Muhammad A Alam

List of Publications by Year
in descending order

323	20,079	24978 57	11899 134
papers	citations	h-index	g-index

326	326	326	22520
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Training a Quantum Annealing Based Restricted Boltzmann Machine on Cybersecurity Data. IEEE Transactions on Emerging Topics in Computational Intelligence, 2022, 6, 417-428.	3.4	18
2	Steady-State and Transient Performance of Ion-Sensitive Electrodes Suitable for Wearable and Implantable Electro-Chemical Sensing. IEEE Transactions on Biomedical Engineering, 2022, 69, 96-107.	2.5	11
3	Light-activated interlayer contraction in two-dimensional perovskites for high-efficiency solar cells. Nature Nanotechnology, 2022, 17, 45-52.	15.6	52
4	Positive Bias Temperature Instability and Hot Carrier Degradation of Back-End-of-Line, nm-Thick, In₂O₃ Thin-Film Transistors. IEEE Electron Device Letters, 2022, 43, 232-235.	2.2	10
5	Crop-Specific Optimization of Bifacial PV Arrays for Agrivoltaic Food-Energy Production: The Light-Productivity-Factor Approach. IEEE Journal of Photovoltaics, 2022, 12, 572-580.	1.5	25
6	Worldwide Physics-Based Lifetime Prediction of c-Si Modules Due to Solder-Bond Failure. IEEE Journal of Photovoltaics, 2022, 12, 533-539.	1.5	3
7	A Critical Analysis of Bifacial Solar Farm Configurations: Theory and Experiments. IEEE Access, 2022, 10, 47726-47740.	2.6	8
8	A Critical Examination of the TCAD Modeling of Hot Carrier Degradation for LDMOS Transistors. , 2022, , .		3
9	Correlated Effects of Radiation and Hot Carrier Degradation on the Performance of LDMOS Transistors. , 2022, , .		2
10	Reduced Relative Humidity (RH) Enhances the Corrosion-Limited Lifetime of Self-Heated IC: Peckâ€™s equation Generalized. , 2022, , .		3
11	Modeling Non-Equilibrium Ion-Transport in Ion-Selective-Membrane/Electrolyte Interfaces for Electrochemical Potentiometric Sensors. IEEE Sensors Journal, 2022, 22, 12987-12996.	2.4	3
12	Selectivity, Sensitivity and Detection Range in Ion-Selective Membrane-Based Electrochemical Potentiometric Sensors Analyzed With Poisson-Boltzmann Equilibrium Model. IEEE Sensors Journal, 2022, 22, 15010-15021.	2.4	3
13	Self-Heating and Reliability-Aware â€œIntrinsicâ€•Safe Operating Area of Wide Bandgap Semiconductorsâ€”An Analytical Approach. IEEE Transactions on Device and Materials Reliability, 2021, 21, 518-527.	1.5	7
14	Super Single Pulse Charge Pumping Technique for Profiling Interfacial Defects. IEEE Transactions on Electron Devices, 2021, 68, 726-732.	1.6	7
15	Module Technology for Agrivoltaics: Vertical Bifacial Versus Tilted Monofacial Farms. IEEE Journal of Photovoltaics, 2021, 11, 469-477.	1.5	40
16	Quantifying Region-Specific Hot Carrier Degradation in LDMOS Transistors Using a Novel Charge Pumping Technique. , 2021, , .		6
17	Hot carrier Degradation in Classical and Emerging Logic and Power Electronic Devices: Rethinking Reliability for Next-Generation Electronics. , 2021, , .		8
18	Global analysis of next-generation utility-scale PV: Tracking bifacial solar farms. Applied Energy, 2021, 290, 116478.	5.1	30

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19	A review of next generation bifacial solar farms: predictive modeling of energy yield, economics, and reliability. Journal Physics D: Applied Physics, 2021, 54, 323001.	1.3	24
20	Highly sensitive active pixel image sensor array driven by large-area bilayer MoS2 transistor circuitry. Nature Communications, 2021, 12, 3559.	5.8	94
21	Machine Learning allows Synthesis and Functional Interpolation of Computational and Field-Data for Worldwide Utility-Scale PV Systems. , 2021, , .		1
22	Worldwide Physics-Based Analysis of Solder Bond Failure in c-Si Modules for Lifetime Prediction. , 2021, , .		4
23	An Analytical Model of Hot Carrier Degradation in LDMOS Transistors: Rediscovery of Universal Scaling. IEEE Transactions on Electron Devices, 2021, 68, 3923-3929.	1.6	6
