

# Yong Zhu

## List of Publications by Year in descending order

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152  
papers

10,741  
citations

41323

49  
h-index

30894

102  
g-index

157  
all docs

157  
docs citations

157  
times ranked

13057  
citing authors

#	ARTICLE	IF	CITATIONS
1	Non-Polar Gallium Nitride for Photodetection Applications: A Systematic Review. <i>Coatings</i> , 2022, 12, 275.	1.2	13
2	Long-horizon finite-set model predictive control for grid-connected photovoltaic inverters. <i>Optimal Control Applications and Methods</i> , 2022, 43, 618-635.	1.3	1
3	Low-Dimensional Palladium on Graphite-on-Paper Substrate for Hydrogen Sensing. <i>Sensors</i> , 2022, 22, 3926.	2.1	0
4	Multimodal Fibrous Static and Dynamic Tactile Sensor. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 27317-27327.	4.0	11
5	Cyber-attack localisation and tolerant control for microgrid energy management system based on set-membership estimation. <i>International Journal of Systems Science</i> , 2021, 52, 1206-1222.	3.7	10
6	AlGaIn/GaN 2-D Electron Gas for Highly Sensitive and High-Temperature Current Sensing. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 1495-1500.	1.6	4
7	Formation of core-shell droplets for the encapsulation of liquid contents. <i>Microfluidics and Nanofluidics</i> , 2021, 25, 1.	1.0	11
8	Low-Voltage and High-Reliability RF MEMS Switch with Combined Electrothermal and Electrostatic Actuation. <i>Micromachines</i> , 2021, 12, 1237.	1.4	7
9	Low-power static and dynamic tactile sensing using in-situ fabricated PVDF-TrFE e-skin. , 2021, , .		2
10	Comprehensive Design Considerations and Noise Modeling of Preamplifier for MEMS Electrometry. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2020, 69, 3223-3231.	2.4	4
11	Core-shell microparticles: Generation approaches and applications. <i>Journal of Science: Advanced Materials and Devices</i> , 2020, 5, 417-435.	1.5	79
12	Output feedback model predictive control based on set-membership state estimation. <i>IET Control Theory and Applications</i> , 2020, 14, 558-567.	1.2	7
13	Highly-doped SiC resonator with ultra-large tuning frequency range by Joule heating effect. <i>Materials and Design</i> , 2020, 194, 108922.	3.3	12
14	Palladium on paper as a low-cost and flexible material for fast hydrogen sensing. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 5298-5304.	1.1	5
15	System-Level Modelling of MEMS Vibrating-Reed Electrometer in Matlab Simulink. , 2020, , 205-220.		0
16	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
17	Experimental investigation of actuation in a micromachined electrically floating tunable capacitor. <i>Microelectronic Engineering</i> , 2019, 213, 31-34.	1.1	3
18	Development of a Vibrating-Reed MEMS Charge Sensor on Silicon-on-Glass Technology. <i>Smart Innovation, Systems and Technologies</i> , 2019, , 126-136.	0.5	0

