Xuexin Duan

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6008617/publications.pdf

Version: 2024-02-01

126 papers	3,078 citations	172207 29 h-index	197535 49 g-index
130 all docs	130 docs citations	130 times ranked	4175 citing authors

#	Article	IF	Citations
1	Quantification of the affinities and kinetics of protein interactions using silicon nanowire biosensors. Nature Nanotechnology, 2012, 7, 401-407.	15.6	318
2	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 11362-11370.	7.3	247
3	A Fully Integrated Wireless Flexible Ammonia Sensor Fabricated by Soft Nano-Lithography. ACS Sensors, 2019, 4, 726-732.	4.0	89
4	Detection of Volatile Organic Compounds by Self-assembled Monolayer Coated Sensor Array with Concentration-independent Fingerprints. Scientific Reports, 2016, 6, 23970.	1.6	83
5	A Highly Aligned Nanowireâ€Based Strain Sensor for Ultrasensitive Monitoring of Subtle Human Motion. Small, 2020, 16, e2001363.	5.2	72
6	Detection of Volatile Organic Compounds Using Microfabricated Resonator Array Functionalized with Supramolecular Monolayers. ACS Applied Materials & Interfaces, 2015, 7, 17893-17903.	4.0	71
7	Highly specific and sensitive non-enzymatic determination of uric acid in serum and urine by extended gate field effect transistor sensors. Biosensors and Bioelectronics, 2014, 51, 225-231.	5.3	69
8	A chemiresistive sensor array from conductive polymer nanowires fabricated by nanoscale soft lithography. Nanoscale, 2018, 10, 20578-20586.	2.8	69
9	Limit of detection of field effect transistor biosensors: Effects of surface modification and size dependence. Applied Physics Letters, 2014, 104, .	1.5	57
10	Rapid response flexible humidity sensor for respiration monitoring using nano-confined strategy. Nanotechnology, 2020, 31, 125302.	1.3	54
11	Hypersonic Poration: A New Versatile Cell Poration Method to Enhance Cellular Uptake Using a Piezoelectric Nanoâ€Electromechanical Device. Small, 2017, 13, 1602962.	5.2	53
12	Localized ultrahigh frequency acoustic fields induced micro-vortices for submilliseconds microfluidic mixing. Applied Physics Letters, 2016, 109, .	1.5	51
13	Composites, Fabrication and Application of Polyvinylidene Fluoride for Flexible Electromechanical Devices: A Review. Micromachines, 2020, 11, 1076.	1.4	47
14	Regenerative Electronic Biosensors Using Supramolecular Approaches. ACS Nano, 2013, 7, 4014-4021.	7.3	46
15	Functionalized Polyelectrolytes Assembling on Nanoâ€BioFETs for Biosensing Applications. Advanced Functional Materials, 2015, 25, 2279-2286.	7.8	46
16	Multifunctional Soft Robotic Finger Based on a Nanoscale Flexible Temperatureâ€“Pressure Tactile Sensor for Material Recognition. ACS Applied Materials & Interfaces, 2021, 13, 55756-55765.	4.0	46
17	Microchip based electrochemical-piezoelectric integrated multi-mode sensing system for continuous glucose monitoring. Sensors and Actuators B: Chemical, 2016, 223, 83-88.	4.0	44
18	Performance limitations for nanowire/nanoribbon biosensors. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2013, 5, 629-645.	3.3	42

