

Rakhi Narang

List of Publications by Year in descending order

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70
papers

1,319
citations

516561

16
h-index

377752

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70
all docs

70
docs citations

70
times ranked

563
citing authors

#	ARTICLE	IF	CITATIONS
1	A Dielectric-Modulated Tunnel-FET-Based Biosensor for Label-Free Detection: Analytical Modeling Study and Sensitivity Analysis. IEEE Transactions on Electron Devices, 2012, 59, 2809-2817.	1.6	190
2	Comparative Analysis of Dielectric-Modulated FET and TFET-Based Biosensor. IEEE Nanotechnology Magazine, 2015, 14, 427-435.	1.1	175
3	Dielectric Modulated Tunnel Field-Effect Transistorâ€™A Biomolecule Sensor. IEEE Electron Device Letters, 2012, 33, 266-268.	2.2	123
4	Assessment of Ambipolar Behavior of a Tunnel FET and Influence of Structural Modifications. Journal of Semiconductor Technology and Science, 2012, 12, 482-491.	0.1	79
5	Investigation of dielectric modulated (DM) double gate (DG) junctionless MOSFETs for application as a biosensors. Superlattices and Microstructures, 2015, 85, 557-572.	1.4	78
6	Impact of Temperature Variations on the Device and Circuit Performance of Tunnel FET: A Simulation Study. IEEE Nanotechnology Magazine, 2013, 12, 951-957.	1.1	77
7	Modeling and Simulation Investigation of Sensitivity of Symmetric Split Gate Junctionless FET for Biosensing Application. IEEE Sensors Journal, 2017, 17, 4853-4861.	2.4	63
8	Analytical Model of pH sensing Characteristics of Junctionless Silicon on Insulator ISFET. IEEE Transactions on Electron Devices, 2017, 64, 1742-1750.	1.6	58
9	Drain current model for a gate all around (GAA) p-n tunnel FET. Microelectronics Journal, 2013, 44, 479-488.	1.1	49
10	Modeling and TCAD Assessment for Gate Material and Gate Dielectric Engineered TFET Architectures: Circuit-Level Investigation for Digital Applications. IEEE Transactions on Electron Devices, 2015, 62, 3348-3356.	1.6	39
11	Modeling of gate underlap junctionless double gate MOSFET as bio-sensor. Materials Science in Semiconductor Processing, 2017, 71, 240-251.	1.9	35
12	Device and Circuit Level Performance Comparison of Tunnel FET Architectures and Impact of Heterogeneous Gate Dielectric. Journal of Semiconductor Technology and Science, 2013, 13, 224-236.	0.1	33
13	Model of GaSb-InAs p-i-n Gate All Around BioTunnel FET. IEEE Sensors Journal, 2019, 19, 2605-2612.	2.4	24
14	Drain Current Model of a Four-Gate Dielectric Modulated MOSFET for Application as a Biosensor. IEEE Transactions on Electron Devices, 2015, 62, 2636-2644.	1.6	23
15	Linearity and Analog Performance Analysis of Double Gate Tunnel FET: Effect of Temperature and Gate Stack. International Journal of VLSI Design & Communication Systems, 2011, 2, 185-200.	0.2	19
16	Modeling and Simulation of Junctionless Double Gate Radiation Sensitive FET (RADFET) Dosimeter. IEEE Nanotechnology Magazine, 2018, 17, 49-55.	1.1	19
17	Investigation of total ionizing dose effect on SOI tunnel FET. Superlattices and Microstructures, 2019, 133, 106186.	1.4	16
18	Novel junctionless electrolyte-insulator-semiconductor field-effect transistor (JL EISFET) and its application as pH/biosensor. Microsystem Technologies, 2017, 23, 3149-3159.	1.2	14

