Ahmed Shaker

List of Publications by Year
in descending order

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88 papers	1,391 citations	430874 18 h-index	395702 33 g-index
89 all docs	89 docs citations	89 times ranked	584 citing authors

#	Article	IF	Citations
1	From Crystalline to Low-cost Silicon-based Solar Cells: a Review. Silicon, 2022, 14, 1895-1911.	3.3	52
2	A modified pseudo 2D physically-based model for double-gate TFETs: Role of precise calculations of drain and source depletion regions. Ain Shams Engineering Journal, 2022, 13, 101539.	6.1	4
3	Investigation of lead-free MASnI3-MASnIBr2 tandem solar cell: Numerical simulation. Optical Materials, 2022, 123, 111893.	3.6	32
4	Numerical analysis and design of high performance HTL-free antimony sulfide solar cells by SCAPS-1D. Optical Materials, 2022, 123, 111880.	3.6	23
5	Impact of gate-on-drain overlap on the electrical characteristics of TFETs: Role of oxide material and drain spacer. Pramana - Journal of Physics, 2022, 96, 1.	1.5	0
6	Numerical analysis of hole transport layer-free antimony selenide solar cells: Possible routes for efficiency promotion. Optical Materials, 2022, 129, 112473.	3.6	9
7	Validation and Evaluation of a Behavioral Circuit Model of an Enhanced Electrostatic MEMS Converter. Micromachines, 2022, 13, 868.	2.9	2
8	High-Efficiency Electron Transport Layer-Free Perovskite/GeTe Tandem Solar Cell: Numerical Simulation. Crystals, 2022, 12, 878.	2.2	8
9	Enhancement of device characteristics of CNT-TFET: Role of electrostatic doping and work function engineering. Ain Shams Engineering Journal, 2022, , 101848.	6.1	0
10	Performance Investigation of a Proposed Flipped npn Microstructure Silicon Solar Cell Using TCAD Simulation. Crystals, 2022, 12, 959.	2.2	0
11	Investigation of Base High Doping Impact on the npn Solar Cell Microstructure Performance Using Physically Based Analytical Model. IEEE Access, 2021, 9, 16958-16966.	4.2	13
12	On the Investigation of Interface Defects of Solar Cells: Lead-Based vs Lead-Free Perovskite. IEEE Access, 2021, 9, 130221-130232.	4.2	46
13	Performance Optimization of the InGaP/GaAs Dual-Junction Solar Cell Using SILVACO TCAD. International Journal of Photoenergy, 2021, 2021, 1-12.	2.5	8
14	Development of solar cell for large area position detection: proof of concept. Heliyon, 2021, 7, e07019.	3.2	2
15	Impact of source doping profile on the performance of CNT TFETs and MOSFETs: design aspects for fabrication tolerance. Semiconductor Science and Technology, 2021, 36, 075012.	2.0	2
16	Impact of gate-on-source misalignment on the analog and digital performance of tunnel FET. Pramana - Journal of Physics, 2021, 95, 1.	1.8	1
17	Suppressing Ambipolar Conduction in Silicon DGTFET: Comparing Gate-to-Drain Overlapping/ Underlapping Structure. , 2021, , .		0
18	Bandwidth Broadening of Piezoelectric Energy Harvesters Using Arrays of a Proposed Piezoelectric Cantilever Structure. Micromachines, 2021, 12, 973.	2.9	13

