4.0	260
10	Mechanical Force-Triggered Drug Delivery. <i>Chemical Reviews</i> , 2016, 116, 12536-12563.	23.0	247
11	Interfacial Sliding and Buckling of Monolayer Graphene on a Stretchable Substrate. <i>Advanced Functional Materials</i> , 2014, 24, 396-402.	7.8	229
12	Wavy Ribbons of Carbon Nanotubes for Stretchable Conductors. <i>Advanced Functional Materials</i> , 2012, 22, 1279-1283.	7.8	221
13	Hypoxia and H ₂ O ₂ Dual-Sensitive Vesicles for Enhanced Glucose-Responsive Insulin Delivery. <i>Nano Letters</i> , 2017, 17, 733-739.	4.5	220
14	Stretch-Triggered Drug Delivery from Wearable Elastomer Films Containing Therapeutic Depots. <i>ACS Nano</i> , 2015, 9, 9407-9415.	7.3	196
15	Controlled 3D Buckling of Silicon Nanowires for Stretchable Electronics. <i>ACS Nano</i> , 2011, 5, 672-678.	7.3	192
16	Mechanical properties of ZnO nanowires under different loading modes. <i>Nano Research</i> , 2010, 3, 271-280.	5.8	186
17	Wearable silver nanowire dry electrodes for electrophysiological sensing. <i>RSC Advances</i> , 2015, 5, 11627-11632.	1.7	185
18	A Wearable Hydration Sensor with Conformal Nanowire Electrodes. <i>Advanced Healthcare Materials</i> , 2017, 6, 1601159.	3.9	167

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19	Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing. Proceedings of the IEEE, 2015, 103, 665-681.	16.4	166
20	Mechanical Properties of Silicon Carbide Nanowires: Effect of Size-Dependent Defect Density. Nano Letters, 2014, 14, 754-758.	4.5	161
21	Design and Operation of a MEMS-Based Material Testing System for Nanomechanical Characterization. Journal of Microelectromechanical Systems, 2007, 16, 1219-1231.	1.7	159
22	Low-Power Wearable Systems for Continuous Monitoring of Environment and Health for Chronic Respiratory Disease. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 1251-1264.	3.9	159
23	Buckling of Aligned Carbon Nanotubes as Stretchable Conductors: A New Manufacturing Strategy. Advanced Materials, 2012, 24, 1073-1077.	11.1	158
24	Soft electrothermal actuators using silver nanowire heaters. Nanoscale, 2017, 9, 3797-3805.	2.8	142
25	Recoverable plasticity in penta-twinned metallic nanowires governed by dislocation nucleation and retraction. Nature Communications, 2015, 6, 5983.	5.8	135
26	Nanomaterial-Enabled Dry Electrodes for Electrophysiological Sensing: A Review. Jom, 2016, 68, 1145-1155.	0.9	124
27	Strain Hardening and Size Effect in Five-fold Twinned Ag Nanowires. Nano Letters, 2015, 15, 4037-4044.	4.5	122
28	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
29	Environment-friendly carbon nanotube based flexible electronics for noninvasive and wearable healthcare. Journal of Materials Chemistry C, 2016, 4, 10061-10068.	2.7	119
30	Strain-Release Assembly of Nanowires on Stretchable Substrates. ACS Nano, 2011, 5, 1556-1563.	7.3	94
31	Measuring graphene adhesion using atomic force microscopy with a microsphere tip. Nanoscale, 2015, 7, 10760-10766.	2.8	93
32	Thrombin-Responsive Transcutaneous Patch for Auto-Anticoagulant Regulation. Advanced Materials, 2017, 29, 1604043.	11.1	90
33	Integrated control of ground vehicles dynamics via advanced terminal sliding mode control. Vehicle System Dynamics, 2017, 55, 268-294.	2.2	83
34	An electrothermal microactuator with Z-shaped beams. Journal of Micromechanics and Microengineering, 2010, 20, 085014.	1.5	81
35	Core-shell microparticles: Generation approaches and applications. Journal of Science: Advanced Materials and Devices, 2020, 5, 417-435.	1.5	79
36	Ultrasound-triggered noninvasive regulation of blood glucose levels using microgels integrated with insulin nanocapsules. Nano Research, 2017, 10, 1393-1402.	5.8	74

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37	A bulk acoustic mode single-crystal silicon microresonator with a high-quality factor. <i>Journal of Micromechanics and Microengineering</i> , 2008, 18, 064001.	1.5	71