24	Three-point Iâ€“V spectroscopy deconvolves region-specific degradations in LDMOS transistors. Applied Physics Letters, 2021, 119, 122102.	1.5	3
25	Reliability physics of ferroelectric/negative capacitance transistors for memory/logic applications: An integrative perspective. Journal of Materials Research, 2021, 36, 4908-4918.	1.2	5
26	Space Charge Redistribution in Epoxy Mold Compounds of High-Voltage ICs at Dry and Wet Conditions: Theory and Experiment. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 2043-2051.	1.8	4
27	Generalized Modeling Framework of Metal Oxide-Based Non-Enzymatic Glucose Sensors: Concepts, Methods, and Challenges. IEEE Transactions on Biomedical Engineering, 2020, 67, 679-687.	2.5	10
28	Short term effects of different green manure amendments on the composition of main microbial groups and microbial activity of a submerged rice cropping system. Applied Soil Ecology, 2020, 147, 103400.	2.1	41
29	A Closed-Form Transient Joule Heating Model for an Interconnect in an Integrated Circuit. IEEE Electron Device Letters, 2020, 41, 288-291.	2.2	1
30	A memory window expression to evaluate the endurance of ferroelectric FETs. Applied Physics Letters, 2020, 117, .	1.5	17
31	Fractal Web Design of a Hemispherical Photodetector Array with Organicâ€Dyeâ€Sensitized Graphene Hybrid Composites. Advanced Materials, 2020, 32, e2004456.	11.1	25
32	Temperature-dependent energy gain of bifacial PV farms: A global perspective. Applied Energy, 2020, 276, 115405.	5.1	38
33	Printable Nonenzymatic Glucose Biosensors Using Carbon Nanotube-PtNP Nanocomposites Modified with AuRu for Improved Selectivity. ACS Biomaterials Science and Engineering, 2020, 6, 5315-5325.	2.6	27
34	Modeling, design guidelines, and detection limits of self-powered enzymatic biofuel cell-based sensors. Biosensors and Bioelectronics, 2020, 168, 112493.	5.3	27
35	Effects of Filler Configuration and Moisture on Dissipation Factor and Critical Electric Field of Epoxy Composites for HV-ICs Encapsulation. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2020, 10, 1534-1541.	1.4	10
36	Dark Lock-in Thermography Identifies Solder Bond Failure as the Root Cause of Series Resistance Increase in Fielded Solar Modules. IEEE Journal of Photovoltaics, 2020, 10, 1409-1416.	1.5	15

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37	Design Principles of Self-Compensated NBTI-Free Negative Capacitor FinFET. IEEE Transactions on Electron Devices, 2020, 67, 2238-2242.	1.6	2
38	A Novel â€˜I-V Spectroscopyâ€™ Technique to Deconvolve Threshold Voltage and Mobility Degradation in LDMOS Transistors. , 2020, , .		9
39	Sustainable Photovoltaics. Lecture Notes in Energy, 2020, , 25-85.	0.2	0
40	Realâ€time monitoring and diagnosis of photovoltaic system degradation only using maximum power pointâ€”the Sunsâ€Vmp method. Progress in Photovoltaics: Research and Applications, 2019, 27, 55-66.	4.4	37
41	Flexible electronic/optoelectronic microsystems with scalable designs for chronic biointegration. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15398-15406.	3.3	66
42	Electrothermal performance limit of Î²-Ga2O3 field-effect transistors. Applied Physics Letters, 2019, 115, .	1.5	23
43	A Device-to-System Perspective Regarding Self-Heating Enhanced Hot Carrier Degradation in Modern Field-Effect Transistors: A Topical Review. IEEE Transactions on Electron Devices, 2019, 66, 4556-4565.	1.6	41
44	Source partitioning and emission factor of nitrous oxide during warm and cold cropping seasons from an upland soil in South Korea. Science of the Total Environment, 2019, 662, 591-599.	3.9	4
45	Two-dimensional MoS2 negative capacitor transistors for enhanced (super-Nernstian) signal-to-noise performance of next-generation nano biosensors. Applied Physics Letters, 2019, 114, 233102.	1.5	21