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19	Highly sensitive p-type 4H-SiC van der Pauw sensor. RSC Advances, 2018, 8, 3009-3013.	1.7	19
20	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
21	Centrifugal Deposited Au-Pd Core-Shell Nanoparticle Film for Room-Temperature Optical Detection of Hydrogen Gas. Sensors, 2018, 18, 1448.	2.1	13
22	Utilizing large hall offset voltage for conversion free 4H-SiC strain sensor. , 2018, , .		1
23	Hypoxia and H <sub>2</sub> O <sub>2</sub> Dual-Sensitive Vesicles for Enhanced Glucose-Responsive Insulin Delivery. Nano Letters, 2017, 17, 733-739.	4.5	220
24	Soft electrothermal actuators using silver nanowire heaters. Nanoscale, 2017, 9, 3797-3805.	2.8	142
25	A Wearable Hydration Sensor with Conformal Nanowire Electrodes. Advanced Healthcare Materials, 2017, 6, 1601159.	3.9	167
26	Sensing of single electrons using micro and nano technologies: a review. Nanotechnology, 2017, 28, 142002.	1.3	27
27	Environment-friendly wearable thermal flow sensors for noninvasive respiratory monitoring. , 2017, , .		8
28	Mechanics of Crystalline Nanowires: An Experimental Perspective. Applied Mechanics Reviews, 2017, 69, .	4.5	43
29	Ultrasound-triggered noninvasive regulation of blood glucose levels using microgels integrated with insulin nanocapsules. Nano Research, 2017, 10, 1393-1402.	5.8	74
30	Controlling the self-folding of a polymer sheet using a local heater: the effect of the polymer-heater interface. Soft Matter, 2017, 13, 3863-3870.	1.2	27
31	Solvent-free fabrication of biodegradable hot-film flow sensor for noninvasive respiratory monitoring. Journal Physics D: Applied Physics, 2017, 50, 215401.	1.3	54
32	Experimental Investigation of Piezoresistive Effect in p-Type 4H-SiC. IEEE Electron Device Letters, 2017, 38, 955-958.	2.2	41
33	Hydrogen sensor based on palladium-yttrium alloy nanosheet. Materials Chemistry and Physics, 2017, 194, 231-235.	2.0	23
34	Electrically Stable Carbon Nanotube Yarn Under Tensile Strain. IEEE Electron Device Letters, 2017, 38, 1331-1334.	2.2	15
35	Analysis and Measurement of Residual Stress in Bridge Membrane MEMS Relays. Journal of Electronic Materials, 2017, 46, 2494-2500.	1.0	3
36	Substrate Effects on Growth of MoS <sub>2</sub> Film by Laser Physical Vapor Deposition on Sapphire, Si and Graphene (on Cu). Journal of Electronic Materials, 2017, 46, 1010-1021.	1.0	3

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37	Thrombin-Responsive Transcutaneous Patch for Auto-Anticoagulant Regulation. <i>Advanced Materials</i> , 2017, 29, 1604043.	11.1	90
38	Integrated control of ground vehicles dynamics via advanced terminal sliding mode control. <i>Vehicle System Dynamics</i> , 2017, 55, 268-294.	2.2	83
39	Distributed model predictive control with switching topology network. , 2017, , .		1
40	Cooperative H <sub>∞</sub> tracking control for distributed grid-connected photovoltaic system. , 2017, , .		0
41	Evolution of Irradiation-Induced Vacancy Defects in Boron Nitride Nanotubes. <i>Small</i> , 2016, 12, 818-824.	5.2	19
42	A single-layer micromachined tunable capacitor with an electrically floating plate. <i>Smart Materials and Structures</i> , 2016, 25, 045014.	1.8	3
43	Experimental investigation of resonant MEMS switch with ac actuation. <i>Applied Physics Letters</i> , 2016, 108, 253501.	1.5	2
44	Design and fabrication of electrothermal SiC nanoresonators for high-resolution nanoparticle sensing. , 2016, , .		1
45	A piezoelectric shear stress sensor. , 2016, , .		1
46	High resolution melting curve analysis with MATLAB-based program. <i>Measurement: Journal of the International Measurement Confederation</i> , 2016, 90, 178-186.	2.5	5
47	On the size-dependent elasticity of penta-twinned silver nanowires. <i>Extreme Mechanics Letters</i> , 2016, 8, 177-183.	2.0	38
48	Mechanical Force-Triggered Drug Delivery. <i>Chemical Reviews</i> , 2016, 116, 12536-12563.	23.0	247
49	Environment-friendly carbon nanotube based flexible electronics for noninvasive and wearable healthcare. <i>Journal of Materials Chemistry C</i> , 2016, 4, 10061-10068.	2.7	119
50	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
51	High Power and Reliable SPST/SP3T RF MEMS Switches for Wireless Applications. <i>IEEE Electron Device Letters</i> , 2016, 37, 1219-1222.	2.2	23
52	A novel single metal layer MEMS-based step-down transformer. <i>Microelectronics Journal</i> , 2016, 57, 48-51.	1.1	4
53	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
54	Low-Power Wearable Systems for Continuous Monitoring of Environment and Health for Chronic Respiratory Disease. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2016, 20, 1251-1264.	3.9	159

