

Xuexin Duan

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

110
papers

1,983
citations

22
h-index

40
g-index

130
ext. papers

2,505
ext. citations

7.1
avg, IF

5.2
L-index

#	Paper	IF	Citations
110	Quantification of the affinities and kinetics of protein interactions using silicon nanowire biosensors. <i>Nature Nanotechnology</i> , 2012 , 7, 401-7	28.7	273
109	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. <i>ACS Nano</i> , 2015 , 9, 11362-70	16.7	199
108	Detection of Volatile Organic Compounds by Self-assembled Monolayer Coated Sensor Array with Concentration-independent Fingerprints. <i>Scientific Reports</i> , 2016 , 6, 23970	4.9	69
107	Detection of Volatile Organic Compounds Using Microfabricated Resonator Array Functionalized with Supramolecular Monolayers. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 17893-903	9.5	62
106	Highly specific and sensitive non-enzymatic determination of uric acid in serum and urine by extended gate field effect transistor sensors. <i>Biosensors and Bioelectronics</i> , 2014 , 51, 225-31	11.8	56
105	A Fully Integrated Wireless Flexible Ammonia Sensor Fabricated by Soft Nano-Lithography. <i>ACS Sensors</i> , 2019 , 4, 726-732	9.2	53
104	Limit of detection of field effect transistor biosensors: Effects of surface modification and size dependence. <i>Applied Physics Letters</i> , 2014 , 104, 084106	3.4	47
103	A chemiresistive sensor array from conductive polymer nanowires fabricated by nanoscale soft lithography. <i>Nanoscale</i> , 2018 , 10, 20578-20586	7.7	43
102	Regenerative electronic biosensors using supramolecular approaches. <i>ACS Nano</i> , 2013 , 7, 4014-21	16.7	39
101	Functionalized Polyelectrolytes Assembling on Nano-BioFETs for Biosensing Applications. <i>Advanced Functional Materials</i> , 2015 , 25, 2279-2286	15.6	38
100	A Highly Aligned Nanowire-Based Strain Sensor for Ultrasensitive Monitoring of Subtle Human Motion. <i>Small</i> , 2020 , 16, e2001363	11	36
99	Hypersonic Poration: A New Versatile Cell Poration Method to Enhance Cellular Uptake Using a Piezoelectric Nano-Electromechanical Device. <i>Small</i> , 2017 , 13, 1602962	11	35
98	Localized ultrahigh frequency acoustic fields induced micro-vortices for submilliseconds microfluidic mixing. <i>Applied Physics Letters</i> , 2016 , 109, 253503	3.4	35
97	Performance limitations for nanowire/nanoribbon biosensors. <i>Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology</i> , 2013 , 5, 629-45	9.2	34
96	Conductive polymer nanowire gas sensor fabricated by nanoscale soft lithography. <i>Nanotechnology</i> , 2017 , 28, 485301	3.4	33
95	Rapid response flexible humidity sensor for respiration monitoring using nano-confined strategy. <i>Nanotechnology</i> , 2020 , 31, 125302	3.4	32
94	Microchip based electrochemical-piezoelectric integrated multi-mode sensing system for continuous glucose monitoring. <i>Sensors and Actuators B: Chemical</i> , 2016 , 223, 83-88	8.5	31