46	Electrical Signatures of Corrosion and Solder Bond Failure in c-Si Solar Cells and Modules. IEEE Journal of Photovoltaics, 2019, 9, 759-767.	1.5	39
47	A worldwide cost-based design and optimization of tilted bifacial solar farms. Applied Energy, 2019, 247, 467-479.	5.1	89
48	Ground sculpting to enhance energy yield of vertical bifacial solar farms. Applied Energy, 2019, 241, 592-598.	5.1	42
49	Tailoring interdigitated back contacts for high-performance bifacial silicon solar cells. Applied Physics Letters, 2019, 114, .	1.5	5
50	A critical review of recent progress on negative capacitance field-effect transistors. Applied Physics Letters, 2019, 114, .	1.5	157
51	Highly Stable Self-Aligned Ni-InGaAs and Non-Self-Aligned Mo Contact for Monolithic 3-D Integration of InGaAs MOSFETs. IEEE Journal of the Electron Devices Society, 2019, 7, 869-877.	1.2	19
52	Taxonomic and functional responses of soil microbial communities to slag-based fertilizer amendment in rice cropping systems. Environment International, 2019, 127, 531-539.	4.8	43
53	Implications of Seasonal and Spatial Albedo Variation on the Energy Output of Bifacial Solar Farms: A Global Perspective. , 2019, , .		4
54	Electrical Signatures of Contact Degradation for c-Si Solar Cells. , 2019, , .		0

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55	Is Damp Heat Degradation of c-Si Modules Essentially Universal?. , 2019, , .		2
56	LCOE*: Re-thinking LCOE for Photovoltaic Systems. , 2019, , .		4
57	A Generalized Analytic Model to Tailor Back Contact Design of Bifacial PERC-type Cu(In,Ga)Se2 solar cells. , 2019, , .		0
58	Shockleyâ€“Queisser triangle predicts the thermodynamic efficiency limits of arbitrarily complex multijunction bifacial solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23966-23971.	3.3	15
59	Flexible submental sensor patch with remote monitoring controls for management of oropharyngeal swallowing disorders. Science Advances, 2019, 5, eaay3210.	4.7	61
60	A Closed Form Analytical Model of Back-Gated 2-D Semiconductor Negative Capacitance Field Effect Transistors. IEEE Journal of the Electron Devices Society, 2018, 6, 189-194.	1.2	35
61	Optimization and performance of bifacial solar modules: A global perspective. Applied Energy, 2018, 212, 1601-1610.	5.1	198
62	Analyzing Thermal Stability of Cell Membrane ofÂSalmonella Using Time-Multiplexed Impedance Sensing. Biophysical Journal, 2018, 114, 609-618.	0.2	35
63	Thermoreflectance imaging of electromigration evolution in asymmetric aluminum constrictions. Journal of Applied Physics, 2018, 123, 035107.	1.1	2
64	Steep-slope hysteresis-free negative capacitance MoS2 transistors. Nature Nanotechnology, 2018, 13, 24-28.	15.6	422
65	Device physics underlying silicon heterojunction and passivatingâ€contact solar cells: A topical review. Progress in Photovoltaics: Research and Applications, 2018, 26, 241-260.	4.4	70
66	On-chip microelectrode array and in situ transient calibration for measurement of transient concentration gradients near surfaces of 2D cell cultures. Sensors and Actuators B: Chemical, 2018, 260, 519-528.	4.0	8
67	Silicon Heterojunction System Field Performance. IEEE Journal of Photovoltaics, 2018, 8, 177-182.	1.5	53
68	Performance Potential of Ge CMOS Technology From a Material-Device-Circuit Perspective. IEEE Transactions on Electron Devices, 2018, 65, 1679-1684.	1.6	15
69	Transferred, Ultrathin Oxide Bilayers as Biofluid Barriers for Flexible Electronic Implants. Advanced Functional Materials, 2018, 28, 1702284.	7.8	49
70	Heat Shunting by Innovative Source/Drain Contact to Enable Monolithic 3D Integration of InGaAs MOSFETs. , 2018, , .		2
71	Shockley-Queisser Triangle: An Elegant Analytical Tool for Predicting the Thermodynamic Efficiency Limits of Multi-junction Tandem and Bifacial Cells with Arbitrary Concentration and Series Resistance. , 2018, , .		1