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55	Elastic drug delivery: could treatments be triggered by patient movement?. <i>Nanomedicine</i> , 2016, 11, 323-325.	1.7	4
56	Nanomaterial-Enabled Dry Electrodes for Electrophysiological Sensing: A Review. <i>Jom</i> , 2016, 68, 1145-1155.	0.9	124
57	Control Issues of MEMS Nanopositioning Devices. , 2016, , 325-346.		0
58	Design and Implementation of Single-Layer Symmetric Micro-Transformers. <i>IEEE Transactions on Magnetics</i> , 2016, 52, 1-5.	1.2	4
59	Mechanism of the Transition From In-Plane Buckling to Helical Buckling for a Stiff Nanowire on an Elastomeric Substrate. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016, 83, .	1.1	21
60	In Situ Nanomechanical Testing of Crystalline Nanowires in Electron Microscopes. <i>Jom</i> , 2016, 68, 84-93.	0.9	16
61	Graphite-on-paper based tactile sensors using plastic laminating technique. , 2015, , .		11
62	Measuring graphene adhesion using atomic force microscopy with a microsphere tip. <i>Nanoscale</i> , 2015, 7, 10760-10766.	2.8	93
63	Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing. <i>Proceedings of the IEEE</i> , 2015, 103, 665-681.	16.4	166
64	Micromachined Coreless Single-Layer Transformer Without Crossovers. <i>IEEE Magnetics Letters</i> , 2015, 6, 1-4.	0.6	12
65	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
66	Nanomaterial-Enabled Stretchable Conductors: Strategies, Materials and Devices. <i>Advanced Materials</i> , 2015, 27, 1480-1511.	11.1	594
67	Recoverable plasticity in penta-twinned metallic nanowires governed by dislocation nucleation and retraction. <i>Nature Communications</i> , 2015, 6, 5983.	5.8	135
68	Wearable silver nanowire dry electrodes for electrophysiological sensing. <i>RSC Advances</i> , 2015, 5, 11627-11632.	1.7	185
69	Large anelasticity and associated energy dissipation in single-crystalline nanowires. <i>Nature Nanotechnology</i> , 2015, 10, 687-691.	15.6	70
70	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
71	Strain Hardening and Size Effect in Five-fold Twinned Ag Nanowires. <i>Nano Letters</i> , 2015, 15, 4037-4044.	4.5	122
72	Study on contact resistance in single-contact and multi-contact MEMS switches. <i>Microelectronic Engineering</i> , 2015, 135, 13-16.	1.1	5

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73	Piezoresistive effect of p-type silicon nanowires fabricated by a top-down process using FIB implantation and wet etching. RSC Advances, 2015, 5, 82121-82126.	1.7	39
74	Stretch-Triggered Drug Delivery from Wearable Elastomer Films Containing Therapeutic Depots. ACS Nano, 2015, 9, 9407-9415.	7.3	196
75	Control strategies for improving ground vehicle stability: State-of-the-art review. , 2015, , .		5
76	A review of microelectromechanical systems for nanoscale mechanical characterization. Journal of Micromechanics and Microengineering, 2015, 25, 093001.	1.5	60
77	MEMS-based tunable meander inductor. Electronics Letters, 2015, 51, 1582-1583.	0.5	7
78	A Novel Three-State Contactless RF Micromachined Switch for Wireless Applications. IEEE Electron Device Letters, 2015, 36, 1363-1365.	2.2	11
79	Design and operation of silver nanowire based flexible and stretchable touch sensors. Journal of Materials Research, 2015, 30, 79-85.	1.2	48
80	RF MEMS switches for smart antennas. Microsystem Technologies, 2015, 21, 487-495.	1.2	20
81	A planar fractal micro-transformer with air core and hilbert curve. Microsystem Technologies, 2015, 21, 1691-1695.	1.2	3
82	A fluid density sensor based on a resonant tube. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2014, 5, 035010.	0.7	1
83	Fundamental piezoresistive coefficients of p-type single crystalline 3C-SiC. Applied Physics Letters, 2014, 104, .	1.5	70
84	Interfacial Sliding and Buckling of Monolayer Graphene on a Stretchable Substrate. Advanced Functional Materials, 2014, 24, 396-402.	7.8	229
85	Stretchable and Reversibly Deformable Radio Frequency Antennas Based on Silver Nanowires. ACS Applied Materials & Interfaces, 2014, 6, 4248-4253.	4.0	260
86	Wearable multifunctional sensors using printed stretchable conductors made of silver nanowires. Nanoscale, 2014, 6, 2345.	2.8	895
87	Surface-Energy-Assisted Perfect Transfer of Centimeter-Scale Monolayer and Few-Layer MoS <sub>2</sub> Films onto Arbitrary Substrates. ACS Nano, 2014, 8, 11522-11528.	7.3	367
88	Piezoresistive Effect of p-Type Single Crystalline 3C-SiC Thin Film. IEEE Electron Device Letters, 2014, 35, 399-401.	2.2	51
89	Thickness dependence of the piezoresistive effect in p-type single crystalline 3C-SiC nanothin films. Journal of Materials Chemistry C, 2014, 2, 7176-7179.	2.7	58
90	Mechanical Properties of Silicon Carbide Nanowires: Effect of Size-Dependent Defect Density. Nano Letters, 2014, 14, 754-758.	4.5	161