38	Fundamental piezoresistive coefficients of p-type single crystalline 3C-SiC. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	70
39	Large anelasticity and associated energy dissipation in single-crystalline nanowires. <i>Nature Nanotechnology</i> , 2015, 10, 687-691.	15.6	70
40	Experimental Techniques for the Mechanical Characterization of One-Dimensional Nanostructures. <i>Experimental Mechanics</i> , 2007, 47, 7-24.	1.1	69
41	Cohesive-Shear-Lag Modeling of Interfacial Stress Transfer Between a Monolayer Graphene and a Polymer Substrate. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	1.1	68
42	A review of microelectromechanical systems for nanoscale mechanical characterization. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 093001.	1.5	60
43	A 2-DOF MEMS Ultrasonic Energy Harvester. <i>IEEE Sensors Journal</i> , 2011, 11, 155-161.	2.4	59
44	Thickness dependence of the piezoresistive effect in p-type single crystalline 3C-SiC nanothin films. <i>Journal of Materials Chemistry C</i> , 2014, 2, 7176-7179.	2.7	58
45	Static Friction between Silicon Nanowires and Elastomeric Substrates. <i>ACS Nano</i> , 2011, 5, 7404-7410.	7.3	55
46	A Single-Crystal-Silicon Bulk-Acoustic-Mode Microresonator Oscillator. <i>IEEE Electron Device Letters</i> , 2008, 29, 701-703.	2.2	54
47	Solvent-free fabrication of biodegradable hot-film flow sensor for noninvasive respiratory monitoring. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 215401.	1.3	54
48	Ultrasensitive mass balance based on a bulk acoustic mode single-crystal silicon resonator. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	53
49	Piezoresistive Effect of p-Type Single Crystalline 3C-SiC Thin Film. <i>IEEE Electron Device Letters</i> , 2014, 35, 399-401.	2.2	51
50	Measuring True Young's Modulus of a Cantilevered Nanowire: Effect of Clamping on Resonance Frequency. <i>Small</i> , 2012, 8, 2571-2576.	5.2	49
51	Design and operation of silver nanowire based flexible and stretchable touch sensors. <i>Journal of Materials Research</i> , 2015, 30, 79-85.	1.2	48
52	Design, Modeling, and Control of a Micromachined Nanopositioner With Integrated Electrothermal Actuation and Sensing. <i>Journal of Microelectromechanical Systems</i> , 2011, 20, 711-719.	1.7	47
53	Tailoring the Load Carrying Capacity of MWCNTs Through Inter-shell Atomic Bridging. <i>Experimental Mechanics</i> , 2009, 49, 169-182.	1.1	45
54	Helical coil buckling mechanism for a stiff nanowire on an elastomeric substrate. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 95, 25-43.	2.3	44

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55	Mechanics of Crystalline Nanowires: An Experimental Perspective. <i>Applied Mechanics Reviews</i> , 2017, 69, .	4.5	43
56	Fabrication of Functional Nanowire Devices on Unconventional Substrates Using Strain-Release Assembly. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 256-261.	4.0	42
57	Experimental Investigation of Piezoresistive Effect in p-Type 4H-SiC. <i>IEEE Electron Device Letters</i> , 2017, 38, 955-958.	2.2	41
58	Piezoresistive effect of p-type silicon nanowires fabricated by a top-down process using FIB implantation and wet etching. <i>RSC Advances</i> , 2015, 5, 82121-82126.	1.7	39
59	Bidirectional Electrothermal Actuator With Z-Shaped Beams. <i>IEEE Sensors Journal</i> , 2012, 12, 2508-2509.	2.4	38
60	On the size-dependent elasticity of penta-twinned silver nanowires. <i>Extreme Mechanics Letters</i> , 2016, 8, 177-183.	2.0	38
61	Room temperature electrometry with SUB-10 electron charge resolution. <i>Journal of Micromechanics and Microengineering</i> , 2008, 18, 025033.	1.5	36
62	Z-Shaped MEMS Thermal Actuators: Piezoresistive Self-Sensing and Preliminary Results for Feedback Control. <i>Journal of Microelectromechanical Systems</i> , 2012, 21, 596-604.	1.7	35
63	A microelectromechanical system for thermomechanical testing of nanostructures. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	34
