M Saif Islam

List of Publications by Year
in descending order

109 papers	1,807 citations	331670 21 h-index	276875 41 g-index
111 all docs	111 docs citations	111 times ranked	1984 citing authors

#	Article	IF	Citations
1	Improvement of Schottky Contacts of Gallium Oxide (Ga2O3) Nanowires for UV Applications. Sensors, 2022, 22, 2048.	3.8	5
2	Engineering the gain and bandwidth in avalanche photodetectors. Optics Express, 2022, 30, 16873.	3.4	3
3	Photoelectrochemical (PEC) etching of Ga2O3. Ceramics International, 2021, 47, 479-486.	4.8	14
4	Maximizing Absorption in Photonâ€Trapping Ultrafast Silicon Photodetectors. Advanced Photonics Research, 2021, 2, 2000190.	3.6	7
5	Avalanche photodetectors with photon trapping structures for biomedical imaging applications. Optics Express, 2021, 29, 19024.	3.4	25
6	Single Microhole per Pixel in CMOS Image Sensors With Enhanced Optical Sensitivity in Near-Infrared. IEEE Sensors Journal, 2021, 21, 10556-10562.	4.7	9
7	Modeling of nanohole silicon pin/nip photodetectors: Steady state and transient characteristics. Nanotechnology, 2021, 32, 365201.	2.6	6
8	Controlling light penetration depth to amplify the gain in ultra-fast silicon APDs and SPADs using photon-trapping nanostructures. , 2021, , .		1
9	Novel Approach to Synthesize Nanostructured Gallium Oxide for Devices Operating in Harsh Environmental Conditions. Sustainability, 2021, 13, 10197.	3.2	2
10	Comparative Study of Growth Morphologies of Ga2O3 Nanowires on Different Substrates. Nanomaterials, 2020, 10, 1920.	4.1	6
11	Influence of Silver as a Catalyst on the Growth of Î²-Ga2O3 Nanowires on GaAs. Materials, 2020, 13, 5377.	2.9	7
12	Gallium oxide nanowires for UV detection with enhanced growth and material properties. Scientific Reports, 2020, 10, 21434.	3.3	22
13	Rigorous coupled-wave analysis of absorption enhancement in vertically illuminated silicon photodiodes with photon-trapping hole arrays. Nanophotonics, 2019, 8, 1747-1756.	6.0	9
14	High-Speed High-Efficiency Photon-Trapping Broadband Silicon PIN Photodiodes for Short-Reach Optical Interconnects in Data Centers. Journal of Lightwave Technology, 2019, 37, 5748-5755.	4.6	17
15	Photodetectors with Photon-trapping Surface Nanostructures for Short Range LIDAR Systems. , 2019, , .		3
16	Dynamics Contributions to the Growth Mechanism of Ga2O3 Thin Film and NWs Enabled by Ag Catalyst. Nanomaterials, 2019, 9, 1272.	4.1	13
17	Dramatically Enhanced Efficiency in Ultra-Fast Silicon MSM Photodiodes Via Light Trapping Structures. IEEE Photonics Technology Letters, 2019, 31, 1619-1622.	2.5	13
18	Photogalvanic Etching of n-GaN for Three-Dimensional Electronics. Journal of Electronic Materials, 2019, 48, 3345-3350.	2.2	12

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19	Ultra-Thin MSM Photodetectors with Nano-Structured Surface. , 2019, , .		0
20	The Growth of Ga2O3 Nanowires on Silicon for Ultraviolet Photodetector. Sensors, 2019, 19, 5301.	3.8	23
21	Transfer of ordered and disordered Si nanowires onto alien substrates for the fabrication of third-generation solar cells. , 2019, , .		0
22	Ultra-thin super absorbing photon trapping materials for high-performance infrared detection. , 2019, , .		3
23	High-aspect ratio micro- and nanostructures enabled by photo-electrochemical etching for sensing and energy harvesting applications. Applied Nanoscience (Switzerland), 2018, 8, 1171-1177.	3.1	6
24	A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communicationâ€"Part I: Enhancing Photonâ€"Material Interactions via Low-Dimensional Structures. IEEE Transactions on Electron Devices, 2018, 65, 372-381.	3.0	21
25	A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communicationâ€"Part II: Device and VLSI Integration Challenges for Low-Dimensional Structures. IEEE Transactions on Electron Devices, 2018, 65, 382-391.	3.0	18
26	Bridged oxide nanowire device fabrication using single step metal catalyst free thermal evaporation. RSC Advances, 2018, 8, 10294-10301.	3.6	5
27	Manufacturing and electrical characterization of Al-doped ZnO-coated silicon nanowires. Materials Science in Semiconductor Processing, 2018, 75, 124-129.	4.0	4
28	Enhanced Quantum Efficiency and Reduction of Reflection for MSM Photodetectors with Nano-Structured Surface. , 2018, , .		1
29	Enhanced Photon Detection Efficiency of Silicon Single Photon Avalanche Photodetectors Enabled by Photon Trapping Structures. , 2018, , .		0
30	Shape and Positional Anisotropy Based Area Efficient Magnetic Quantum-Dot Cellular Automata Design Methodology for Full Adder Implementation. IEEE Nanotechnology Magazine, 2018, 17, 1303-1307.	2.0	15
31	Surface-illuminated photon-trapping high-speed Ge-on-Si photodiodes with improved efficiency up to 1700â€‰â€‰nm. Photonics Research, 2018, 6, 734.	7.0	45
32	A study of temperature dependent currentâ€"voltage (Iâ€"Vâ€"T) characteristics in Ni/solâ€"gel Î²-Ga2O3/n-GaN structure. Journal of Materials Science: Materials in Electronics, 2018, 29, 11265-11270.	2.2	5
33	Surface passivation of silicon photonic devices with high surface-to-volume-ratio nanostructures. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 1059.	2.1	14
34	High-Speed High-Efficiency Broadband Silicon Photodiodes for Short-Reach Optical Interconnects in Data Centers. , 2018, , .		3
35	Black holes enabled light bending and trapping in ultrafast silicon photodetectors. , 2018, , .		0
36	Pattern induced convex corner undercutting of oriented silicon microridges in potassium hydroxide. Microsystem Technologies, 2017, 23, 75-80.	2.0	1

