

Jaya Madan

List of Publications by Year in descending order

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80
papers

1,523
citations

331670

21
h-index

345221

36
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81
all docs

81
docs citations

81
times ranked

511
citing authors

#	ARTICLE	IF	CITATIONS
1	Device simulation of 17.3% efficient lead-free all-perovskite tandem solar cell. Solar Energy, 2020, 197, 212-221.	6.1	188
2	Interfacial Charge Analysis of Heterogeneous Gate Dielectric-Gate All Around-Tunnel FET for Improved Device Reliability. IEEE Transactions on Device and Materials Reliability, 2016, 16, 227-234.	2.0	175
3	Device simulations: Toward the design of >13% efficient PbS colloidal quantum dot solar cell. Solar Energy, 2020, 207, 893-902.	6.1	88
4	Numerical Simulation of N ⁺ Source Pocket PIN-GAA-Tunnel FET: Impact of Interface Trap Charges and Temperature. IEEE Transactions on Electron Devices, 2017, 64, 1482-1488.	3.0	84
5	Gate Drain Underlapped-PNIN-GAA-TFET for Comprehensively Upgraded Analog/RF Performance. Superlattices and Microstructures, 2017, 102, 17-26.	3.1	63
6	Gate drain-overlapped-asymmetric gate dielectric-GAA-TFET: a solution for suppressed ambipolarity and enhanced ON state behavior. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	44
7	Investigation of Carrier Transport Materials for Performance Assessment of Lead-Free Perovskite Solar Cells. IEEE Transactions on Electron Devices, 2022, 69, 3217-3224.	3.0	43
8	Comprehensive device simulation of 23.36% efficient two-terminal perovskite-PbS CQD tandem solar cell for low-cost applications. Scientific Reports, 2021, 11, 19829.	3.3	40
9	Toward the design of monolithic 23.1% efficient hysteresis and moisture free perovskite/c-Si HJ tandem solar cell: a numerical simulation study. Journal of Micromechanics and Microengineering, 2019, 29, 064001.	2.6	38
10	Analytical drain current formulation for gate dielectric engineered dual material gate-gate all around-tunneling field effect transistor. Japanese Journal of Applied Physics, 2015, 54, 094202.	1.5	34
11	Temperature Associated Reliability Issues of Heterogeneous Gate Dielectric-Gate All Around-Tunnel FET. IEEE Nanotechnology Magazine, 2018, 17, 41-48.	2.0	34
12	Source/Gate Material-Engineered Double Gate TFET for improved RF and linearity performance: a numerical simulation. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	34
13	Investigations aimed at producing 33% efficient perovskite-silicon tandem solar cells through device simulations. RSC Advances, 2021, 11, 37366-37374.	3.6	34
14	Enhanced Charge Extraction in Metal-Perovskite-Metal Back-Contact Solar Cell Structure Through Electrostatic Doping: A Numerical Study. IEEE Transactions on Electron Devices, 2021, 68, 1757-1763.	3.0	33
15	Numerical simulation of charge transport layer free perovskite solar cell using metal work function shifted contacts. Optik, 2020, 202, 163646.	2.9	32
16	Mathematical modeling insight of hetero gate dielectric-dual material gate-GAA-tunnel FET for VLSI/analog applications. Microsystem Technologies, 2017, 23, 4091-4098.	2.0	29
17	Design and Simulation of Si:H/PbS Colloidal Quantum Dots Monolithic Tandem Solar Cell for 12% Efficiency. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000252.	1.8	29
18	MOS based pseudo-resistors exhibiting Tera Ohms of Incremental Resistance for biomedical applications: Analysis and proof of concept. The Integration VLSI Journal, 2021, 76, 25-39.	2.1	28