64	Simultaneous Capacitive and Electrothermal Position Sensing in a Micromachined Nanopositioner. <i>IEEE Electron Device Letters</i> , 2011, 32, 1146-1148.	2.2	32
65	Temperature control in thermal microactuators with applications to <i>in-situ</i> nanomechanical testing. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	31
66	Simple geometric model to describe self-folding of polymer sheets. <i>Physical Review E</i> , 2014, 89, 042601.	0.8	30
67	A Micromachined Nanopositioner With On-Chip Electrothermal Actuation and Sensing. <i>IEEE Electron Device Letters</i> , 2010, 31, 1161-1163.	2.2	29
68	The effect of strain on the electrical conductance of p-type nanocrystalline silicon carbide thin films. <i>Journal of Materials Chemistry C</i> , 2015, 3, 1172-1176.	2.7	29
69	Sensing of single electrons using micro and nano technologies: a review. <i>Nanotechnology</i> , 2017, 28, 142002.	1.3	27
70	Controlling the self-folding of a polymer sheet using a local heater: the effect of the polymer-heater interface. <i>Soft Matter</i> , 2017, 13, 3863-3870.	1.2	27
71	A Resonant Micromachined Electrostatic Charge Sensor. <i>IEEE Sensors Journal</i> , 2008, 8, 1499-1505.	2.4	26
72	Ultrasonic Energy Transmission and Conversion Using a 2-D MEMS Resonator. <i>IEEE Electron Device Letters</i> , 2010, 31, 374-376.	2.2	26

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73	Stress relaxation in carbon nanotube-based fibers for load-bearing applications. Carbon, 2013, 52, 347-355.	5.4	26
74	Friction and Shear Strength at the Nanowire-Substrate Interfaces. Nanoscale Research Letters, 2010, 5, 291-5.	3.1	25
75	Fabrication of keyhole-free ultra-deep high-aspect-ratio isolation trench and its applications. Journal of Micromechanics and Microengineering, 2005, 15, 636-642.	1.5	24
76	System-level simulation of a micromachined electrometer using a time-domain variable capacitor circuit model. Journal of Micromechanics and Microengineering, 2007, 17, 1059-1065.	1.5	24
77	High Power and Reliable SPST/SP3T RF MEMS Switches for Wireless Applications. IEEE Electron Device Letters, 2016, 37, 1219-1222.	2.2	23
78	Hydrogen sensor based on palladium-yttrium alloy nanosheet. Materials Chemistry and Physics, 2017, 194, 231-235.	2.0	23
79	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
80	Mechanism of the Transition From In-Plane Buckling to Helical Buckling for a Stiff Nanowire on an Elastomeric Substrate. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	1.1	21
81	Analysis of Nonlinear Phenomena in a Thermal Micro-Actuator With a Built-In Thermal Position Sensor. IEEE Sensors Journal, 2012, 12, 1772-1784.	2.4	20
82	RF MEMS switches for smart antennas. Microsystem Technologies, 2015, 21, 487-495.	1.2	20
83	Evolution of Irradiation-Induced Vacancy Defects in Boron Nitride Nanotubes. Small, 2016, 12, 818-824.	5.2	19
84	Highly sensitive p-type 4H-SiC van der Pauw sensor. RSC Advances, 2018, 8, 3009-3013.	1.7	19
85	Epitaxially influenced boundary layer model for size effect in thin metallic films. Journal of Applied Physics, 2005, 97, 073506.	1.1	18
86	In Situ Nanomechanical Testing of Crystalline Nanowires in Electron Microscopes. Jom, 2016, 68, 84-93.	0.9	16
87	Electrically Stable Carbon Nanotube Yarn Under Tensile Strain. IEEE Electron Device Letters, 2017, 38, 1331-1334.	2.2	15
88	Centrifugal Deposited Au-Pd Core-Shell Nanoparticle Film for Room-Temperature Optical Detection of Hydrogen Gas. Sensors, 2018, 18, 1448.	2.1	13
89	Non-Polar Gallium Nitride for Photodetection Applications: A Systematic Review. Coatings, 2022, 12, 275.	1.2	13
90	Micromachined Coreless Single-Layer Transformer Without Crossovers. IEEE Magnetics Letters, 2015, 6, 1-4.	0.6	12

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91	Highly-doped SiC resonator with ultra-large tuning frequency range by Joule heating effect. Materials and Design, 2020, 194, 108922.	3.3	12
