

Jae-Hyuk Ahn

List of Publications by Year in descending order

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Version: 2024-02-01

47
papers

1,428
citations

279778

23
h-index

330122

37
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48
all docs

48
docs citations

48
times ranked

1454
citing authors

#	ARTICLE	IF	CITATIONS
1	A pretreatment-free electrical capacitance biosensor for exosome detection in undiluted serum. <i>Biosensors and Bioelectronics</i> , 2022, 199, 113872.	10.1	28
2	A Bioinspired Artificial Gustatory Neuron for a Neuromorphic Based Electronic Tongue. <i>Nano Letters</i> , 2022, 22, 5244-5251.	9.1	17
3	Machine Learning in FET-based Chemical and Biological Sensors: A Mini Review. <i>Journal of Sensor Science and Technology</i> , 2021, 30, 1-9.	0.2	2
4	Surface Potential-Controlled Oscillation in FET-Based Biosensors. <i>Sensors</i> , 2021, 21, 1939.	3.8	3
5	Carbon Nanotube-Based Ion-Sensitive Field-Effect Transistors with an On-Chip Reference Electrode Toward Wearable Sodium Sensing. <i>ACS Applied Electronic Materials</i> , 2021, 3, 2580-2588.	4.3	16
6	Recent Advances in Aptasensor for Cytokine Detection: A Review. <i>Sensors</i> , 2021, 21, 8491.	3.8	18
7	Understanding the signal amplification in dual-gate FET-based biosensors. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	17
8	Recent Advances in Biomolecule-“Nanomaterial Heterolayer-Based Charge Storage Devices for Bioelectronic Applications. <i>Materials</i> , 2020, 13, 3520.	2.9	3
9	Aptamer-Based Field-Effect Transistor for Detection of Avian Influenza Virus in Chicken Serum. <i>Analytical Chemistry</i> , 2020, 92, 5524-5531.	6.5	83
10	Joule-Heated and Suspended Silicon Nanowire Based Sensor for Low-Power and Stable Hydrogen Detection. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 42349-42357.	8.0	28
11	Nanoscale FET-Based Transduction toward Sensitive Extended-Gate Biosensors. <i>ACS Sensors</i> , 2019, 4, 1724-1729.	7.8	28
12	pH Sensing Characteristics of Extended-Gate Field-Effect Transistor with Al ₂ O ₃ Layer. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 6682-6686.	0.9	10
13	Development of the Troponin Detection System Based on the Nanostructure. <i>Micromachines</i> , 2019, 10, 203.	2.9	17
14	Recent Advances in AIV Biosensors Composed of Nanobio Hybrid Material. <i>Micromachines</i> , 2018, 9, 651.	2.9	31
15	A SONOS device with a separated charge trapping layer for improvement of charge injection. <i>AIP Advances</i> , 2017, 7, .	1.3	4
16	Charge and dielectric effects of biomolecules on electrical characteristics of nanowire FET biosensors. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	19
17	Temperature measurement of Joule heated silicon micro/nanowires using selectively decorated quantum dots. <i>Nanotechnology</i> , 2016, 27, 505705.	2.6	2
18	Label-Free and Real-Time Detection of Avian Influenza Using Nanowire Field Effect Transistors. <i>Journal of Biomedical Nanotechnology</i> , 2015, 11, 1640-1643.	1.1	9