93	Biofunctional polyelectrolytes assembling on biosensors - A versatile surface coating method for protein detections. <i>Analytica Chimica Acta</i> , 2017 , 964, 170-177	6.6	27
92	Quantitative probing of surface charges at dielectric-electrolyte interfaces. <i>Lab on A Chip</i> , 2013 , 13, 1431-6	7.6	23
91	Detection and Discrimination of Volatile Organic Compounds using a Single Film Bulk Acoustic Wave Resonator with Temperature Modulation as a Multiparameter Virtual Sensor Array. <i>ACS Sensors</i> , 2019 , 4, 1524-1533	9.2	22
90	Biofouling Removal and Protein Detection Using a Hypersonic Resonator. <i>ACS Sensors</i> , 2017 , 2, 1175-1183	9.2	22
89	Design and fabrication of aluminum nitride Lamb wave resonators towards high figure of merit for intermediate frequency filter applications. <i>Journal of Micromechanics and Microengineering</i> , 2015 , 25, 035016	2	22
88	Nanostrip flexible microwave enzymatic biosensor for noninvasive epidermal glucose sensing. <i>Nanoscale Horizons</i> , 2020 , 5, 934-943	10.8	22
87	Smartphone-Enabled Colorimetric Trinitrotoluene Detection Using Amine-Trapped Polydimethylsiloxane Membranes. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 14445-14452	9.5	21
86	High-Resolution Contact Printing with Chemically Patterned Flat Stamps Fabricated by Nanoimprint Lithography. <i>Advanced Materials</i> , 2009 , 21, 2798-2802	24	21
85	Kinetic studies of microfabricated biosensors using local adsorption strategy. <i>Biosensors and Bioelectronics</i> , 2015 , 74, 8-15	11.8	20
84	Large-Area Nanoscale Patterning of Functional Materials by Nanomolding in Capillaries. <i>Advanced Functional Materials</i> , 2010 , 20, 2519-2526	15.6	20
83	Trapping of sub-100 nm nanoparticles using gigahertz acoustofluidic tweezers for biosensing applications. <i>Nanoscale</i> , 2019 , 11, 14625-14634	7.7	19
82	Miniaturized polymer coated film bulk acoustic wave resonator sensor array for quantitative gas chromatographic analysis. <i>Sensors and Actuators B: Chemical</i> , 2018 , 274, 419-426	8.5	19
81	A flexible, gigahertz, and free-standing thin film piezoelectric MEMS resonator with high figure of merit. <i>Applied Physics Letters</i> , 2017 , 111, 023505	3.4	19
80	Dynamics of Electrowetting Droplet Motion in Digital Microfluidics Systems: From Dynamic Saturation to Device Physics. <i>Micromachines</i> , 2015 , 6, 778-789	3.3	19
79	Tuning the resonant frequency of resonators using molecular surface self-assembly approach. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 950-8	9.5	19
78	On-chip integrated multiple microelectromechanical resonators to enable the local heating, mixing and viscosity sensing for chemical reactions in a droplet. <i>Sensors and Actuators B: Chemical</i> , 2017 , 248, 280-287	8.5	18
77	Metal nanoparticle wires formed by an integrated nanomolding-chemical assembly process: fabrication and properties. <i>ACS Nano</i> , 2010 , 4, 7660-6	16.7	18
76	Fabrications, Applications and Challenges of Solid-State Nanopores: A Mini Review. <i>Nanomaterials and Nanotechnology</i> , 2016 , 6, 35	2.9	18