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37	Solar Blind Photodetectors Enabled by Nanotextured Î²-Ga2O3 Films Grown via Oxidation of GaAs Substrates. IEEE Photonics Journal, 2017, 9, 1-7.	2.0	42
38	An Investigation of Electrical and Dielectric Parameters of Solâ€“Gel Process Enabled $eta $ -Ga2O3 as a Gate Dielectric Material. IEEE Transactions on Electron Devices, 2017, 64, 2047-2053.	3.0	24
39	Photon-trapping microstructures enable high-speed high-efficiency silicon photodiodes. Nature Photonics, 2017, 11, 301-308.	31.4	167
40	Incident light angle dependence of microwalled silicon solar cell efficiency for fracture transfer printing applications. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600724.	1.8	1
41	High Speed Surface Illuminated Si Photodiode Using Microstructured Holes for Absorption Enhancements at 900â€“1000 nm Wavelength. ACS Photonics, 2017, 4, 2053-2060.	6.6	30
42	Characterization of Î²-Ga<inf>2</inf>O<inf>3</inf> interface and conduction band offset with GaN using a Sol-gel process of deposition. , 2017, , .		1
43	Spontaneous delamination via compressive buckling facilitates largeâ€scale Î²â€Ga 2 O 3 thin film transfer from reusable GaAs substrates. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700102.	1.8	3
44	Optimization of light trapping micro-hole structure for high-speed high-efficiency silicon photodiodes. , 2017, , .		1
45	Oxidation of GaAs substrates to enable Î²-Ga2O3 films for sensors and optoelectronic devices. , 2017, , .		4
46	Inhibiting device degradation induced by surface damages during top-down fabrication of semiconductor devices with micro/nano-scale pillars and holes. , 2016, , .		4
47	Nanowire enabled photodetection. , 2016, , 87-120.		1
48	Organic/inorganic interfaced field-effect transistor properties with a novel organic semiconducting material. Philosophical Magazine, 2016, 96, 274-285.	1.6	13
49	One-Dimensional Nano-structured Solar Cells. Nanoscience and Technology, 2016, , 351-400.	1.5	0
50	Optimized Ultrasharp Silicon Nanowire Geometries for Enhanced Field Ionization Properties. Materials Research Society Symposia Proceedings, 2015, 1785, 7-11.	0.1	1
51	Long Minority Carrier Diffusion Lengths in Bridged Silicon Nanowires. Nano Letters, 2015, 15, 523-529.	9.1	20
52	Nano-bridge enabled three-dimensional gate-all-around field effect transistors. , 2014, , .		0
53	Enhanced Field Ionization Enabled by Metal Induced Surface States on Semiconductor Nanotips. Advanced Functional Materials, 2014, 24, 2224-2232.	14.9	21
54	Nanobridge gate-all-around phototransistors for electro-optical OR gate circuit and frequency doubler applications. Applied Physics Letters, 2014, 104, 022110.	3.3	6