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19	Self-heated silicon nanowires for high performance hydrogen gas detection. <i>Nanotechnology</i> , 2015, 26, 095501.	2.6	51
20	TCAD-Based Simulation Method for the Electrolyte-Insulator-Semiconductor Field-Effect Transistor. <i>IEEE Transactions on Electron Devices</i> , 2015, 62, 1072-1075.	3.0	26
21	Palladium nanoparticle decorated silicon nanowire field-effect transistor with side-gates for hydrogen gas detection. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	63
22	Multiplex electrical detection of avian influenza and human immunodeficiency virus with an underlap-embedded silicon nanowire field-effect transistor. <i>Biosensors and Bioelectronics</i> , 2014, 55, 162-167.	10.1	39
23	Piezoelectric nanogenerator with a nanoforest structure. <i>Nano Energy</i> , 2013, 2, 1142-1148.	16.0	49
24	A self-heated silicon nanowire array: selective surface modification with catalytic nanoparticles by nanoscale Joule heating and its gas sensing applications. <i>Nanoscale</i> , 2013, 5, 6851.	5.6	50
25	Improvement of Sensitivity and Limit of Detection in a Nanogap Biosensor by Controlling Surface Wettability. <i>BioNanoScience</i> , 2013, 3, 192-197.	3.5	9
26	A biristor based on a floating-body silicon nanowire for biosensor applications. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	11
27	A pH sensor with a double-gate silicon nanowire field-effect transistor. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	46
28	Addressable Nanowire Field-Effect-Transistor Biosensors With Local Backgates. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 2507-2511.	3.0	7
29	Accumulation mode field-effect transistors for improved sensitivity in nanowire-based biosensors. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	28
30	An Underlap Channel-Embedded Field-Effect Transistor for Biosensor Application in Watery and Dry Environment. <i>IEEE Nanotechnology Magazine</i> , 2012, 11, 390-394.	2.0	80
31	A Dual-Gate Field-Effect Transistor for Label-Free Electrical Detection of Avian Influenza. <i>BioNanoScience</i> , 2012, 2, 35-41.	3.5	10
32	Nonvolatile Memory by All-Around-Gate Junctionless Transistor Composed of Silicon Nanowire on Bulk Substrate. <i>IEEE Electron Device Letters</i> , 2011, 32, 602-604.	3.9	68
33	Investigation of Size Dependence on Sensitivity for Nanowire FET Biosensors. <i>IEEE Nanotechnology Magazine</i> , 2011, 10, 1405-1411.	2.0	24
34	Development of a Point-of-Care Testing Platform With a Nanogap-Embedded Separated Double-Gate Field Effect Transistor Array and Its Readout System for Detection of Avian Influenza. <i>IEEE Sensors Journal</i> , 2011, 11, 351-360.	4.7	62
35	Damage immune field effect transistors with vacuum gate dielectric. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2011, 29, 011014.	1.2	27
36	Exchangeable self-curable liquid gate dielectric embedded field effect transistor. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	3

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37	A charge pumping technique to identify biomolecular charge polarity using a nanogap embedded biotransistor. Applied Physics Letters, 2010, 97, .	3.3	11
38	Double-Gate Nanowire Field Effect Transistor for a Biosensor. Nano Letters, 2010, 10, 2934-2938.	9.1	162
39	Comprehensive study of a detection mechanism and optimization strategies to improve sensitivity in a nanogap-embedded biotransistor. Journal of Applied Physics, 2010, 107, 114705.	2.5	6
40	Charge pumping technique to analyze the effect of intrinsically retained charges and extrinsically trapped charges in biomolecules by use of a nanogap embedded biotransistor. Applied Physics Letters, 2010, 96, .	3.3	9
41	An underlap field-effect transistor for electrical detection of influenza. Applied Physics Letters, 2010, 96, .	3.3	57
42	FinFACT™ Fin Flip-Flop Actuated Channel Transistor. IEEE Electron Device Letters, 2010, 31, 764-766.	3.9	13
43	Nanogap Field-Effect Transistor Biosensors for Electrical Detection of Avian Influenza. Small, 2009, 5, 2407-2412.	10.0	121
44	A biomolecular detection method based on charge pumping in a nanogap embedded field-effect-transistor biosensor. Applied Physics Letters, 2009, 94, .	3.3	30
45	Energy-Band-Engineered Unified-RAM (URAM) Cell on Buried $\text{Si}_{1-y}\text{C}_y$ Substrate for Multifunctioning Flash Memory and 1T-DRAM. IEEE Transactions on Electron Devices, 2009, 56, 641-647.	3.0	2
46	A Bulk FinFET Unified-RAM (URAM) Cell for Multifunctioning NVM and Capacitorless 1T-DRAM. IEEE Electron Device Letters, 2008, 29, 632-634.	3.9	23
47	Integrated current readout circuit and DMFET array for label-free detection of cancer marker. , 2008, , .		2