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19	Dielectric modulated CNT TFET based label-free biosensor: design and performance analysis. Semiconductor Science and Technology, 2021, 36, 095032.	2.0	2
20	Identification of power PIN diode design parameters: Circuit and device-based simulation approach. Ain Shams Engineering Journal, 2021, 12, 3141-3155.	6.1	4
21	Analysis of Hybrid Hetero-Homo Junction Lead-Free Perovskite Solar Cells by SCAPS Simulator. Energies, 2021, 14, 5741.	3.1	33
22	Design of lead-free perovskite solar cell using Zn1-Mg O as ETL: SCAPS device simulation. Optik, 2021, 242, 167306.	2.9	52
23	Influence of base doping level on the npn microstructure solar cell performance: A TCAD study. Optical Materials, 2021, 121, 111501.	3.6	11
24	Shifting LED emission from blue to the green gap spectral range using In0.12Ga0.88N relaxed templates. Superlattices and Microstructures, 2021, 160, 107065.	3.1	3
25	Numerical Corrections to Estimate Depletion Region Width in Pseudo-two-dimensional Model of Double-Gate Tunneling FET. , 2021, , .		0
26	Gate-on-Source TFET Analytical Model: Role of Mobile Charges and Depletion Regions. , 2021, , .		0
27	Parasitic Suppression in 2D Smart Power ICs Using Deep Trench Isolation: A Simulation Study. The National Academy of Sciences, India, 2020, 43, 167-170.	1.3	0
28	Source-all-around tunnel field-effect transistor (SAA-TFET): proposal and design. Semiconductor Science and Technology, 2020, 35, 025007.	2.0	20
29	Numerical study of organic graded bulk heterojunction solar cell using SCAPS simulation. Solar Energy, 2020, 211, 375-382.	6.1	35
30	Physically Based Analytical Model of Heavily Doped Silicon Wafers Based Proposed Solar Cell Microstructure. IEEE Access, 2020, 8, 138898-138906.	4.2	31
31	Design and Simulation of 3-D CdTe Pillar Detectors. IEEE Transactions on Electron Devices, 2020, 67, 5564-5571.	3.0	1
32	Thirteen-Level Modified Packed U-Cell Multilevel Inverter for Renewable-Energy Applications. , 2020, , .		7
33	Comments on â€œAn Analytical Surface Potential Model Accounting for the Dual-Modulation Effects in Tunnel FETsâ€• IEEE Transactions on Electron Devices, 2020, 67, 3014-3015.	3.0	3
34	Impact of high-doped pockets on the performance of tunneling CNTFET. Superlattices and Microstructures, 2020, 145, 106622.	3.1	12
35	Investigating the performance of formamidinium tin-based perovskite solar cell by SCAPS device simulation. Optical Materials, 2020, 101, 109738.	3.6	277
36	Tapered-Shape Channel Engineering for Suppression of Ambipolar Current in TFET. , 2020, , .		1

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37	Enhancement of Tunneling CNTFET Performance Using a High-k Dielectric Pocket. ECS Journal of Solid State Science and Technology, 2020, 9, 101002.	1.8	2
38	Electrical modeling of tapered TSV including MOS-Field effect and substrate parasitics: Analysis and application. Microelectronics Journal, 2020, 100, 104797.	2.0	8
39	Design of Extended Channel Ge-source TFET for Low Power Applications. International Journal of Integrated Engineering, 2020, 12, .	0.4	0
40	Application of Modified MPPT Algorithms: A Comparative Study between Different Types of Solar Cells. Applied Solar Energy (English Translation of Geliotekhnika), 2020, 56, 309-323.	1.6	13
41	Tunneling FET Calibration Issues: Sentaurus vs. Silvaco TCAD. Journal of Physics: Conference Series, 2020, 1710, 012003.	0.4	1
42	A Comparative Study Between Modified MPPT Algorithms Using Different Types of Solar Cells. , 2020, , .		2
43	Solar Cell Modification for Large Area Motion Detection: Proof of Concept. , 2020, , .		0
44	Impact of nonuniform gate oxide shape on TFET performance: A reliability issue. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 106, 346-351.	2.7	19
45	Performance enhancement of a proposed solar cell microstructure based on heavily doped silicon wafers. Semiconductor Science and Technology, 2019, 34, 035012.	2.0	29
46	A comprehensive simulation study of hybrid halide perovskite solar cell with copper oxide as HTM. Semiconductor Science and Technology, 2019, 34, 115009.	2.0	52
47	Possible efficiency boosting of non-fullerene acceptor solar cell using device simulation. Optical Materials, 2019, 91, 239-245.	3.6	83
48	A comprehensive investigation of TFETs with semiconducting silicide source: impact of gate drain underlap and interface traps. Semiconductor Science and Technology, 2019, 34, 045015.	2.0	14
49	A comparative study of different ETMs in perovskite solar cell with inorganic copper iodide as HTM. Optik, 2019, 178, 958-963.	2.9	93
50	Effect of Doping Profile and the Work Function Variation on Performance of Double-gate TFET. International Journal of Integrated Engineering, 2019, 11, .	0.4	4
51	Solar Cells and Arrays. , 2018, , 3-56.		63
52	Impact of TSV location in HVIC on CMOS operation: A mixed-mode TCAD simulation study. Microelectronics Journal, 2018, 75, 113-118.	2.0	2
53	Electrical Characteristics of T-CNTFET: Partially-Gated Channel vs Doping Engineering. ECS Journal of Solid State Science and Technology, 2018, 7, M23-M28.	1.8	5
54	Current oscillations in Schottky-barrier CNTFET: towards resonant tunneling device operation. Semiconductor Science and Technology, 2018, 33, 035012.	2.0	5