75	Detection and discrimination of volatile organic compounds using a single multi-resonance mode piezotransduced silicon bulk acoustic wave resonator (PSBAR) as virtual sensor array. <i>Sensors and Actuators B: Chemical</i> , 2018 , 254, 1191-1199	8.5	18
74	State-of-the-art and recent developments in micro/nanoscale pressure sensors for smart wearable devices and health monitoring systems. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2020 , 3, 43-52	2.4	17
73	Composites, Fabrication and Application of Polyvinylidene Fluoride for Flexible Electromechanical Devices: A Review. <i>Micromachines</i> , 2020 , 11,	3.3	17
72	Monolithic integrated system with an electrowetting-on-dielectric actuator and a film-bulk-acoustic-resonator sensor. <i>Journal of Micromechanics and Microengineering</i> , 2015 , 25, 025002	2	16
71	Recent advances in micro/nanoscale intracellular delivery. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2020 , 3, 18-31	2.4	16
70	Controlled and Tunable Loading and Release of Vesicles by Using Gigahertz Acoustics. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 159-163	16.4	16
69	An intelligent face mask integrated with high density conductive nanowire array for directly exhaled coronavirus aerosols screening. <i>Biosensors and Bioelectronics</i> , 2021 , 186, 113286	11.8	16
68	Theoretical and experimental characterizations of gigahertz acoustic streaming in microscale fluids. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2019 , 2, 15-22	2.4	15
67	Complementary metal oxide semiconductor-compatible silicon nanowire biofield-effect transistors as affinity biosensors. <i>Nanomedicine</i> , 2013 , 8, 1839-51	5.6	15
66	On-chip surface modified nanostructured ZnO as functional pH sensors. <i>Nanotechnology</i> , 2015 , 26, 355204	9.4	14
65	Comparative analysis of static and non-static assays for biochemical sensing using on-chip integrated field effect transistors and solidly mounted resonators. <i>Sensors and Actuators B: Chemical</i> , 2017 , 243, 775-783	8.5	13
64	A Highly Sensitive Humidity Sensor Based on Ultrahigh-Frequency Microelectromechanical Resonator Coated with Nano-Assembled Polyelectrolyte Thin Films. <i>Micromachines</i> , 2017 , 8, 116	3.3	13
63	On-chip acoustic mixer integration of electro-microfluidics towards in-situ and efficient mixing in droplets. <i>Microfluidics and Nanofluidics</i> , 2018 , 22, 1	2.8	13
62	Cellphone-Enabled Microwell-Based Microbead Aggregation Assay for Portable Biomarker Detection. <i>ACS Sensors</i> , 2018 , 3, 432-440	9.2	12
61	An on-demand femtoliter droplet dispensing system based on a gigahertz acoustic resonator. <i>Lab on A Chip</i> , 2018 , 18, 2540-2546	7.2	12
60	Hypersonic-Induced 3D Hydrodynamic Tweezers for Versatile Manipulations of Micro/Nanoscale Objects. <i>Particle and Particle Systems Characterization</i> , 2018 , 35, 1800068	3.1	12
59	Contactless and Simultaneous Measurement of Water and Acid Contaminations in Oil Using a Flexible Microstrip Sensor. <i>ACS Sensors</i> , 2020 , 5, 171-179	9.2	12
58	Hypersonic poration of supported lipid bilayers. <i>Materials Chemistry Frontiers</i> , 2019 , 3, 782-790	7.8	11

57	Graphene Oxide-Doped Conducting Polymer Nanowires Fabricated by Soft Lithography for Gas Sensing Applications. <i>IEEE Sensors Journal</i> , 2018 , 18, 7765-7771	4	11
56	Chemiresistive and Gravimetric Dual-Mode Gas Sensor toward Target Recognition and Differentiation. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 21742-9	9.5	11
55	Acoustic Streaming and Microparticle Enrichment within a Microliter Droplet Using a Lamb-Wave Resonator Array. <i>Physical Review Applied</i> , 2018 , 9,	4.3	11
54	Simultaneously Optimize the Response Speed and Sensitivity of Low Dimension Conductive Polymers for Epidermal Temperature Sensing Applications. <i>Frontiers in Chemistry</i> , 2020 , 8, 194	5	10
53	Printed Highly Ordered Conductive Polymer Nanowires Doped with Biotinylated Polyelectrolytes for Biosensing Applications. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1900671	4.6	9
52	Dual-Mode Gas Sensor Composed of a Silicon Nanoribbon Field Effect Transistor and a Bulk Acoustic Wave Resonator: A Case Study in Freons. <i>Sensors</i> , 2018 , 18,	3.8	9
51	Mixing during Trapping Enabled a Continuous-Flow Microfluidic Smartphone Immunoassay Using Acoustic Streaming. <i>ACS Sensors</i> , 2021 , 6, 2386-2394	9.2	9
50	Biomolecular stiffness detection based on positive frequency shift of CMOS compatible gigahertz solidly mounted resonators. <i>Biosensors and Bioelectronics</i> , 2017 , 96, 206-212	11.8	8
49	Recent advances in micro detectors for micro gas chromatography. <i>Science China Materials</i> , 2019 , 62, 611-623	7.1	8
48	An impedance-coupled microfluidic device for single-cell analysis of primary cell wall regeneration. <i>Biosensors and Bioelectronics</i> , 2020 , 165, 112374	11.8	8
47	Dimension-reconfigurable bubble film nanochannel for wetting based sensing. <i>Nature Communications</i> , 2020 , 11, 814	17.4	8
46	Surface Engineering of Metal-Organic Framework Prepared on Film Bulk Acoustic Resonator for Vapor Detection. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 10009-10017	9.5	8
45	PEDOT:PSS: From conductive polymers to sensors. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2021 , 4, 045004	2.4	8
44	Wireless gas sensing based on a passive piezoelectric resonant sensor array through near-field induction. <i>Applied Physics Letters</i> , 2016 , 109, 263503	3.4	8
43	Controllable Cell Deformation Using Acoustic Streaming for Membrane Permeability Modulation. <i>Advanced Science</i> , 2021 , 8, 2002489	13.6	8
42	Hypersound-Enhanced Intracellular Delivery of Drug-Loaded Mesoporous Silica Nanoparticles in a Non-Endosomal Pathway. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 19734-19742	9.5	7
41	Cytosolic Delivery of Functional Proteins through Tunable Gigahertz Acoustics. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 15823-15829	9.5	7
40	Multifunctional Soft Robotic Finger Based on a Nanoscale Flexible Temperature-Pressure Tactile Sensor for Material Recognition. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 55756-55765	9.5	7