72	Ultrathin Trilayer Assemblies as Long-Lived Barriers against Water and Ion Penetration in Flexible Bioelectronic Systems. ACS Nano, 2018, 12, 10317-10326.	7.3	57

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73	Real-time characterization of uptake kinetics of glioblastoma vs. astrocytes in 2D cell culture using microelectrode array. Analyst, The, 2018, 143, 4954-4966.	1.7	4
74	Design principles for electronic charge transport in solution-processed vertically stacked 2D perovskite quantum wells. Nature Communications, 2018, 9, 2130.	5.8	153
75	A Self-Consistent, Semiclassical Electrothermal Modeling Framework for Mott Devices. IEEE Transactions on Electron Devices, 2018, 65, 1672-1678.	1.6	13
76	Steep-Slope WSe₂ Negative Capacitance Field-Effect Transistor. Nano Letters, 2018, 18, 3682-3687.	4.5	97
77	Proton-doped strongly correlated perovskite nickelate memory devices. IEEE Electron Device Letters, 2018, , 1-1.	2.2	13
78	Thermodynamic Limit of Solar to Fuel Conversion for Generalized Photovoltaicâ€“Electrochemical Systems. IEEE Journal of Photovoltaics, 2018, 8, 1082-1089.	1.5	6
79	Optics-Based Approach to Thermal Management of Photovoltaics: Selective-Spectral and Radiative Cooling. IEEE Journal of Photovoltaics, 2017, 7, 566-574.	1.5	102
80	The Impact of Self-Heating on HCI Reliability in High-Performance Digital Circuits. IEEE Electron Device Letters, 2017, 38, 430-433.	2.2	37
81	Role of the Insulating Fillers in the Encapsulation Material on the Lateral Charge Spreading in HV-ICs. IEEE Transactions on Electron Devices, 2017, 64, 1209-1216.	1.6	9
82	A Physics-Based (Verilog-A) Compact Model for DC, Quasi-Static Transient, Small-Signal, and Noise Analysis of MOSFET-Based pH Sensors. IEEE Transactions on Electron Devices, 2017, 64, 1285-1293.	1.6	10
83	Droplet-based non-faradaic impedance sensors for assessment of susceptibility of Escherichia coli to ampicillin in 60 min. Biomedical Microdevices, 2017, 19, 27.	1.4	8
84	A Generalized Theory Explains the Anomalous Sunsâ€“ $V_{{m{oc}}}$ Response of Si Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2017, 7, 169-176.	1.5	32
85	A Compact Quasi-Static Terminal Charge and Drain Current Model for Double-Gate Junctionless Transistors and Its Circuit Validation. IEEE Transactions on Electron Devices, 2017, , 1-8.	1.6	5
86	Vertical bifacial solar farms: Physics, design, and global optimization. Applied Energy, 2017, 206, 240-248.	5.1	83
87	A Predictive Model for IC Self-Heating Based on Effective Medium and Image Charge Theories and Its Implications for Interconnect and Transistor Reliability. IEEE Transactions on Electron Devices, 2017, 64, 3555-3562.	1.6	27
88	Radiative sky cooling: fundamental physics, materials, structures, and applications. Nanophotonics, 2017, 6, 997-1015.	2.9	164
89	Assessment of direct carbon dioxide emission factor from urea fertilizer in temperate upland soil during warm and cold cropping season. European Journal of Soil Biology, 2017, 83, 76-83.	1.4	10
90	Thin, Transferred Layers of Silicon Dioxide and Silicon Nitride as Water and Ion Barriers for Implantable Flexible Electronic Systems. Advanced Electronic Materials, 2017, 3, 1700077.	2.6	61

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91	Stability of MOSFET-Based Electronic Components in Wearable and Implantable Systems. IEEE Transactions on Electron Devices, 2017, 64, 3443-3451.	1.6	16
92	Anomalous bias temperature instability on accumulation-mode Ge and III-V MOSFETs. , 2017, , .		0
93	A new framework of physics-based compact model predicts reliability of self-heated modern ICs: FinFET, NWFET, NSHFET comparison. , 2017, , .		27
94	Modeling and designing multilayer 2D perovskite / silicon bifacial tandem photovoltaics for high efficiencies and long-term stability. Optics Express, 2017, 25, A311.	1.7	19
95	Unified self-heating effect model for advanced digital and analog technology and thermal-aware lifetime prediction methodology. , 2017, , .		6