#	Article	IF	Citations
19	State-of-the-art and recent developments in micro/nanoscale pressure sensors for smart wearable devices and health monitoring systems. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2020, 3, 43-52.	1.7	42
20	An intelligent face mask integrated with high density conductive nanowire array for directly exhaled coronavirus aerosols screening. Biosensors and Bioelectronics, 2021, 186, 113286.	5.3	42
21	Design and fabrication of aluminum nitride Lamb wave resonators towards high figure of merit for intermediate frequency filter applications. Journal of Micromechanics and Microengineering, 2015, 25, 035016.	1.5	41
22	Biofouling Removal and Protein Detection Using a Hypersonic Resonator. ACS Sensors, 2017, 2, 1175-1183.	4.0	40
23	Detection and Discrimination of Volatile Organic Compounds using a Single Film Bulk Acoustic Wave Resonator with Temperature Modulation as a Multiparameter Virtual Sensor Array. ACS Sensors, 2019, 4, 1524-1533.	4.0	39
24	PEDOT:PSS: From conductive polymers to sensors. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2021, 4, .	1.7	39
25	Conductive polymer nanowire gas sensor fabricated by nanoscale soft lithography. Nanotechnology, 2017, 28, 485301.	1.3	38
26	Controllable Cell Deformation Using Acoustic Streaming for Membrane Permeability Modulation. Advanced Science, 2021, 8, 2002489.	5.6	37
27	Biofunctional polyelectrolytes assembling on biosensors â€“ A versatile surface coating method for protein detections. Analytica Chimica Acta, 2017, 964, 170-177.	2.6	36
28	Nanostrip flexible microwave enzymatic biosensor for noninvasive epidermal glucose sensing. Nanoscale Horizons, 2020, 5, 934-943.	4.1	34
29	Mixing during Trapping Enabled a Continuous-Flow Microfluidic Smartphone Immunoassay Using Acoustic Streaming. ACS Sensors, 2021, 6, 2386-2394.	4.0	34
30	A flexible, gigahertz, and free-standing thin film piezoelectric MEMS resonator with high figure of merit. Applied Physics Letters, 2017, 111, .	1.5	32
31	Recent advances in micro/nanoscale intracellular delivery. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2020, 3, 18-31.	1.7	31
32	Fabrications, Applications and Challenges of Solid-State Nanopores: A Mini Review. Nanomaterials and Nanotechnology, 2016, 6, 35.	1.2	30
33	Smartphone-Enabled Colorimetric Trinitrotoluene Detection Using Amine-Trapped Polydimethylsiloxane Membranes. ACS Applied Materials & Interfaces, 2017, 9, 14445-14452.	4.0	28
34	Trapping of sub-100 nm nanoparticles using gigahertz acoustofluidic tweezers for biosensing applications. Nanoscale, 2019, 11, 14625-14634.	2.8	28
35	Miniaturized polymer coated film bulk acoustic wave resonator sensor array for quantitative gas chromatographic analysis. Sensors and Actuators B: Chemical, 2018, 274, 419-426.	4.0	27
36	On-chip acoustic mixer integration of electro-microfluidics towards in-situ and efficient mixing in droplets. Microfluidics and Nanofluidics, 2018, 22, 1.	1.0	26

#	Article	IF	Citations
37	Controlled and Tunable Loading and Release of Vesicles by Using Gigahertz Acoustics. Angewandte Chemie - International Edition, 2019, 58, 159-163.	7.2	26
38	Quantitative probing of surface charges at dielectricâ€“electrolyte interfaces. Lab on A Chip, 2013, 13, 1431.	3.1	25
39	Dynamics of Electrowetting Droplet Motion in Digital Microfluidics Systems: From Dynamic Saturation to Device Physics. Micromachines, 2015, 6, 778-789.	1.4	25
40	An on-demand femtoliter droplet dispensing system based on a gigahertz acoustic resonator. Lab on A Chip, 2018, 18, 2540-2546.	3.1	25
41	Label-Free and Simultaneous Mechanical and Electrical Characterization of Single Plant Cells Using Microfluidic Impedance Flow Cytometry. Analytical Chemistry, 2020, 92, 14568-14575.	3.2	25
42	Largeâ€Area Nanoscale Patterning of Functional Materials by Nanomolding in Capillaries. Advanced Functional Materials, 2010, 20, 2519-2526.	7.8	24
43	Kinetic studies of microfabricated biosensors using local adsorption strategy. Biosensors and Bioelectronics, 2015, 74, 8-15.	5.3	24
44	Detection and discrimination of volatile organic compounds using a single multi-resonance mode piezotransduced silicon bulk acoustic wave resonator (PSBAR) as virtual sensor array. Sensors and Actuators B: Chemical, 2018, 254, 1191-1199.	4.0	24
45	Esophageal Cancer-Derived Extracellular Vesicle miR-21-5p Contributes to EMT of ESCC Cells by Disorganizing Macrophage Polarization. Cancers, 2021, 13, 4122.	1.7	24
46	Highâ€Resolution Contact Printing with Chemically Patterned Flat Stamps Fabricated by Nanoimprint Lithography. Advanced Materials, 2009, 21, 2798-2802.	11.1	23
47	On-chip integrated multiple microelectromechanical resonators to enable the local heating, mixing and viscosity sensing for chemical reactions in a droplet. Sensors and Actuators B: Chemical, 2017, 248, 280-287.	4.0	23
48	Hypersonicâ€Induced 3D Hydrodynamic Tweezers for Versatile Manipulations of Micro/Nanoscale Objects. Particle and Particle Systems Characterization, 2018, 35, 1800068.	1.2	23
49	Tuning the Resonant Frequency of Resonators Using Molecular Surface Self-assembly Approach. ACS Applied Materials & Interfaces, 2015, 7, 950-958.	4.0	22
50	Theoretical and experimental characterizations of gigahertz acoustic streaming in microscale fluids. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2019, 2, 15-22.	1.7	22
51	Manipulations of micro/nanoparticles using gigahertz acoustic streaming tweezers. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2022, 5, .	1.7	21
52	Monolithic integrated system with an electrowetting-on-dielectric actuator and a film-bulk-acoustic-resonator sensor. Journal of Micromechanics and Microengineering, 2015, 25, 025002.	1.5	20
53	Acoustic Streaming and Microparticle Enrichment within a Microliter Droplet Using a Lamb-Wave Resonator Array. Physical Review Applied, 2018, 9, .	1.5	20
54	A Highly Sensitive Humidity Sensor Based on Ultrahigh-Frequency Microelectromechanical Resonator Coated with Nano-Assembled Polyelectrolyte Thin Films. Micromachines, 2017, 8, 116.	1.4	19