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55	Numerical simulation of tunneling through arbitrary potential barriers applied on MIM and MIIM rectenna diodes. European Journal of Physics, 2018, 39, 045402.	0.6	7
56	A comprehensive semi-analytical model of the polysilicon emitter contact in bipolar transistors. Journal of Computational Electronics, 2018, 17, 246-255.	2.5	6
57	Modified Hetero-Gate-Dielectric TFET for Improved Analog and Digital Performance. , 2018, , .		4
58	On the optimization of InGaP/GaAs/InGaAs triple-junction solar cell. IOP Conference Series: Materials Science and Engineering, 2018, 446, 012010.	0.6	4
59	Novel design of plasmonic and dielectric antireflection coatings to enhance the efficiency of perovskite solar cells. Solar Energy, 2018, 174, 803-814.	6.1	26
60	Front dielectric and back plasmonic wire grating for efficient light trapping in perovskite solar cells. Optical Materials, 2018, 86, 311-317.	3.6	13
61	All dielectric and plasmonic cross-grating metasurface for efficient perovskite solar cells. , 2018, , .		0
62	Plasmonic nanoscatter antireflective coating for efficient CZTS solar cells. , 2018, , .		0
63	Using all dielectric and plasmonic cross grating metasurface for enhancing efficiency of CZTS solar cells. , 2018, , .		0
64	Design of optimum back contact plasmonic nanostructures for enhancing light coupling in CZTS solar cells. , 2018, , .		0
65	Enhancing light absorption inside CZTS solar cells using plasmonic and dielectric wire grating metasurface. , 2018, , .		0
66	Design methodology for selecting optimum plasmonic scattering nanostructures inside CZTS solar cells. , 2018, , .		0
67	Influence of Drain Doping Engineering on the Ambipolar Conduction and High-Frequency Performance of TFETs. IEEE Transactions on Electron Devices, 2017, 64, 3541-3547.	3.0	63
68	TCAD simulation of a proposed 3D CdZnTe detector. Journal of Engineering, 2017, 2017, 574-576.	1.1	6
69	Modeling and simulation of a hybrid 3D silicon detector system using SILVACO and Simulink/MATLAB framework. , 2016, , .		2
70	Effect of asymmetrical double-pockets and gate-drain underlap on Schottky barrier tunneling FET: Ambipolar conduction vs. high frequency performance. Superlattices and Microstructures, 2016, 96, 179-190.	3.1	6
71	Investigation of capacitance voltage characteristics of strained Si/SiGe n-channel MODFET varactor. Solid State Sciences, 2016, 56, 73-78.	3.2	4
72	Performance and electrical characteristics of hybrid carbon nanotube field effect transistors. Micro and Nano Letters, 2016, 11, 476-479.	1.3	4

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73	Design and simulation of proposed low cost solar cell structures based on heavily doped silicon wafers. , 2016, , .		20
74	Four Voltmeter Vector Impedance Meter Based on Virtual Instrumentation. Mapan - Journal of Metrology Society of India, 2016, 31, 159-167.	1.5	3
75	Full electrothermal physically-based modeling of the power diode using PSPICE. Solid-State Electronics, 2016, 116, 70-79.	1.4	7
76	Design considerations of high voltage RESURF nLDMOS: An analytical and numerical study. Ain Shams Engineering Journal, 2015, 6, 501-509.	6.1	6
77	Gate dielectric constant engineering for suppression of ambipolar conduction in CNTFETs. Electronics Letters, 2015, 51, 503-504.	1.0	19
78	Influence of gate overlap engineering on ambipolar and high frequency characteristics of tunnel-CNTFET. Superlattices and Microstructures, 2015, 86, 518-530.	3.1	20
79	Performance of standard and doubleâ€sided 3Dâ€radiation detectors under the impact of a temperature pulse. Electronics Letters, 2015, 51, 1668-1670.	1.0	3
80	ISFET pH-Sensor Sensitivity Extraction Using Conventional MOSFET Simulation Tools. International Journal of Chemical Engineering and Applications (IJCEA), 2015, 6, 346-351.	0.3	7
81	Comprehensive physically based modelling and simulation of power diodes with parameter extraction using MATLAB. IET Power Electronics, 2014, 7, 2464-2471.	2.1	12
82	Thyristor Compact Modeling based on Gummel-Poon Model Including Parameter Extraction Procedure. International Journal of Computer Applications, 2013, 61, 12-20.	0.2	2
83	Effect of base width variation on the performance of a proposed ultraviolet low cost high efficiency solar cell structure. , 2012, , .		4
84	A modified PSPICE model for the power PIN diode. , 2010, , .		5
85	An Improved Power Diode Model Based on Finite Difference Method. , 2009, , 973-981.		0
86	Theoretical investigation of single- and dual-gate metal insulator tunnel transistors. , 2003, , .		0
87	Theoretical investigation of single- and dual-gate MITT nanometer transistors. , 0, , .		0
88	Self-Stabilizing Structured Ring Topology P2P Systems. , 0, , .		36