Abhishek Motayed

List of Publications by Year
in descending order

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55	1,674	279798	289244
papers	citations	23 h-index	40 g-index

55	55	55	2250
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Electrical, thermal, and microstructural characteristics of Ti/Al/Ti/Au multilayer Ohmic contacts to n-type GaN. Journal of Applied Physics, 2003, 93, 1087-1094.	2.5	132
2	Self-powered p-NiO/n-ZnO heterojunction ultraviolet photodetectors fabricated on plastic substrates. APL Materials, 2015, 3, 106101.	5.1	105
3	Low-resistance Ti/Al/Ti/Au multilayer ohmic contact to n-GaN. Journal of Applied Physics, 2001, 89, 6214-6217.	2.5	92
4	Diameter dependent transport properties of gallium nitride nanowire field effect transistors. Applied Physics Letters, 2007, 90, 043104.	3.3	90
5	Fabrication of GaN-based nanoscale device structures utilizing focused ion beam induced Pt deposition. Journal of Applied Physics, 2006, 100, 024306.	2.5	86
6	UV-assisted room-temperature chemiresistive NO2 sensor based on TiO2 thin film. Journal of Alloys and Compounds, 2015, 653, 255-259.	5.5	71
7	Highly selective GaN-nanowire/TiO₂-nanocluster hybrid sensors for detection of benzene and related environment pollutants. Nanotechnology, 2011, 22, 295503.	2.6	70
8	Methanol, ethanol and hydrogen sensing using metal oxide and metal (TiO₂â€“Pt) composite nanoclusters on GaN nanowires: a new route towards tailoring the selectivity of nanowire/nanocluster chemical sensors. Nanotechnology, 2012, 23, 175501.	2.6	67
9	Nanowire-Based Sensor Array for Detection of Cross-Sensitive Gases Using PCA and Machine Learning Algorithms. IEEE Sensors Journal, 2020, 20, 6020-6028.	4.7	57
10	Realization of reliable GaN nanowire transistors utilizing dielectrophoretic alignment technique. Journal of Applied Physics, 2006, 100, 114310.	2.5	56
11	UV-assisted alcohol sensing using SnO2 functionalized GaN nanowire devices. Sensors and Actuators B: Chemical, 2012, 171-172, 499-507.	7.8	52
12	A solution-processed high-efficiency p-NiO/n-ZnO heterojunction photodetector. RSC Advances, 2015, 5, 14646-14652.	3.6	51
13	Electrical transport and low-frequency noise in chemical vapor deposited single-layer MoS₂ devices. Nanotechnology, 2014, 25, 155702.	2.6	43
14	Tunable Ultraviolet Photoresponse in Solution-Processed pâ€“n Junction Photodiodes Based on Transition-Metal Oxides. ACS Applied Materials & Interfaces, 2015, 7, 9660-9667.	8.0	42
15	High-performing visible-blind photodetectors based on SnO2/CuO nanoheterojunctions. Applied Physics Letters, 2015, 107, .	3.3	38
16	Top-down fabrication of large-area GaN micro- and nanopillars. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, .	1.2	36
17	Electrical characteristics of AlxGa1â^'xN Schottky diodes prepared by a two-step surface treatment. Journal of Applied Physics, 2004, 96, 3286-3295.	2.5	31
18	365nm operation of n-nanowire/p-gallium nitride homojunction light emitting diodes. Applied Physics Letters, 2007, 90, 183120.	3.3	31