#	Article	IF	Citations
55	Metal Nanoparticle Wires Formed by an Integrated Nanomoldingâ˜Chemical Assembly Process: Fabrication and Properties. ACS Nano, 2010, 4, 7660-7666.	7.3	18
56	Chemiresistive and Gravimetric Dual-Mode Gas Sensor toward Target Recognition and Differentiation. ACS Applied Materials & Interfaces, 2016, 8, 21742-21749.	4.0	18
57	Recent advances in micro detectors for micro gas chromatography. Science China Materials, 2019, 62, 611-623.	3.5	18
58	Contactless and Simultaneous Measurement of Water and Acid Contaminations in Oil Using a Flexible Microstrip Sensor. ACS Sensors, 2020, 5, 171-179.	4.0	18
59	An impedance-coupled microfluidic device for single-cell analysis of primary cell wall regeneration. Biosensors and Bioelectronics, 2020, 165, 112374.	5.3	18
60	Surface Engineering of Metalâ€“Organic Framework Prepared on Film Bulk Acoustic Resonator for Vapor Detection. ACS Applied Materials & Interfaces, 2020, 12, 10009-10017.	4.0	18
61	Simultaneously Optimize the Response Speed and Sensitivity of Low Dimension Conductive Polymers for Epidermal Temperature Sensing Applications. Frontiers in Chemistry, 2020, 8, 194.	1.8	18
62	On-chip surface modified nanostructured ZnO as functional pH sensors. Nanotechnology, 2015, 26, 355202.	1.3	17
63	Hypersound-Enhanced Intracellular Delivery of Drug-Loaded Mesoporous Silica Nanoparticles in a Non-Endosomal Pathway. ACS Applied Materials & Interfaces, 2019, 11, 19734-19742.	4.0	17
64	Complementary metal oxide semiconductor-compatible silicon nanowire biofield-effect transistors as affinity biosensors. Nanomedicine, 2013, 8, 1839-1851.	1.7	16
65	Comparative analysis of static and non-static assays for biochemical sensing using on-chip integrated field effect transistors and solidly mounted resonators. Sensors and Actuators B: Chemical, 2017, 243, 775-783.	4.0	16
66	Cellphone-Enabled Microwell-Based Microbead Aggregation Assay for Portable Biomarker Detection. ACS Sensors, 2018, 3, 432-440.	4.0	15
67	Graphene Oxide-Doped Conducting Polymer Nanowires Fabricated by Soft Lithography for Gas Sensing Applications. IEEE Sensors Journal, 2018, 18, 7765-7771.	2.4	15
68	A Universal Biomolecular Concentrator To Enhance Biomolecular Surface Binding Based on Acoustic NEMS Resonator. ACS Central Science, 2018, 4, 899-908.	5.3	15
69	Cytosolic Delivery of Functional Proteins In Vitro through Tunable Gigahertz Acoustics. ACS Applied Materials & Interfaces, 2020, 12, 15823-15829.	4.0	15
70	Hypersonic poration of supported lipid bilayers. Materials Chemistry Frontiers, 2019, 3, 782-790.	3.2	14
71	Biomolecular stiffness detection based on positive frequency shift of CMOS compatible gigahertz solidly mounted resonators. Biosensors and Bioelectronics, 2017, 96, 206-212.	5.3	13
72	Dimension-reconfigurable bubble film nanochannel for wetting based sensing. Nature Communications, 2020, 11, 814.	5.8	13