39	Label-Free and Simultaneous Mechanical and Electrical Characterization of Single Plant Cells Using Microfluidic Impedance Flow Cytometry. <i>Analytical Chemistry</i> , 2020 , 92, 14568-14575	7.8	7
38	Solid-State Microfluidics with Integrated Thin-Film Acoustic Sensors. <i>ACS Sensors</i> , 2018 , 3, 1584-1591	9.2	6
37	A Universal Biomolecular Concentrator To Enhance Biomolecular Surface Binding Based on Acoustic NEMS Resonator. <i>ACS Central Science</i> , 2018 , 4, 899-908	16.8	6
36	Wireless Controlled Local Heating and Mixing Multiple Droplets Using Micro-Fabricated Resonator Array for Micro-Reactor Applications. <i>IEEE Access</i> , 2017 , 5, 25987-25992	3.5	5
35	Acoustically Triggered Disassembly of Multilayered Polyelectrolyte Thin Films through Gigahertz Resonators for Controlled Drug Release Applications. <i>Micromachines</i> , 2016 , 7,	3.3	5
34	Liquid phase mass production of air-stable black phosphorus/phospholipids nanocomposite with ultralow tunneling barrier. <i>2D Materials</i> , 2018 , 5, 025012	5.9	4
33	Programmable multi-DNA release from multilayered polyelectrolytes using gigahertz nano-electromechanical resonator. <i>Journal of Nanobiotechnology</i> , 2019 , 17, 86	9.4	4
32	Novel Gas Sensor Arrays Based on High-Q SAM-Modified Piezotransduced Single-Crystal Silicon Bulk Acoustic Resonators. <i>Sensors</i> , 2017 , 17,	3.8	4
31	Phase separation of a nonionic surfactant aqueous solution in a standing surface acoustic wave for submicron particle manipulation. <i>Lab on A Chip</i> , 2021 , 21, 660-667	7.2	4
30	. <i>IEEE Access</i> , 2019 , 7, 101117-101124	3.5	3
29	A Microfluidic-Based Fabry-Pérot Gas Sensor. <i>Micromachines</i> , 2016 , 7,	3.3	3
28	Hierarchical assembly of gold nanorod stripe patterns for sensing and cells alignment. <i>Nanotechnology</i> , 2019 , 30, 175302	3.4	3
27	Esophageal Cancer-Derived Extracellular Vesicle miR-21-5p Contributes to EMT of ESCC Cells by Disorganizing Macrophage Polarization. <i>Cancers</i> , 2021 , 13,	6.6	3
26	Nanowires: Printed Highly Ordered Conductive Polymer Nanowires Doped with Biotinylated Polyelectrolytes for Biosensing Applications Adv. Mater. Interfaces 18(2019). <i>Advanced Materials Interfaces</i> , 2019 , 6, 1970118	4.6	2
25	Mechanical Vibration Measurement of Solidly Mounted Resonator in Fluid by Atomic Force Microscopy. <i>Micromachines</i> , 2017 , 8,	3.3	2
24	Miniature Gigahertz Acoustic Resonator and On-Chip Electrochemical Sensor: An Emerging Combination for Electroanalytical Microsystems. <i>Analytical Chemistry</i> , 2019 , 91, 15959-15966	7.8	2
23	Controlled and Tunable Loading and Release of Vesicles by Using Gigahertz Acoustics. <i>Angewandte Chemie</i> , 2019 , 131, 165-169	3.6	2
22	Real-Time Detection of Nanoparticles Interaction with Lipid Membranes Using an Integrated Acoustical and Electrical Multimode Biosensor. <i>Particle and Particle Systems Characterization</i> , 2019 , 36, 1800370	3.1	2

