

# 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  
g-index

81  
all docs

81  
docs citations

81  
times ranked

511  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Reliability analysis of cost-efficient $\text{CH}_3\text{NH}_3\text{PbI}_3$ based dopingless tunnel FET. Semiconductor Science and Technology, 2022, 37, 015011.	2.0	3
3	Chemical modulation of conducting polymer gate electrode work function based double gate $\text{Mg}_2\text{Si}$ TFET for gas sensing applications. Journal of Materials Science: Materials in Electronics, 2022, 33, 23927-23936.	2.2	8
4	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
5	$\text{Mg}_2\text{Si}/\text{Si}$ 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
6	Design and simulations of 24.7% efficient silicide on oxide-based electrostatically doped (SILO-ED) carrier selective contact PERC solar cell. , 2022, , 207200.		7
7	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
8	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
9	Numerical simulations of $\text{PbS}$ colloidal quantum dots solar cell with $\text{ZnO}$ : PEIE-based electron transport layer. Indian Journal of Physics, 2022, 96, 4203-4208.	1.8	1
10	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
11	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
12	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
13	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
14	Silicide on Oxide Based Carrier Selective Front Contact for 24% Efficient PERC Solar Cell. , 2022, , .		6
15	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
16	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
17	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
18	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

#	ARTICLE	IF	CITATIONS
19	Impact of Ferroelectric Oxide Layer on Palladium Silicide Source Electrode based Double-Gate Junctionless TFET. , 2021, , .		0
20	Optimization of Mixed Sn and Pb Perovskite Solar Cell in Terms of Transport Layers and Absorber Layer Thickness Variation. , 2021, , .		5
21	Thickness Optimisation and Defect Analysis of Wide Bandgap PbS-CQD Solar Cell by SCAPS-1D Simulations. , 2021, , .		2
22	Process voltage temperature analysis of MOS based balanced pseudo-resistors for biomedical analog circuit applications. Circuit World, 2021, , .	0.9	5
23	Silicide Electrode based Electrostatically Doped Back Surface Field in PERC Solar Cell. , 2021, , .		4
24	Impact of Phosphorus Ion Implantation Dose on the Performance of PERC Solar Cell. , 2021, , .		4
25	Assessment of WSe <sub>2</sub> based BSF layer on CZTSSe solar cell using SCAPS-1D. , 2021, , .		6
26	Design and Optimization of Low Lead Content- Based Mixed Sn and Pb Perovskite Solar Cell for 19.46% Efficiency. , 2021, , .		4
27	Performance Analysis for SnS- and Sn <sub>2</sub> S <sub>3</sub> -Based Back Surface Field CZTSSe Solar Cell: A Simulation Study. Journal of Electronic Materials, 2021, 50, 6318-6328.	2.2	21
28	Impact of interfacial charges on analog and RF performance of Mg <sub>2</sub> Si source heterojunction double-gate tunnel field effect transistor. Journal of Materials Science: Materials in Electronics, 2021, 32, 23863-23879.	2.2	2
29	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
30	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
31	Comprehensive device simulation of 16.9% efficient two-terminal PbS-PbS CQD tandem solar cell. Optical Materials, 2021, 122, 111677.	3.6	8
32	Investigations aimed at producing 33% efficient perovskite-silicon tandem solar cells through device simulations. RSC Advances, 2021, 11, 37366-37374.	3.6	34
33	Source Material-Engineered Charge Plasma based Double Gate TFET for Analog/RF Applications. , 2021, , .		3
34	Numerical simulation of charge transport layer free perovskite solar cell using metal work function shifted contacts. Optik, 2020, 202, 163646.	2.9	32
35	Device simulations: Toward the design of >13% efficient PbS colloidal quantum dot solar cell. Solar Energy, 2020, 207, 893-902.	6.1	88
36	Design and optimization of 26.3% efficient perovskite/FeSi <sub>2</sub> monolithic tandem solar cell. Journal of Materials Science: Materials in Electronics, 2020, 31, 15218-15224.	2.2	22