96	Droplet-based Biosensing for Lab-on-a-Chip, Open Microfluidics Platforms. Biosensors, 2016, 6, 14.	2.3	44
97	Highâ€Mobility Transistors Based on Largeâ€Area and Highly Crystalline CVDâ€Grown MoSe₂ Films on Insulating Substrates. Advanced Materials, 2016, 28, 2316-2321.	11.1	107
98	High-efficiency two-dimensional Ruddlesdenâ€“Popper perovskite solar cells. Nature, 2016, 536, 312-316.	13.7	2,767
99	Optimum filler geometry for suppression of moisture diffusion in molding compounds. , 2016, , .		4
100	Characterization of self-heating leads to universal scaling of HCI degradation of multi-fin SOI FinFETs. , 2016, , .		29
101	Physics-Based computational modeling of moisture ingress in solar modules: Location-specific corrosion and delamination. , 2016, , .		7
102	Spatio-temporal mapping of device temperature due to self-heating in Sub-22 nm transistors. , 2016, , .		7
103	Thermodynamic efficiency limits of classical and bifacial multi-junction tandem solar cells: An analytical approach. Applied Physics Letters, 2016, 109, .	1.5	24
104	Characterization and redesign of perovskite/silicon tandem cells. , 2016, , .		0
105	Substrate and layout engineering to suppress self-heating in floating body transistors. , 2016, , .		24
106	Transistors: Highâ€Mobility Transistors Based on Largeâ€Area and Highly Crystalline CVDâ€Grown MoSe₂ Films on Insulating Substrates (Adv. Mater. 12/2016). Advanced Materials, 2016, 28, 2278-2278.	11.1	4
107	A Framework for Process-to-Module Modeling of a-Si/c-Si (HIT) Heterojunction Solar Cells to Investigate the Cell-to-Module Efficiency Gap. IEEE Journal of Photovoltaics, 2016, 6, 875-887.	1.5	12
108	Evidence of Universal Temperature Scaling in Self-Heated Percolating Networks. Nano Letters, 2016, 16, 3130-3136.	4.5	11

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109	Numerical and Analytical Modeling to Determine Performance Tradeoffs in Hydrogel-Based pH Sensors. IEEE Transactions on Electron Devices, 2016, 63, 2524-2530.	1.6	5
110	A Physics-Based Analytical Model for Perovskite Solar Cells [Sep 15 1389-1394]. IEEE Journal of Photovoltaics, 2016, 6, 1390-1390.	1.5	5
111	Generalized Compact Modeling of Nanoparticle-Based Amperometric Glucose Biosensors. IEEE Transactions on Electron Devices, 2016, 63, 4924-4932.	1.6	10
112	An Illumination- and Temperature-Dependent Analytical Model for Copper Indium Gallium Diselenide (CIGS) Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1298-1307.	1.5	19
113	Light-activated photocurrent degradation and self-healing in perovskite solar cells. Nature Communications, 2016, 7, 11574.	5.8	584
114	Ultrathin, transferred layers of thermally grown silicon dioxide as biofluid barriers for biointegrated flexible electronic systems. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11682-11687.	3.3	175
115	Switching Dynamics and Hot Atom Damage in Landau Switches. IEEE Electron Device Letters, 2016, , 1-1.	2.2	13
116	Copercolating Networks: An Approach for Realizing High-Performance Transparent Conductors using Multicomponent Nanostructured Networks. Nanophotonics, 2016, 5, 180-195.	2.9	11
117	Evaporation-induced stimulation of bacterial osmoregulation for electrical assessment of cell viability. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7059-7064.	3.3	21
118	Thermodynamic limit of bifacial double-junction tandem solar cells. Applied Physics Letters, 2015, 107, .	1.5	21
119	Fundamental trade-off between short-channel control and hot carrier degradation in an extremely-thin silicon-on-insulator (ETSOI) technology. , 2015, , .		6
120	Recent Progress in Obtaining Semiconducting Singleâ€Walled Carbon Nanotubes for Transistor Applications. Advanced Materials, 2015, 27, 7908-7937.	11.1	67
121	The Role of Dielectric Heating and Effects of Ambient Humidity in the Electrical Breakdown of Polymer Dielectrics. IEEE Transactions on Device and Materials Reliability, 2015, 15, 308-318.	1.5	12