21	Ultra-rapid modulation of neurite outgrowth in a gigahertz acoustic streaming system. <i>Lab on A Chip</i> , 2021 , 21, 1948-1955	7.2	2
20	Hydrophobin-functionalized film bulk acoustic wave resonators for sensitive and polarity-sensitive sensing of volatile organic compounds. <i>Applied Physics Letters</i> , 2019 , 115, 163502	3.4	1
19	Notched-ring structured microfluidic contact lens for intraocular pressure monitoring. <i>Applied Physics Letters</i> , 2021 , 119, 193701	3.4	1
18	Liquid-Phase and Ultrahigh-Frequency-Acoustofluidics-Based Solid-Phase Synthesis of Biotin-Tagged 6?/3?-Sialyl-N-Acetylglucosamine by Sequential One-Pot Multienzyme System. <i>Catalysts</i> , 2020 , 10, 1347	4	1
17	Regulating the differentiation of PC12 by acoustic fluid stimulation 2019 ,		1
16	Hypersound-Assisted Size Sorting of Microparticles on Inkjet-Patterned Protein Films. <i>Langmuir</i> , 2021 , 37, 2826-2832	4	1
15	Plasmon mediated spectrally selective and sensitivity-enhanced uncooled near-infrared detector. <i>Journal of Colloid and Interface Science</i> , 2021 , 586, 67-74	9.3	1
14	Mechanism and stability investigation of a nozzle-free droplet-on-demand acoustic ejector. <i>Analyst, The</i> , 2021 , 146, 5650-5657	5	1
13	Manipulations of micro/nanoparticles using gigahertz acoustic streaming tweezers. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2022 , 5, 023001	2.4	1
12	Deep Learning Assisted Microfluidic Impedance Flow Cytometry for Label-free Foodborne Bacteria Analysis and Classification. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2021 , 2021, 7087-7090	0.9	0
11	Three-dimensional biosensor surface based on novel thorns-like polyelectrolytes. <i>Biosensors and Bioelectronics</i> , 2020 , 167, 112504	11.8	0
10	A combined virtual impactor and field-effect transistor microsystem for particulate matter separation and detection. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2021 , 4, 013003	2.4	0
9	Simultaneously-Engineered Composition and Spatial Position of Metal/Metal-Oxide Nanowires for Hydrogen Sensing Applications. <i>ACS Applied Nano Materials</i> , 2022 , 5, 3667-3675	5.6	0
8	A prototype portable instrument employing micro-preconcentrator and FBAR sensor for the detection of chemical warfare agents. <i>Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering</i> , 2022 , 5, 013005	2.4	0
7	Supramolecular Interface for Biochemical Sensing Applications 2019 , 1-40		
6	Supramolecular Interface for Biochemical Sensing Applications 2020 , 1277-1316		
5	A portable nucleic acid extraction system based on gigahertz acoustic tweezers. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2020 , 2020, 6147-6150	0.9	
4	Dual Functions of Ghz Frequency Acoustic Resonator System for Biosamples Capture and Sensing. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2020 , 2020, 3994-3997	0.9	

- 3 On chip manipulation of carbon dots via gigahertz acoustic streaming for enhanced bioimaging and biosensing.. *Talanta*, **2022**, 245, 123462 6.2
- 2 Acoustofluidic Based Wireless Micropump for Portable Drug Delivery Applications. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference, 2021, 2021, 1276-1279* 0.9
- 1 100% Single Cell Encapsulation via Acoustofluidic Printing Based on a Gigahertz Acoustic Resonator. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference, 2021, 2021, 1172-1175* 0.9