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55	Integrating Ormosil films onto microstructured semiconductor substrates. Acta Materialia, 2014, 72, 159-166.	7.9	3
56	3Dâ€Transistor Array Based on Horizontally Suspended Silicon Nanoâ€bridges Grown via a Bottomâ€Up Technique. Advanced Materials, 2014, 26, 1929-1934.	21.0	21
57	High-precision transfer-printing and integration of vertically oriented semiconductor arrays for flexible device fabrication. Nano Research, 2014, 7, 998-1006.	10.4	13
58	Electrically conducting film of silver sub-micron particles as mechanical and electrical interfaces for transfer printed micro- and nano-pillar devices. Applied Physics A: Materials Science and Processing, 2013, 111, 251-259.	2.3	8
59	Demonstration of gate-all-around FETs based on suspended CVD-grown silicon nanowires. , 2013, , .		1
60	Electrical Contacts to Vertically Oriented Silicon Nano and Microdevices for Applications in Flexible Systems. Materials Research Society Symposia Proceedings, 2013, 1553, 1.	0.1	0
61	Scanning Photocurrent Microscopy of as-Grown Silicon Nanowire Metallurgical Junctions. Materials Research Society Symposia Proceedings, 2013, 1551, 29-33.	0.1	0
62	Silicon Nanowire Bridge Arrays With Dramatically Improved Yields Enabled by Gold Colloids Functionalized With HF Acid and Poly-L-Lysine. IEEE Nanotechnology Magazine, 2013, 12, 1173-1177.	2.0	4
63	Fabrication of 3D-silicon micro-pillars/walls decorated with aluminum-ZnO/ZnO nanowires for optoelectric devices. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1377-1380.	1.8	6
64	Seamless Integration of an Elastomer with Electrode Matrix and its Inâ€Situ Conversion into a Solid State Electrolyte for Robust Liâ€ion Batteries. Advanced Functional Materials, 2013, 23, 5941-5951.	14.9	11
65	Improving yields in bridging silicon nanowires with rational control of the bridge characteristics. Materials Research Society Symposia Proceedings, 2013, 1551, 111-116.	0.1	0
66	Electrical Contact Characteristics between Silicon Micropillars and Ag Nanoparticles with Controlled Mechanical Load. Materials Research Society Symposia Proceedings, 2012, 1429, 20.	0.1	1
67	Synthesis of ZnO Nanowires by Hydrothermal Technique for Integration Into Chalcopyrite Thin Films. Materials Research Society Symposia Proceedings, 2012, 1406, .	0.1	0
68	Silicon Nanowire Integrated Electrolyte-Insulator-Semiconductor Sensor with an Above-Nernstian Sensitivity for Bio-Sensing Applications. Materials Research Society Symposia Proceedings, 2012, 1439, 127-132.	0.1	1
69	Synthesis of Si Nanowires by Electroless Etching Technique and Their Integration Into I-III-VI2 Thin Films For Solar Cells. Materials Research Society Symposia Proceedings, 2012, 1408, 49.	0.1	2
70	Effect of Cathode Metal Evaporation Rate on the Deep Trapped Hole Formation in Bulk Heterojunction Organic Solar Cells. Materials Research Society Symposia Proceedings, 2012, 1390, 95.	0.1	0
71	Interfacing Ag Nanoparticles with 1D Semiconductor Micro/Nanostructures via Joule Heating for Transfer Printing Nanodevices at Room Ambient. Materials Research Society Symposia Proceedings, 2012, 1429, 1.	0.1	1
72	Highly sensitive electrolyte-insulator-semiconductor pH sensors enabled by silicon nanowires with Al2O3/SiO2 sensing membrane. Sensors and Actuators B: Chemical, 2012, 171-172, 238-243.	7.8	60