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37	A Low-Power gm-C Filter for Neural Signal Conditioning. , 2020, , .		0
38	Design and Simulation of $\text{a}\hat{\text{a}}\text{Si:H/PbS}$ Colloidal Quantum Dots Monolithic Tandem Solar Cell for 12% Efficiency. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000252.	1.8	29
39	A 1.1 $\hat{\text{A}}^{1/4}\text{W}$ 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
40	Effect of structural and temperature variations on perovskite/ $\text{Mg}_2\text{Si}$ based monolithic tandem solar cell structure. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	25
41	Device simulation of 17.3% efficient lead-free all-perovskite tandem solar cell. Solar Energy, 2020, 197, 212-221.	6.1	188
42	Numerical analysis of $\text{Mg}_2\text{Si/Si}$ heterojunction DG-TFET for low power/high performance applications: Impact of non-idealities. Superlattices and Microstructures, 2020, 139, 106397.	3.1	26
43	Conducting Polymer Based Gas Sensor Using PNIN- Gate All Around - Tunnel FET. Silicon, 2020, 12, 2947-2955.	3.3	10
44	Investigation of electrical/analog performance and reliability of gate metal and source pocket engineered DG-TFET. Microsystem Technologies, 2020, , 1.	2.0	3
45	Effect of temperature on analog performance of $\text{Mg}_2\text{Si}$ source heterojunction double gate tunnel field effect transistor. Materials Today: Proceedings, 2020, 28, 1520-1524.	1.8	4
46	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
47	Comprehensive Study on the Recent Development of PERC Solar Cell. , 2020, , .		13
48	Performance Evaluation of Lead-free Perovskite Solar Cell with Different Hole/Electron Transport Materials. , 2020, , .		2
49	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
50	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
51	Design of an Integrator-Differentiator Block For a Transimpedance Amplifier Using $0.18\mu\text{m}$ Technology. , 2019, , .		3
52	Toward the design of monolithic 23.1% efficient hysteresis and moisture free perovskite/ $\text{c-Si}$ HJ tandem solar cell: a numerical simulation study. Journal of Micromechanics and Microengineering, 2019, 29, 064001.	2.6	38
53	Designing of CZTSSe Based SnS Thin Film Solar Cell for Improved Conversion Efficiency: A Simulation Study with SCAPS. , 2019, , .		8
54	Numerical Simulations to Understand the Role of DIO Additive in PTB7:PC71BM Solar Cell. , 2019, , .		0

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55	Design and Simulation of Novel Perovskite/Mg <sub>2</sub> Si Based Monolithic Tandem Solar Cell With 25.5% Conversion Efficiency. , 2019, , .		2
56	Temperature Associated Reliability Issues of Heterogeneous Gate Dielectricâ€”Gate All Aroundâ€”Tunnel FET. IEEE Nanotechnology Magazine, 2018, 17, 41-48.	2.0	34
57	Parametric Variation of ZnSe/TiO <sub>2</sub> Electron Transport Layer Based Perovskite Solar Cell: A Simulation Study and Optimization. , 2018, , .		2
58	Capacitive Analysis of Hetero Material Gate PNIN-DG-TFET Over Diverge Temperature Range for Superior RF/Microwave Performance. , 2018, , .		0
59	Electrical Characteristics Assessment of Gate Metal and Source Pocket Engineered DG-TFET for Low Power Analog Applications. , 2018, , .		3
60	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
61	Gate Drain Underlapping: A Performance Enhancer For HD-GAA-TFET. Materials Today: Proceedings, 2018, 5, 17453-17463.	1.8	13
62	Numerical Simulation of CeO <sub>x</sub> ETL based Perovskite Solar Cell:- An Optimization Study for High Efficiency and Stability. , 2018, , .		3
63	Analysis of Varied Dielectrics as Surface Passivation on AlGaIn/GaN HEMT for Analog Applications. , 2018, , .		4
64	Performance Analysis of Heterojunction DMDG-TFET with Different Source Materials for Analog Application. , 2018, , .		3
65	Heterojunction DG-TFET-Analysis of Different Source Material for Improved Intermodulation. , 2018, , .		3
66	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
67	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
68	Effect of Nanoscale Structure on Reliability of Nano Devices and Sensors. , 2017, , 239-270.		1
69	Numerical Simulation of N <sup>+</sup> 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
70	Gate Drain Underlapped-PNIN-GAA-TFET for Comprehensively Upgraded Analog/RF Performance. Superlattices and Microstructures, 2017, 102, 17-26.	3.1	63
71	Performance investigation of heterogeneous gate dielectric-gate metal engineeredâ€”gate all around-tunnel FET for RF applications. Microsystem Technologies, 2017, 23, 4081-4090.	2.0	23
72	Gate metal engineered heterojunction DG-TFETs for superior analog performance and enhanced device reliability. , 2017, , .		6

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73	Source material assessment of heterojunction DG-TFET for improved analog performance. , 2017, , .		4
74	PNIN-GAA-tunnel FET with palladium catalytic metal gate as a highly sensitive hydrogen gas sensor. , 2017, , .		5
75	Influence of temperature variations on radio frequency performance of PNIN gate all around tunnel-FET. , 2017, , .		2
76	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
77	Palladium Gate All Around - Hetero Dielectric -Tunnel FET based highly sensitive Hydrogen Gas Sensor. Superlattices and Microstructures, 2016, 100, 401-408.	3.1	27
78	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
79	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
80	Numerical simulations of a novel CH <sub>3</sub> NH <sub>3</sub> Pb <sub>3</sub> based double-gate dopingless tunnel FET. Semiconductor Science and Technology, 0, , .	2.0	7