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91	Simple geometric model to describe self-folding of polymer sheets. <i>Physical Review E</i> , 2014, 89, 042601.	0.8	30
92	Stress relaxation in carbon nanotube-based fibers for load-bearing applications. <i>Carbon</i> , 2013, 52, 347-355.	5.4	26
93	Design of Metal MUMPs based LLC resonant converter for on-chip power supplies. , 2013, , .		1
94	Fabrication of Functional Nanowire Devices on Unconventional Substrates Using Strain-Release Assembly. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 256-261.	4.0	42
95	A microelectromechanical system for thermomechanical testing of nanostructures. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	34
96	Design Optimization of MEMS Based LLC Tunable Resonant Converter for Power Supplies on Chip. <i>Advanced Materials Research</i> , 2013, 705, 258-263.	0.3	0
97	Temperature control in thermal microactuators with applications to <i>in-situ</i> nanomechanical testing. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	31
98	A novel electrothermally actuated RF MEMS switch for wireless applications. , 2013, , .		5
99	Temperature-dependent material properties of Z-shaped MEMS thermal actuators made of single crystalline silicon. <i>Journal of Micromechanics and Microengineering</i> , 2013, 23, 125036.	1.5	7
100	Bidirectional Electrothermal Actuator With Z-Shaped Beams. <i>IEEE Sensors Journal</i> , 2012, 12, 2508-2509.	2.4	38
101	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
102	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
103	Analysis of Nonlinear Phenomena in a Thermal Micro-Actuator With a Built-In Thermal Position Sensor. <i>IEEE Sensors Journal</i> , 2012, 12, 1772-1784.	2.4	20
104	Size effects on elasticity, yielding, and fracture of silver nanowires: <i>In situ</i> experiments. <i>Physical Review B</i> , 2012, 85, .	1.1	266
105	Wavy Ribbons of Carbon Nanotubes for Stretchable Conductors. <i>Advanced Functional Materials</i> , 2012, 22, 1279-1283.	7.8	221
106	Highly Conductive and Stretchable Silver Nanowire Conductors. <i>Advanced Materials</i> , 2012, 24, 5117-5122.	11.1	1,139
107	Buckling of Aligned Carbon Nanotubes as Stretchable Conductors: A New Manufacturing Strategy. <i>Advanced Materials</i> , 2012, 24, 1073-1077.	11.1	158
108	Simultaneous Capacitive and Electrothermal Position Sensing in a Micromachined Nanopositioner. <i>IEEE Electron Device Letters</i> , 2011, 32, 1146-1148.	2.2	32