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73	Physical properties and heterojunction device demonstration of aluminum-doped ZnO thin films synthesized at room ambient via solâ€“gel method. Journal of Alloys and Compounds, 2012, 521, 155-162.	5.5	67
74	Sonochemical approach for rapid growth of zinc oxide nanowalls. Applied Physics A: Materials Science and Processing, 2012, 107, 661-667.	2.3	21
75	Extraction of Doping Concentration and Interface State Density in Silicon Nanowires. IEEE Nanotechnology Magazine, 2011, 10, 1004-1009.	2.0	12
76	A Perspective on Nanowire Photodetectors: Current Status, Future Challenges, and Opportunities. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1002-1032.	2.9	135
77	Nanowire-based devices combining light guiding and photodetection. Applied Physics A: Materials Science and Processing, 2011, 105, 311-316.	2.3	6
78	Anisotropic Conducting Film (ACF) of Ag Nanoparticles as Transfer Polymer and Electrical Interface for Silicon Micro- and Nano- Pillars. Materials Research Society Symposia Proceedings, 2011, 1303, 185.	0.1	0
79	Harvesting and Transferring Vertical Pillar Arrays of Single-Crystal Semiconductor Devices to Arbitrary Substrates. IEEE Transactions on Electron Devices, 2010, 57, 1856-1864.	3.0	40
80	Enhanced field ionization/desorption on branched silicon nanowires: applications in gas ionization detection. Proceedings of SPIE, 2010, , .	0.8	1
81	Memristors based on an organic monolayer of molecules and a thin film of solid electrolytes. , 2010, , .		2
82	A smooth optical superlens. Applied Physics Letters, 2010, 96, 043102.	3.3	78
83	Ensembles of indium phosphide nanowires: physical properties and functional devices integrated on non-single crystal platforms. Applied Physics A: Materials Science and Processing, 2009, 95, 1005-1013.	2.3	17
84	Integrated receiver architectures for board-to-board free-space optical interconnects. Applied Physics A: Materials Science and Processing, 2009, 95, 1079-1088.	2.3	13
85	Novel nanowire integration schemes for massively parallel and manufacturable nanoscale electronics and photonics. , 2008, , .		0
86	Poly(Hydridocarbyne) as Highly Processable Insulating Polymer Precursor to Micro/Nanostructures and Graphite Conductors. , 2008, , .		0
87	Persistent Photocurrent in InP Nanowires Heteroepitaxially Bridged Between Single Crystal Si Surfaces. Materials Research Society Symposia Proceedings, 2008, 1080, 1.	0.1	0
88	Impact of Casimir force in molecular electronic switching junctions. , 2008, , .		0
89	Electrical Resistivity & Thermal Stability of Smooth Silver Thin Film for Nanoscale Optoelectronic Devices. , 2008, , .		2
90	Raman Spectroscopic Analysis of p-doped Bridged InP Nanowire. Materials Research Society Symposia Proceedings, 2008, 1080, 1.	0.1	0

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91	High Current Density and Failure Mechanism in Epitaxially Bridged Silicon Nanowires. , 2008, , .		6
92	Synthesis and Field Emission Characteristics of Ga2O3 Nanorods with Ultra-Sharp Tips. , 2008, , .		1
93	Epitaxially Integrated Semiconductor Nanowires for Nanoscale Electronics, Photonics and NEMS. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
94	Smooth Ag Film Deposited Using e-beam Evaporated Ge as an Intermediate Layer for Applications in Nanoscale Devices and Optical Superlens. Materials Research Society Symposia Proceedings, 2007, 990, 1.	0.1	0
95	Surface Deformation of Metal Films Under Controlled Pressure for Generating Ultra-flat Metal Surfaces. Materials Research Society Symposia Proceedings, 2007, 990, 1.	0.1	0
96	Indium phosphide nanowire photoconductors on non-single crystalline silicon-based platform. , 2007, , .		0
97	Contact Resistance of Epitaxially Interfaced Bridged Silicon Nanowires. , 2007, , .		1
98	Ultra-Low Contact Resistance of Epitaxially Interfaced Bridged Silicon Nanowires. Nano Letters, 2007, 7, 1536-1541.	9.1	72
99	Ultra-smooth metal surfaces generated by pressure-induced surface deformation of thin metal films. Applied Physics A: Materials Science and Processing, 2007, 87, 187-192.	2.3	35
100	Switching between positive and negative permeability by photoconductive coupling for modulation of electromagnetic radiation. Applied Physics A: Materials Science and Processing, 2007, 87, 209-216.	2.3	14
101	Direct Formation of Catalyst-Free ZnO Nanobridge Devices on an Etched Si Substrate Using a Thermal Evaporation Method. Nano Letters, 2006, 6, 1487-1490.	9.1	77
102	Surface depletion thickness of p-doped silicon nanowires grown using metal-catalysed chemical vapour deposition. Nanotechnology, 2006, 17, S240-S245.	2.6	52
103	A Novel Fabrication Technique for Developing Metal Nanodroplet Arrays. Materials Research Society Symposia Proceedings, 2006, 940, 1.	0.1	0
104	Realization of 3D Isotropic Negative Index Materials using Massively Parallel and Manufacturable Microfabrication and Micromachining Technology. Materials Research Society Symposia Proceedings, 2006, 919, 1.	0.1	3
105	InP nanobridges epitaxially formed between two vertical Si surfaces by metal-catalyzed chemical vapor deposition. Applied Physics Letters, 2006, 89, 133121.	3.3	43
106	Ultra-smooth platinum surfaces for nanoscale devices fabricated using chemical mechanical polishing. Applied Physics A: Materials Science and Processing, 2005, 80, 1385-1389.	2.3	24
107	A novel interconnection technique for manufacturing nanowire devices. Applied Physics A: Materials Science and Processing, 2005, 80, 1133-1140.	2.3	80
108	Issues on nanoimprint lithography with a single-layer resist structure. Applied Physics A: Materials Science and Processing, 2005, 81, 1331-1335.	2.3	14

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109	Ultrahigh-density silicon nanobridges formed between two vertical silicon surfaces. Nanotechnology, 2004, 15, L5-L8.	2.6	181