#	Article	IF	Citations
73	A Supported Lipid Bilayer-Based Lab-on-a-Chip Biosensor for the Rapid Electrical Screening of Coronavirus Drugs. ACS Sensors, 2022, 7, 2084-2092.	4.0	13
74	Dual-Mode Gas Sensor Composed of a Silicon Nanoribbon Field Effect Transistor and a Bulk Acoustic Wave Resonator: A Case Study in Freons. Sensors, 2018, 18, 343.	2.1	12
75	Wireless gas sensing based on a passive piezoelectric resonant sensor array through near-field induction. Applied Physics Letters, 2016, 109, .	1.5	11
76	Printed Highly Ordered Conductive Polymer Nanowires Doped with Biotinylated Polyelectrolytes for Biosensing Applications. Advanced Materials Interfaces, 2019, 6, 1900671.	1.9	11
77	Ultra-rapid modulation of neurite outgrowth in a gigahertz acoustic streaming system. Lab on A Chip, 2021, 21, 1948-1955.	3.1	11
78	A Microfluidic-Based Fabry-PÃ©rot Gas Sensor. Micromachines, 2016, 7, 36.	1.4	9
79	Solid-State Microfluidics with Integrated Thin-Film Acoustic Sensors. ACS Sensors, 2018, 3, 1584-1591.	4.0	9
80	Phase separation of a nonionic surfactant aqueous solution in a standing surface acoustic wave for submicron particle manipulation. Lab on A Chip, 2021, 21, 660-667.	3.1	9
81	Bidirectional Regulation of Cell Mechanical Motion via a Gold Nanorods-Acoustic Streaming System. ACS Nano, 2022, 16, 8427-8439.	7.3	9
82	Miniature Gigahertz Acoustic Resonator and On-Chip Electrochemical Sensor: An Emerging Combination for Electroanalytical Microsystems. Analytical Chemistry, 2019, 91, 15959-15966.	3.2	8
83	Wireless Controlled Local Heating and Mixing Multiple Droplets Using Micro-Fabricated Resonator Array for Micro-Reactor Applications. IEEE Access, 2017, 5, 25987-25992.	2.6	7
84	Novel Gas Sensor Arrays Based on High-Q SAM-Modified Piezotransduced Single-Crystal Silicon Bulk Acoustic Resonators. Sensors, 2017, 17, 1507.	2.1	7
85	Plasmon mediated spectrally selective and sensitivity-enhanced uncooled near-infrared detector. Journal of Colloid and Interface Science, 2021, 586, 67-74.	5.0	7
86	A prototype portable instrument employing micro-preconcentrator and FBAR sensor for the detection of chemical warfare agents. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2022, 5, .	1.7	7
87	Acoustically Triggered Disassembly of Multilayered Polyelectrolyte Thin Films through Gigahertz Resonators for Controlled Drug Release Applications. Micromachines, 2016, 7, 194.	1.4	6
88	Programmable multi-DNA release from multilayered polyelectrolytes using gigahertz nano-electromechanical resonator. Journal of Nanobiotechnology, 2019, 17, 86.	4.2	6
89	Smartphone-Enabled Aerosol Particle Analysis Device. IEEE Access, 2019, 7, 101117-101124.	2.6	6
90	Hierarchical assembly of gold nanorod stripe patterns for sensing and cells alignment. Nanotechnology, 2019, 30, 175302.	1.3	6