92	Graphite-on-paper based tactile sensors using plastic laminating technique. , 2015, , .		11
93	A Novel Three-State Contactless RF Micromachined Switch for Wireless Applications. IEEE Electron Device Letters, 2015, 36, 1363-1365.	2.2	11
94	Formation of core-shell droplets for the encapsulation of liquid contents. Microfluidics and Nanofluidics, 2021, 25, 1.	1.0	11
95	Electro-Thermal Actuator for On-Chip Nanoscale Tensile Tests: Analytical Modelling and Multi-Physics Simulations. Sensor Letters, 2007, 5, 592-607.	0.4	11
96	Multimodal Fibrous Static and Dynamic Tactile Sensor. ACS Applied Materials & Interfaces, 2022, 14, 27317-27327.	4.0	11
97	A 2-DOF wideband electrostatic transducer for energy harvesting and implantable applications. , 2009, , .		10
98	Cyber-attack localisation and tolerant control for microgrid energy management system based on set-membership estimation. International Journal of Systems Science, 2021, 52, 1206-1222.	3.7	10
99	A Microelectromechanical System for Nano-Scale Testing of One Dimensional Nanostructures. Sensor Letters, 2008, 6, 76-87.	0.4	10
100	Design and fabrication of a microfluid angular rate sensor. , 0, , .		9
101	Room-Temperature Sensing of Single Electrons Using Vibrating-Reed Electrometer in Silicon-on-Glass Technology. IEEE Electron Device Letters, 2018, 39, 1928-1931.	2.2	9
102	Integrated bulk-micromachined gyroscope using deep trench isolation technology. , 0, , .		8
103	A micromechanical electrometer approaching single-electron charge resolution at room temperature. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	8
104	Environment-friendly wearable thermal flow sensors for noninvasive respiratory monitoring. , 2017, , .		8
105	Temperature-dependent material properties of Z-shaped MEMS thermal actuators made of single crystalline silicon. Journal of Micromechanics and Microengineering, 2013, 23, 125036.	1.5	7
106	MEMS-based tunable meander inductor. Electronics Letters, 2015, 51, 1582-1583.	0.5	7
107	Output feedback model predictive control based on set-membership state estimation. IET Control Theory and Applications, 2020, 14, 558-567.	1.2	7
108	Low-Voltage and High-Reliability RF MEMS Switch with Combined Electrothermal and Electrostatic Actuation. Micromachines, 2021, 12, 1237.	1.4	7

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109	An improved method employed in anodic bonded glass-silicon gyroscopes to avoid footing effect in DRIE. , 0, , .		6
110	A micromachined 2DOF nanopositioner with integrated capacitive displacement sensor. , 2010, , .		6
111	Vertical profiles and CD loss control in deep RIE technology. , 0, , .		5
112	Design, prototyping, modeling and control of a MEMS nanopositioning stage. , 2011, , .		5
113	A novel electrothermally actuated RF MEMS switch for wireless applications. , 2013, , .		5
114	Study on contact resistance in single-contact and multi-contact MEMS switches. Microelectronic Engineering, 2015, 135, 13-16.	1.1	5
115	Control strategies for improving ground vehicle stability: State-of-the-art review. , 2015, , .		5
116	High resolution melting curve analysis with MATLAB-based program. Measurement: Journal of the International Measurement Confederation, 2016, 90, 178-186.	2.5	5
117	Palladium on paper as a low-cost and flexible material for fast hydrogen sensing. Journal of Materials Science: Materials in Electronics, 2020, 31, 5298-5304.	1.1	5
118	MEMS Electrometer System Simulation using a Time-Domain Variable Capacitor Model. , 2007, , .		4
119	A novel single metal layer MEMS-based step-down transformer. Microelectronics Journal, 2016, 57, 48-51.	1.1	4
120	Elastic drug delivery: could treatments be triggered by patient movement?. Nanomedicine, 2016, 11, 323-325.	1.7	4
121	Design and Implementation of Single-Layer Symmetric Micro-Transformers. IEEE Transactions on Magnetics, 2016, 52, 1-5.	1.2	4