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19	Experimental investigation of electron transport properties of gallium nitride nanowires. Journal of Applied Physics, 2008, 104, .	2.5	31
20	An Antimony Selenide Molecular Ink for Flexible Broadband Photodetectors. Advanced Electronic Materials, 2016, 2, 1600182.	5.1	31
21	Nitro-Aromatic Explosive Sensing Using GaN Nanowire-Titania Nanocluster Hybrids. IEEE Sensors Journal, 2013, 13, 1883-1888.	4.7	28
22	Scalable metal oxide functionalized GaN nanowire for precise SO2 detection. Sensors and Actuators B: Chemical, 2020, 318, 128223.	7.8	26
23	High-transparency Ni/Au bilayer contacts to n-type GaN. Journal of Applied Physics, 2002, 92, 5218-5227.	2.5	24
24	The effects of surface conditions of TiO2 thin film on the UV assisted sensing response at room temperature. Thin Solid Films, 2016, 620, 76-81.	1.8	23
25	Reliable anatase-titania nanoclusters functionalized GaN sensor devices for UV assisted NO₂ gas-sensing in ppb level. Nanotechnology, 2020, 31, 155504.	2.6	23
26	High-performance room-temperature TiO2-functionalized GaN nanowire gas sensors. Applied Physics Letters, 2019, 115, .	3.3	22
27	Electrical, microstructural, and thermal stability characteristics of Ta/Ti/Ni/Au contacts to n-GaN. Journal of Applied Physics, 2004, 95, 1516-1524.	2.5	21
28	Rapid thermal oxidation of silicon nanowires. Applied Physics Letters, 2009, 94, .	3.3	21
29	Transfer characteristics and low-frequency noise in single- and multi-layer MoS2 field-effect transistors. Applied Physics Letters, 2015, 107, 162102.	3.3	21
30	Chemicophysical surface treatment and the experimental demonstration of Schottky-Mott rules for metalâ•semiconductor heterostructure interfaces. Journal of Chemical Physics, 2005, 123, 194703.	3.0	20
31	Formation of large-area GaN nanostructures with controlled geometry and morphology using top-down fabrication scheme. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, .	1.2	20
32	Characterization of deep-levels in silicon nanowires by low-frequency noise spectroscopy. Applied Physics Letters, 2011, 99, 113107.	3.3	19
33	Detection of Deep-Levels in Doped Silicon Nanowires Using Low-Frequency Noise Spectroscopy. IEEE Transactions on Electron Devices, 2013, 60, 4206-4212.	3.0	17
34	Fabrication and comparative study of DC and low frequency noise characterization of GaN/AlGaN based MOS-HEMT and HEMT. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	1.2	17
35	Topâ€“down fabrication of horizontally-aligned gallium nitride nanowire arrays for sensor development. Microelectronic Engineering, 2015, 142, 58-63.	2.4	16
36	Functionalization of GaN Nanowire Sensors With Metal Oxides: An Experimental and DFT Investigation. IEEE Sensors Journal, 2020, 20, 7138-7147.	4.7	16

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37	Two-step surface treatment technique: Realization of nonalloyed low-resistance Ti/Al/Ti/Au ohmic contact to n-GaN. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 663.	1.6	15
38	Phase separations of single-crystal nanowires grown by self-catalytic chemical vapor deposition method. Journal of Chemical Physics, 2007, 126, 064704.	3.0	15
39	Correlation between the performance and microstructure of Ti/Al/Ti/Au Ohmic contacts to p-type silicon nanowires. Nanotechnology, 2011, 22, 075206.	2.6	15
40	Large-area GaN n-core/p-shell arrays fabricated using top-down etching and selective epitaxial overgrowth. Applied Physics Letters, 2012, 101, .	3.3	15
41	Back-Gate GaN Nanowire-Based FET Device for Enhancing Gas Selectivity at Room Temperature. Sensors, 2021, 21, 624.	3.8	11
42	Homoepitaxial n-core: p-shell gallium nitride nanowires: HVPE overgrowth on MBE nanowires. Nanotechnology, 2011, 22, 465703.	2.6	10
43	GaN-nanowire/amorphous-Si core-shell heterojunction diodes. Applied Physics Letters, 2008, 93, 193102.	3.3	9
44	Identification and quantification of gases and their mixtures using GaN sensor array and artificial neural network. Measurement Science and Technology, 2021, 32, 055111.	2.6	9
45	UV-Assisted Alcohol Sensing With Zinc Oxide-Functionalized Gallium Nitride Nanowires. IEEE Electron Device Letters, 2012, 33, 1075-1077.	3.9	8
46	Accelerated Stress Tests and Statistical Reliability Analysis of Metal-Oxide/GaN Nanostructured Sensor Devices. IEEE Transactions on Device and Materials Reliability, 2020, 20, 742-747.	2.0	6
47	Metal-oxide/GaN based NO2 Gas detection at room temperature: an experimental and density functional theory investigation. , 2020, , .		5
48	Structural and optical nanoscale analysis of GaN coreâ€“shell microrod arrays fabricated by combined top-down and bottom-up process on Si(111). Japanese Journal of Applied Physics, 2016, 55, 05FF02.	1.5	4
49	Faceting control in core-shell GaN micropillars using selective epitaxy. APL Materials, 2014, 2, 106104.	5.1	3
50	Realization of vertically-aligned GaN n-p core-shell nanoscale structures using top-down fabrication. , 2011, , .		1
51	Real-time electrical detection of the formation and destruction of lipid bilayers on silicon nanowire devices. Sensing and Bio-Sensing Research, 2015, 4, 103-108.	4.2	1
52	Live demonstration: Chip-scale, nano-engineered, environmental gas sensors. , 2016, , .		1
53	Fundamental investigation of the comparative behaviour of small-signal BJT Darlington and cascode amplifiers. International Journal of Electronics, 2001, 88, 737-749.	1.4	0
54	Design of a 364 nm Electrically Pumped Multi-Quantum Well Continuous Wave Nitride Vertical Cavity Surface Emitting Laser. Materials Research Society Symposia Proceedings, 2002, 744, 1.	0.1	0

#	Article	IF	Citations
55	Selective nano-devices for the detection of nitroaromatic explosive compounds. , 2011, , .		0