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19	Palladium Gate All Around - Hetero Dielectric -Tunnel FET based highly sensitive Hydrogen Gas Sensor. Superlattices and Microstructures, 2016, 100, 401-408.	3.1	27
20	Numerical analysis of Mg ₂ Si/Si heterojunction DG-TFET for low power/high performance applications: Impact of non-idealities. Superlattices and Microstructures, 2020, 139, 106397.	3.1	26
21	Effect of structural and temperature variations on perovskite/Mg ₂ Si based monolithic tandem solar cell structure. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	25
22	Performance investigation of heterogeneous gate dielectric-gate metal engineered gate all around-tunnel FET for RF applications. Microsystem Technologies, 2017, 23, 4081-4090.	2.0	23
23	Design and optimization of 26.3% efficient perovskite/FeSi ₂ monolithic tandem solar cell. Journal of Materials Science: Materials in Electronics, 2020, 31, 15218-15224.	2.2	22
24	Performance Analysis for SnS- and Sn ₂ S ₃ -Based Back Surface Field CZTSSe Solar Cell: A Simulation Study. Journal of Electronic Materials, 2021, 50, 6318-6328.	2.2	21
25	Impact of metal silicide source electrode on polarity gate induced source in junctionless TFET. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	2.3	20
26	Numerical simulation and proof of concept for performance assessment of cesium based lead-free wide-bandgap halide solar cells. Optical Materials, 2021, 111, 110644.	3.6	20
27	A 1.1 μ W biopotential amplifier based on bulk-driven quasi-floating gate technique with extremely low-value of offset voltage. Analog Integrated Circuits and Signal Processing, 2020, 103, 303-313.	1.4	18
28	RF Analysis of Double-Gate Junctionless Tunnel FET for Wireless Communication Systems: A Non-quasi Static Approach. Journal of Electronic Materials, 2021, 50, 138-154.	2.2	15
29	A novel source material engineered double gate tunnel field effect transistor for radio frequency integrated circuit applications. Semiconductor Science and Technology, 2020, 35, 105013.	2.0	14
30	Numerical simulations of 22% efficient all-perovskite tandem solar cell utilizing lead-free and low lead content halide perovskites. Journal of Micromechanics and Microengineering, 2022, 32, 014004.	2.6	14
31	Gate Drain Underlapping: A Performance Enhancer For HD-GAA-TFET. Materials Today: Proceedings, 2018, 5, 17453-17463.	1.8	13
32	Comprehensive Study on the Recent Development of PERC Solar Cell. , 2020, , .		13
33	22.8% efficient ion implanted PERC solar cell with a roadmap to achieve 23.5% efficiency: A process and device simulation study. Optical Materials, 2022, 128, 112399.	3.6	12
34	Conducting Polymer Based Gas Sensor Using PNIN- Gate All Around - Tunnel FET. Silicon, 2020, 12, 2947-2955.	3.3	10
35	Role of Junctionless Mode in Improving the Photosensitivity of Sub-10 nm Carbon Nanotube/Nanoribbon Field-Effect Phototransistors: Quantum Simulation, Performance Assessment, and Comparison. Nanomaterials, 2022, 12, 1639.	4.1	10
36	Performance Analysis of Drain Pocket Hetero Gate Dielectric DG-TFET: Solution for Ambipolar Conduction and Enhanced Drive Current. Silicon, 2022, 14, 8097-8107.	3.3	9

#	ARTICLE	IF	CITATIONS
37	Designing of CZTSSe Based SnS Thin Film Solar Cell for Improved Conversion Efficiency: A Simulation Study with SCAPS. , 2019, , .		8
38	Comprehensive device simulation of 16.9% efficient two-terminal PbS-PbS CQD tandem solar cell. Optical Materials, 2021, 122, 111677.	3.6	8
39	Chemical modulation of conducting polymer gate electrode work function based double gate Mg ₂ Si TFET for gas sensing applications. Journal of Materials Science: Materials in Electronics, 2022, 33, 23927-23936.	2.2	8
40	Design and parametric optimization of ion-implanted PERC solar cells to achieve 22.8% efficiency: a process and device simulation study. Sustainable Energy and Fuels, 2022, 6, 3249-3262.	4.9	8
41	Numerical simulations of a novel CH ₃ NH ₃ PbI ₃ based double-gate dopingless tunnel FET. Semiconductor Science and Technology, 0, , .	2.0	7
42	Design and simulations of 24.7% efficient silicide on oxide-based electrostatically doped (SILO-ED) carrier selective contact PERC solar cell. , 2022, , 207200.		7
43	Process and device simulations aimed at improving the emitter region performance of silicon PERC solar cells. Journal of Micromechanics and Microengineering, 2022, 32, 025001.	2.6	7
44	Gate metal engineered heterojunction DG-TFETs for superior analog performance and enhanced device reliability. , 2017, , .		6
45	Assessment of WSe ₂ based BSF layer on CZTSSe solar cell using SCAPS-1D. , 2021, , .		6
46	Silicide on Oxide Based Carrier Selective Front Contact for 24% Efficient PERC Solar Cell. , 2022, , .		6
47	PNIN-GAA-tunnel FET with palladium catalytic metal gate as a highly sensitive hydrogen gas sensor. , 2017, , .		5
48	Impact On Analog And Linearity Performance Of Nanoscale AlGaIn/GaN HEMT With Variation In Surface Passivation Stack. Materials Today: Proceedings, 2018, 5, 17464-17471.	1.8	5
49	Optimization of Mixed Sn and Pb Perovskite Solar Cell in Terms of Transport Layers and Absorber Layer Thickness Variation. , 2021, , .		5
50	Process voltage temperature analysis of MOS based balanced pseudo-resistors for biomedical analog circuit applications. Circuit World, 2021, , .	0.9	5
51	Source material assessment of heterojunction DG-TFET for improved analog performance. , 2017, , .		4
52	Analysis of Varied Dielectrics as Surface Passivation on AlGaIn/GaN HEMT for Analog Applications. , 2018, , .		4
53	Silicide Electrode based Electrostatically Doped Back Surface Field in PERC Solar Cell. , 2021, , .		4
54	Impact of Phosphorus Ion Implantation Dose on the Performance of PERC Solar Cell. , 2021, , .		4