#	Article	IF	Citations
91	Resistive pulse sensing device with embedded nanochannel (nanochannel-RPS) for label-free biomolecule and bionanoparticle analysis. Nanotechnology, 2021, 32, 295507.	1.3	6
92	Notched-ring structured microfluidic contact lens for intraocular pressure monitoring. Applied Physics Letters, 2021, 119, .	1.5	6
93	On-Chip Arbitrary Manipulation of Single Particles by Acoustic Resonator Array. Analytical Chemistry, 2022, 94, 5392-5398.	3.2	6
94	Mechanism and stability investigation of a nozzle-free droplet-on-demand acoustic ejector. Analyst, The, 2021, 146, 5650-5657.	1.7	5
95	In-Line Detection with Microfluidic Bulk Acoustic Wave Resonator Gas Sensor for Gas Chromatography. Sensors, 2021, 21, 6800.	2.1	5
96	Liquid phase mass production of air-stable black phosphorus/phospholipids nanocomposite with ultralow tunneling barrier. 2D Materials, 2018, 5, 025012.	2.0	4
97	Hydrophobin-functionalized film bulk acoustic wave resonators for sensitive and polarity-sensitive sensing of volatile organic compounds. Applied Physics Letters, 2019, 115, .	1.5	4
98	Film Bulk Acoustic Wave Resonator for Trace Chemical Warfare Agents Simulants Detection in Micro Chromatography. , 2019, , .		4
99	Three-dimensional biosensor surface based on novel thorns-like polyelectrolytes. Biosensors and Bioelectronics, 2020, 167, 112504.	5.3	4
100	Deep Learning Assisted Microfluidic Impedance Flow Cytometry for Label-free Foodborne Bacteria Analysis and Classification. , 2021, 2021, 7087-7090.		4
101	Mechanical Vibration Measurement of Solidly Mounted Resonator in Fluid by Atomic Force Microscopy. Micromachines, 2017, 8, 244.	1.4	3
102	Nanowires: Printed Highly Ordered Conductive Polymer Nanowires Doped with Biotinylated Interfaces, 2019, 6, 1970118.	1.9	3
103	Liquid-Phase and Ultrahigh-Frequency-Acoustofluidics-Based Solid-Phase Synthesis of Biotin-Tagged 6â€²/3â€²-Sialyl-N-Acetylglucosamine by Sequential One-Pot Multienzyme System. Catalysts, 2020, 10, 1347.	1.6	3
104	Hypersound-Assisted Size Sorting of Microparticles on Inkjet-Patterned Protein Films. Langmuir, 2021, 37, 2826-2832.	1.6	3
105	Acoustofluidic Based Wireless Micropump for Portable Drug Delivery Applications. , 2021, 2021, 1276-1279.		3
106	In-line trapping and rotation of bio-particles via 3-D micro-vortices generated by localized ultrahigh frequency acoustic resonators. , 2017, , .		2
107	Rapid Purification, Enrichment, and Detection of Biomolecules Using Bulk Acoustic Wave Resonators. , 2019, , .		2
108	Biomolecules Detection Using Microstrip Sensor with Highly-ordered Nanowires Array. , 2019, , .		2

#	Article	IF	Citations
109	Controlled and Tunable Loading and Release of Vesicles by Using Gigahertz Acoustics. Angewandte Chemie, 2019, 131, 165-169.	1.6	2
110	Realâ€Time Detection of Nanoparticles Interaction with Lipid Membranes Using an Integrated Acoustical and Electrical Multimode Biosensor. Particle and Particle Systems Characterization, 2019, 36, 1800370.	1.2	2
111	A combined virtual impactor and field-effect transistor microsystem for particulate matter separation and detection. Nami Jishu Yu Jingmi Gongcheng/Nanotechnology and Precision Engineering, 2021, 4, .	1.7	2
112	Simultaneously-Engineered Composition and Spatial Position of Metal/Metal-Oxide Nanowires for Hydrogen Sensing Applications. ACS Applied Nano Materials, 2022, 5, 3667-3675.	2.4	2
113	On chip manipulation of carbon dots via gigahertz acoustic streaming for enhanced bioimaging and biosensing. Talanta, 2022, 245, 123462.	2.9	2
114	Concentration-independent fingerprint library of volatile organic compounds based on gas-surface interactions by self-assembled monolayer functionalized film bulk acoustic resonator arrays. , 2015, , .		1
115	Directly trapping of nanoscale biomolecules using bulk acoustic wave resonators. , 2016, , .		1
116	Regulating the differentiation of PC12 by acoustic fluid stimulation. , 2019, , .		1
117	Conducting polymer nanowires volatile organic compounds sensor array fabricated by soft lithography. , 2017, , .		0
118	Mechanical and Electrical Properties Characterization Towards Plant Cell Study Using Microfluidic Impedance Device. , 2018, , .		0
119	Supramolecular Interface for Biochemical Sensing Applications. , 2019, , 1-40.		0
120	A portable nucleic acid extraction system based on gigahertz acoustic tweezers. , 2020, 2020, 6147-6150.		0
121	Dual Functions of Ghz Frequency Acoustic Resonator System for Biosamples Capture and Sensing. , 2020, 2020, 3994-3997.		0
122	Intracellular Delivery of Graphene Oxide Quantum Dots for Bio-Imaging and Ferric Ion Sensing Based on Bulk Acoustic Wave Resonator. , 2021, , .		0
123	Supramolecular Interface for Biochemical Sensing Applications. , 2020, , 1277-1316.		0
124	A single-chip dual-transduction gas sensor for BTX detection. , 2021, , .		0
125	Flexible piezoelectric self-powered pressure sensor with microstructured electrode. , 2021, , .		0
126	100% Single Cell Encapsulation via Acoustofluidic Printing Based on a Gigahertz Acoustic Resonator. , 2021, 2021, 1172-1175.		0