122	Low-Frequency Noise and Random Telegraph Noise on Near-Ballistic III-V MOSFETs. IEEE Transactions on Electron Devices, 2015, 62, 3508-3515.	1.6	40
123	The Frozen Potential Approach to Separate the Photocurrent and Diode Injection Current in Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 865-873.	1.5	11
124	Process-to-panel modeling of a-Si/c-Si heterojunction solar cells. , 2015, , .		0
125	Editorial IEEE Access Special Section Editorial: Nanobiosensors. IEEE Access, 2015, 3, 1477-1479.	2.6	1
126	On nanonet electronics, percolation doping, and the limits of ohm's law. , 2015, , .		0

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127	Incubation-free detection of bacteria cells by using droplet-based impedance sensing. , 2015, , .		1
128	Predictive model for hydrogel based wireless implantable bio-chemical sensors. , 2015, , .		2
129	Physics-based compact models for insulated-gate field-effect biosensors, landau-transistors, and thin-film solar cells. , 2015, , .		4
130	Electronic desalting for controlling the ionic environment in droplet-based biosensing platforms. Applied Physics Letters, 2015, 106, 053105.	1.5	7
131	High-efficiency solution-processed perovskite solar cells with millimeter-scale grains. Science, 2015, 347, 522-525.	6.0	2,978
132	Geometrical design of thin film photovoltaic modules for improved shade tolerance and performance. Progress in Photovoltaics: Research and Applications, 2015, 23, 170-181.	4.4	8
133	Bifacial Si heterojunction-perovskite organic-inorganic tandem to produce highly efficient (Î·T*â€‰â¼â€‰33%) solar cell. Applied Physics Letters, 2015, 106, .	1.5	82
134	Time-resolved PCA of â€˜droplet impedanceâ€™ identifies DNA hybridization at nM concentration. Sensors and Actuators B: Chemical, 2015, 215, 215-224.	4.0	7
135	Direct current injection and thermocapillary flow for purification of aligned arrays of single-walled carbon nanotubes. Journal of Applied Physics, 2015, 117, .	1.1	14
136	Multiprobe Characterization of Inversion Charge for Self-Consistent Parameterization of HIT Cells. IEEE Journal of Photovoltaics, 2015, 5, 725-735.	1.5	22
137	Thermal and Electrical Effects of Partial Shade in Monolithic Thin-Film Photovoltaic Modules. IEEE Journal of Photovoltaics, 2015, 5, 1742-1747.	1.5	45
138	Super-Joule heating in graphene and silver nanowire network. Applied Physics Letters, 2015, 106, .	1.5	42
139	An anti-ferroelectric gated Landau transistor to achieve sub-60â€‰mV/dec switching at low voltage and high speed. Applied Physics Letters, 2015, 106, .	1.5	48
140	3D Modeling of Spatio-temporal Heat-transport in III-V Gate-all-around Transistors Allows Accurate Estimation and Optimization of Nanowire Temperature. IEEE Transactions on Electron Devices, 2015, 62, 3595-3604.	1.6	38
141	Single-Layer Graphene as a Barrier Layer for Intense UV Laser-Induced Damages for Silver Nanowire Network. ACS Nano, 2015, 9, 11121-11133.	7.3	59
142	Collection-limited theory interprets the extraordinary response of single semiconductor organic solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11193-11198.	3.3	24
143	The role of substrate in the photoresponse of graphene transistors. , 2015, , .		0
144	A Physics-Based Analytical Model for Perovskite Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 1389-1394.	1.5	79

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145	Direct Observation of Self-Heating in IIIâ€“V Gate-All-Around Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2015, 62, 3516-3523.	1.6	46
146	Substrate-Induced Photofield Effect in Graphene Phototransistors. IEEE Transactions on Electron Devices, 2015, 62, 3734-3741.	1.6	6
147	Low-frequency noise and RTN on near-ballistic III–V GAA nanowire MOSFETs. , 2014, , .		12
148	Implications of Electrical Crosstalk for High Density Aligned Array of Single-Wall Carbon Nanotubes. IEEE Transactions on Electron Devices, 2014, 61, 4273-4281.	1.6	7