122	Comprehensive Design Considerations and Noise Modeling of Preamplifier for MEMS Electrometry. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 3223-3231.	2.4	4
123	AlGaIn/GaN 2-D Electron Gas for Highly Sensitive and High-Temperature Current Sensing. IEEE Transactions on Electron Devices, 2021, 68, 1495-1500.	1.6	4
124	Post-CMOS process for high-aspect-ratio monolithically integrated single crystal silicon microstructures. , 0, , .		3
125	Sub-10e Charge Resolution for Room Temperature Electrometry. , 2007, , .		3
126	A low-loss MEMS tunable capacitor with movable dielectric. , 2009, , .		3

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127	A planar fractal micro-transformer with air core and hilbert curve. <i>Microsystem Technologies</i> , 2015, 21, 1691-1695.	1.2	3
128	A single-layer micromachined tunable capacitor with an electrically floating plate. <i>Smart Materials and Structures</i> , 2016, 25, 045014.	1.8	3
129	Analysis and Measurement of Residual Stress in Bridge Membrane MEMS Relays. <i>Journal of Electronic Materials</i> , 2017, 46, 2494-2500.	1.0	3
130	Substrate Effects on Growth of MoS ₂ Film by Laser Physical Vapor Deposition on Sapphire, Si and Graphene (on Cu). <i>Journal of Electronic Materials</i> , 2017, 46, 1010-1021.	1.0	3
131	Palladium microfiber network as a platform for hydrogen sensing applications. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 131, 50-54.	1.9	3
132	Experimental investigation of actuation in a micromachined electrically floating tunable capacitor. <i>Microelectronic Engineering</i> , 2019, 213, 31-34.	1.1	3
133	Experimental investigation of resonant MEMS switch with ac actuation. <i>Applied Physics Letters</i> , 2016, 108, 253501.	1.5	2
134	Low-power static and dynamic tactile sensing using in-situ fabricated PVDF-TrFE e-skin. , 2021, , .		2
135	Investigation of fabricating ultra deep and high aspect ratio electrical isolation trench without void. , 0, , .		1
136	A MEMS nanopositioner with thermal actuator and on-chip thermal sensor. , 2010, , .		1
137	Design of Metal MUMPs based LLC resonant converter for on-chip power supplies. , 2013, , .		1
138	A Novel Bidirectional Z-Shaped Thermally Actuated RF MEMS Switch for Multiple-Beam Antenna Array. <i>Advanced Materials Research</i> , 0, 705, 264-269.	0.3	1
139	A fluid density sensor based on a resonant tube. <i>Advances in Natural Sciences: Nanoscience and Nanotechnology</i> , 2014, 5, 035010.	0.7	1
140	Design and fabrication of electrothermal SiC nanoresonators for high-resolution nanoparticle sensing. , 2016, , .		1
141	A piezoelectric shear stress sensor. , 2016, , .		1
142	Editorial for the focus issue on "Nanomechanics" in <i>Extreme Mechanics Letters</i> . <i>Extreme Mechanics Letters</i> , 2016, 8, 125-126.	2.0	1
143	Distributed model predictive control with switching topology network. , 2017, , .		1
144	Utilizing large hall offset voltage for conversion free 4H-SiC strain sensor. , 2018, , .		1

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145	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
146	Long-horizon finite-set model predictive control for grid-connected photovoltaic inverters. Optimal Control Applications and Methods, 2022, 43, 618-635.	1.3	1
147	Design Optimization of MEMS Based LLC Tunable Resonant Converter for Power Supplies on Chip. Advanced Materials Research, 2013, 705, 258-263.	0.3	0
148	Control Issues of MEMS Nanopositioning Devices. , 2016, , 325-346.		0
149	Cooperative H _∞ tracking control for distributed grid-connected photovoltaic system. , 2017, , .		0
150	Development of a Vibrating-Reed MEMS Charge Sensor on Silicon-on-Glass Technology. Smart Innovation, Systems and Technologies, 2019, , 126-136.	0.5	0
151	System-Level Modelling of MEMS Vibrating-Reed Electrometer in Matlab Simulink. , 2020, , 205-220.		0
152	Low-Dimensional Palladium on Graphite-on-Paper Substrate for Hydrogen Sensing. Sensors, 2022, 22, 3926.	2.1	0