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109	Static Friction between Silicon Nanowires and Elastomeric Substrates. ACS Nano, 2011, 5, 7404-7410.	7.3	55
110	A 2-DOF MEMS Ultrasonic Energy Harvester. IEEE Sensors Journal, 2011, 11, 155-161.	2.4	59
111	Strain-Release Assembly of Nanowires on Stretchable Substrates. ACS Nano, 2011, 5, 1556-1563.	7.3	94
112	Controlled 3D Buckling of Silicon Nanowires for Stretchable Electronics. ACS Nano, 2011, 5, 672-678.	7.3	192
113	Design, Modeling, and Control of a Micromachined Nanopositioner With Integrated Electrothermal Actuation and Sensing. Journal of Microelectromechanical Systems, 2011, 20, 711-719.	1.7	47
114	Design, prototyping, modeling and control of a MEMS nanopositioning stage. , 2011, , .		5
115	Mechanical properties of ZnO nanowires under different loading modes. Nano Research, 2010, 3, 271-280.	5.8	186
116	Friction and Shear Strength at the Nanowire-Substrate Interfaces. Nanoscale Research Letters, 2010, 5, 291-5.	3.1	25
117	A MEMS nanopositioner with thermal actuator and on-chip thermal sensor. , 2010, , .		1
118	An electrothermal microactuator with Z-shaped beams. Journal of Micromechanics and Microengineering, 2010, 20, 085014.	1.5	81
119	Ultrasonic Energy Transmission and Conversion Using a 2-D MEMS Resonator. IEEE Electron Device Letters, 2010, 31, 374-376.	2.2	26
120	A micromachined 2DOF nanopositioner with integrated capacitive displacement sensor. , 2010, , .		6
121	A Micromachined Nanopositioner With On-Chip Electrothermal Actuation and Sensing. IEEE Electron Device Letters, 2010, 31, 1161-1163.	2.2	29
122	A 2-DOF wideband electrostatic transducer for energy harvesting and implantable applications. , 2009, , .		10
123	Tailoring the Load Carrying Capacity of MWCNTs Through Inter-shell Atomic Bridging. Experimental Mechanics, 2009, 49, 169-182.	1.1	45
124	A low-loss MEMS tunable capacitor with movable dielectric. , 2009, , .		3
125	Mechanical Properties of Vapor-Liquid-Solid Synthesized Silicon Nanowires. Nano Letters, 2009, 9, 3934-3939.	4.5	363
126	A Resonant Micromachined Electrostatic Charge Sensor. IEEE Sensors Journal, 2008, 8, 1499-1505.	2.4	26

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127	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
128	A Single-Crystal-Silicon Bulk-Acoustic-Mode Microresonator Oscillator. IEEE Electron Device Letters, 2008, 29, 701-703.	2.2	54
129	A bulk acoustic mode single-crystal silicon microresonator with a high-quality factor. Journal of Micromechanics and Microengineering, 2008, 18, 064001.	1.5	71
130	Room temperature electrometry with SUB-10 electron charge resolution. Journal of Micromechanics and Microengineering, 2008, 18, 025033.	1.5	36
131	A Microelectromechanical System for Nano-Scale Testing of One Dimensional Nanostructures. Sensor Letters, 2008, 6, 76-87.	0.4	10
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	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
134	Sub-10e Charge Resolution for Room Temperature Electrometry. , 2007, , .		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	Ultrasensitive mass balance based on a bulk acoustic mode single-crystal silicon resonator. Applied Physics Letters, 2007, 91, .	1.5	53
137	MEMS Electrometer System Simulation using a Time-Domain Variable Capacitor Model. , 2007, , .		4
138	Experimental Techniques for the Mechanical Characterization of One-Dimensional Nanostructures. Experimental Mechanics, 2007, 47, 7-24.	1.1	69
139	Electro-Thermal Actuator for On-Chip Nanoscale Tensile Tests: Analytical Modelling and Multi-Physics Simulations. Sensor Letters, 2007, 5, 592-607.	0.4	11
140	A thermal actuator for nanoscale in situ microscopy testing: design and characterization. Journal of Micromechanics and Microengineering, 2006, 16, 242-253.	1.5	262
141	Epitaxially influenced boundary layer model for size effect in thin metallic films. Journal of Applied Physics, 2005, 97, 073506.	1.1	18
142	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
143	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
144	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

#	ARTICLE	IF	CITATIONS
145	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
146	An improved method employed in anodic bonded glass-silicon gyroscopes to avoid footing effect in DRIE. , 0, , .		6
147	Investigation of fabricating ultra deep and high aspect ratio electrical isolation trench without void. , 0, , .		1
148	Integrated bulk-micromachined gyroscope using deep trench isolation technology. , 0, , .		8
149	Vertical profiles and CD loss control in deep RIE technology. , 0, , .		5
150	Design and fabrication of a microfluid angular rate sensor. , 0, , .		9
151	Post-CMOS process for high-aspect-ratio monolithically integrated single crystal silicon microstructures. , 0, , .		3
152	A Novel Bidirectional Z-Shaped Thermally Actuated RF MEMS Switch for Multiple-Beam Antenna Array. Advanced Materials Research, 0, 705, 264-269.	0.3	1