149	Quantification of the solid-state charge mobility in a model radical polymer. Applied Physics Letters, 2014, 104, .	1.5	31
150	Correlated Nonideal Effects of Dark and Light Iâ€“V Characteristics in a-Si/c-Si Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 763-771.	1.5	46
151	In-Line Post-Process Scribing for Reducing Cell to Module Efficiency Gap in Monolithic Thin-Film Photovoltaics. IEEE Journal of Photovoltaics, 2014, 4, 324-332.	1.5	8
152	Proposal of a Hysteresis-Free Zero Subthreshold Swing Field-Effect Transistor. IEEE Transactions on Electron Devices, 2014, 61, 3546-3552.	1.6	25
153	Direct observation of self-heating in III–V gate-all-around nanowire MOSFETs. , 2014, , .		16
154	Electrostatic desalting of micro-droplets to enable novel chemical/biosensing applications. , 2014, , .		1
155	Microwave purification of large-area horizontally aligned arrays of single-walled carbon nanotubes. Nature Communications, 2014, 5, 5332.	5.8	43
156	Electrostatic cross-talk to define the density limit of aligned-array phase-change-memory with carbon nanotube electrodes. , 2014, , .		1
157	Implications of Rough Dielectric Surfaces on Charging-Adjusted Actuation of RF-MEMS. IEEE Electron Device Letters, 2014, 35, 948-950.	2.2	11
158	From Process to Modules: End-to-End Modeling of CSS-Deposited CdTe Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 954-961.	1.5	17
159	Defect Characterization in Organic Semiconductors by Forward Bias Capacitanceâ€“Voltage (FB-CV) Analysis. Journal of Physical Chemistry C, 2014, 118, 17461-17466.	1.5	40
160	Nanostructured Electrodes Improve the Fill Factor of Organic Photovoltaics. IEEE Journal of Photovoltaics, 2014, 4, 1100-1106.	1.5	7
161	Intrinsic low pass filtering improves signal-to-noise ratio in critical-point flexure biosensors. Applied Physics Letters, 2014, 105, 084106.	1.5	5
162	Observation and Control of Hot Atom Damage in Ferroelectric Devices. IEEE Transactions on Electron Devices, 2014, 61, 3490-3498.	1.6	13

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163	Stability Constraints Define the Minimum Subthreshold Swing of a Negative Capacitance Field-Effect Transistor. IEEE Transactions on Electron Devices, 2014, 61, 2235-2242.	1.6	79
164	Non-faradaic impedance characterization of an evaporating droplet for microfluidic and biosensing applications. Lab on A Chip, 2014, 14, 2469-2479.	3.1	33
165	Correlation of Built-In Potential and Iâ€“V Crossover in Thin-Film Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 1138-1148.	1.5	45
166	Effective Nanometer Airgap of NEMS Devices Using Negative Capacitance of Ferroelectric Materials. Nano Letters, 2014, 14, 3160-3165.	4.5	30
167	Prospects of layer-split tandem cells for high-efficiency OPV. Solar Energy Materials and Solar Cells, 2014, 120, 716-723.	3.0	6
168	Two-dimensional Layered MoS2 Biosensors Enable Highly Sensitive Detection of Biomolecules. Scientific Reports, 2014, 4, 7352.	1.6	259
169	Design of GaAs Solar Cells Operating Close to the Shockleyâ€“Queisser Limit. IEEE Journal of Photovoltaics, 2013, 3, 737-744.	1.5	106
170	Electrostatic Dimension of Aligned-Array Carbon Nanotube Field-Effect Transistors. ACS Nano, 2013, 7, 1299-1308.	7.3	15
171	Nanotextured superhydrophobic electrodes enable detection of attomolar-scale DNA concentration within a droplet by non-faradaic impedance spectroscopy. Lab on A Chip, 2013, 13, 4248.	3.1	71
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173	Performance and Reliability Implications of Two-Dimensional Shading in Monolithic Thin-Film Photovoltaic Modules. IEEE Journal of Photovoltaics, 2013, 3, 1367-1375.	1.5	42
174	A diagnostic tool for analyzing the current-voltage characteristics in a-Si/c-Si heterojunction solar cells. , 2013, , .		5
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