#	ARTICLE	IF	CITATIONS
55	Design and Optimization of Low Lead Content- Based Mixed Sn and Pb Perovskite Solar Cell for 19.46% Efficiency. , 2021, , .		4
56	Effect of temperature on analog performance of Mg ₂ Si source heterojunction double gate tunnel field effect transistor. Materials Today: Proceedings, 2020, 28, 1520-1524.	1.8	4
57	Optimization of inversion mode and junctionless nanowire MOSFET for improved sensitivity to process induced variability. Applied Nanoscience (Switzerland), 2022, 12, 2161-2168.	3.1	4
58	Electrical Characteristics Assessment of Gate Metal and Source Pocket Engineered DG-TFET for Low Power Analog Applications. , 2018, , .		3
59	Numerical Simulation of CeO _x ETL based Perovskite Solar Cell:- An Optimization Study for High Efficiency and Stability. , 2018, , .		3
60	Performance Analysis of Heterojunction DMDG-TFET with Different Source Materials for Analog Application. , 2018, , .		3
61	Heterojunction DG-TFET-Analysis of Different Source Material for Improved Intermodulation. , 2018, , .		3
62	Design of an Integrator-Differentiator Block For a Transimpedance Amplifier Using $0.18\mu\text{m}$ Technology. , 2019, , .		3
63	Investigation of electrical/analog performance and reliability of gate metal and source pocket engineered DG-TFET. Microsystem Technologies, 2020, , 1.	2.0	3
64	A methodical survey on present state of art for electrostatically-doped tunnel FETs and its future prospects. Materials Today: Proceedings, 2021, 45, 5381-5386.	1.8	3
65	Reliability analysis of cost-efficient CH ₃ NH ₃ Pb ₃ based dopingless tunnel FET. Semiconductor Science and Technology, 2022, 37, 015011.	2.0	3
66	Source Material-Engineered Charge Plasma based Double Gate TFET for Analog/RF Applications. , 2021, , .		3
67	Influence of temperature variations on radio frequency performance of PNIN gate all around tunnel-FET. , 2017, , .		2
68	Parametric Variation of ZnSe/TiO ₂ Electron Transport Layer Based Perovskite Solar Cell: A Simulation Study and Optimization. , 2018, , .		2
69	Design and Simulation of Novel Perovskite/Mg ₂ Si Based Monolithic Tandem Solar Cell With 25.5% Conversion Efficiency. , 2019, , .		2
70	Thickness Optimisation and Defect Analysis of Wide Bandgap PbS-CQD Solar Cell by SCAPS-1D Simulations. , 2021, , .		2
71	Impact of interfacial charges on analog and RF performance of Mg ₂ Si source heterojunction double-gate tunnel field effect transistor. Journal of Materials Science: Materials in Electronics, 2021, 32, 23863-23879.	2.2	2
72	Performance Evaluation of Lead-free Perovskite Solar Cell with Different Hole/Electron Transport Materials. , 2020, , .		2

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73	Effect of Nanoscale Structure on Reliability of Nano Devices and Sensors. , 2017, , 239-270.		1
74	Built-in Reliability Investigation of Gate-Drain Underlapped PNIN-GAA-TFET for Improved Linearity and Reduced Intermodulation Distortion. Lecture Notes in Electrical Engineering, 2020, , 205-213.	0.4	1
75	Numerical simulations of PbS colloidal quantum dots solar cell with ZnO: PEIE-based electron transport layer. Indian Journal of Physics, 2022, 96, 4203-4208.	1.8	1
76	Capacitive Analysis of Hetero Material Gate PNIN-DG-TFET Over Diverge Temperature Range for Superior RF/Microwave Performance. , 2018, , .		0
77	Numerical Simulations to Understand the Role of DIO Additive in PTB7:PC71BM Solar Cell. , 2019, , .		0
78	A Low-Power gm-C Filter for Neural Signal Conditioning. , 2020, , .		0
79	Impact of Ferroelectric Oxide Layer on Palladium Silicide Source Electrode based Double-Gate Junctionless TFET. , 2021, , .		0
80	Mg ₂ Si/Si heterojunction dopingless TFET with reduced random dopant fluctuations for low power applications. Journal of Materials Science: Materials in Electronics, 2022, 33, 6816-6828.	2.2	0