#	ARTICLE	IF	CITATIONS
19	Exploring the applicability of well optimized dielectric pocket tunnel transistor for future low power applications. Superlattices and Microstructures, 2019, 126, 8-16.	1.4	14
20	Simulation study for Dual Material Gate Hetero-Dielectric TFET: Static performance analysis for analog applications. , 2013, , .		13
21	Investigation of dielectric pocket induced variations in tunnel field effect transistor. Superlattices and Microstructures, 2016, 92, 380-390.	1.4	13
22	Analysis of GaSb-InAs Gate all around (GAA) p-n tunnel FET (TFET) for application as a bio-sensor. , 2016, , .		12
23	Analysis of gate underlap channel double gate MOS transistor for electrical detection of bio-molecules. Superlattices and Microstructures, 2015, 88, 225-243.	1.4	11
24	Investigation of Dielectric-Modulated Double-Gate Junctionless MOSFET for detection of biomolecules. , 2013, , .		10
25	Drain Current Model for Double Gate (DG) p-n-i-n TFET: Accumulation to Inversion Region of Operation. Superlattices and Microstructures, 2017, 104, 78-92.	1.4	9
26	Investigation of Single Event Transient Effects in Junctionless Accumulation Mode MOSFET. IEEE Transactions on Device and Materials Reliability, 2020, 20, 604-608.	1.5	9
27	Ambipolar Behaviour of Tunnel Field Effect Transistor (TFET) as an Advantage for Biosensing Applications. Environmental Science and Engineering, 2014, , 171-174.	0.1	9
28	Modeling and simulation of multi layer gate dielectric double gate tunnel field-effect transistor (DG-TFET). , 2011, , .		8
29	Impact of Interfacial Fixed Charges on the Electrical Characteristics of Pocket-Doped Double-Gate Tunnel FET. IEEE Transactions on Device and Materials Reliability, 2016, 16, 117-122.	1.5	8
30	Linearity and Analog Performance Realization of Energy-Efficient TFET-Based Architectures: An Optimization for RFIC Design. IETE Technical Review (Institution of Electronics and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 29 7d (Teleco		8
31	Analysis of Cylindrical Gate Junctionless Tunnel Field Effect Transistor (CG-JL-TFET). , 2015, , .		7
32	Modeling and Simulation-Based Investigation of 2-D Symmetric Double Gate Dopingless-TFET and Its Circuit Performance for Low-Power Applications. IETE Technical Review (Institution of Electronics) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50		7
33	Two-dimensional (2D) analytical investigation of an n-type junctionless gate-all-around tunnel field-effect transistor (JL GAA TFET). Journal of Computational Electronics, 2018, 17, 713-723.	1.3	6
34	Comparative study of InGaN and InGaAs based dopingless TFET with different gate engineering techniques. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2019, 10, 035009.	0.7	6
35	Immunity against temperature variability and bias point invariability in double gate tunnel field effect transistor. Microelectronics Reliability, 2012, 52, 1617-1620.	0.9	5
36	Total ionizing dose effects in junctionless accumulation mode MOSFET. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	1.1	5

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37	Effect of Temperature and Gate Stack on the Linearity and Analog Performance of Double Gate Tunnel FET. Communications in Computer and Information Science, 2011, , 466-475.	0.4	4
38	Analytical modeling of a split-gate dielectric modulated metal-oxide-semiconductor field-effect transistor for application as a biosensor. , 2014, , .		4
39	Influence of dielectric pocket on electrical characteristics of tunnel field effect transistor: A study to optimize the device efficiency. , 2015, , .		4
40	Comparative Study of CMOS based Dosimeters for Gamma Radiation. , 2018, , .		4
41	Analytical model for a dielectric modulated double gate FET (DM-DG-FET) biosensor. , 2012, , .		3
42	Switching performance analyses of gate material and gate dielectric engineered TFET architectures and impact of interface oxide charges. , 2014, , .		3
43	Investigation of Gate All Around Junctionless Nanowire Transistor with Arbitrary Polygonal Cross Section. , 2018, , .		3
44	Optimized DL-TFET Design for Enhancing its Performance Parameters by Using Different Engineering Methods. IETE Technical Review (Institution of Electronics and Telecommunication Engineers, India), 2021, 38, 429-437.	2.1	3
45	Asymmetric gate oxide Tunnel Field Effect Transistor for improved circuit performance. , 2012, , .		2
46	Analytical Model for Double-Gate Tunneling Field-Effect Transistor (DG-TFET) Using Carrier Concentration Approach. Journal of Computational and Theoretical Nanoscience, 2013, 10, 1202-1208.	0.4	2
47	Polarity and ambipolarity controllable (PAC) tunnel field effect transistor. , 2015, , .		2
48	Impact of dielectric material and temperature variations on the performance of TFET with dielectric pocket. , 2016, , .		2
49	Impact of positions of sensing area in a channel of dielectric modulated MOSFET based biosensor. Integrated Ferroelectrics, 2018, 194, 63-71.	0.3	2
50	Impact of dry and watery environment on the sensitivity of split gate metal oxide field effect transistor for biosensing application. , 2015, , .		1
51	Modeling the impact of gate misalignment in tunnel field effect transistors. , 2017, , .		1
52	Floating Gate Junction-Less Double Gate Radiation Sensitive Field Effect Transistor (RADFET) Dosimeter: A Simulation Study. Springer Proceedings in Physics, 2019, , 571-576.	0.1	1
53	Analytical Model for Tapered Gate Electrode Double Gate MOSFET Incorporating Fringing Field Effects. Springer Proceedings in Physics, 2019, , 697-705.	0.1	1
54	Surface Potential Based Analytical Model for Hetero-Dielectric p-n-i-n Double-Gate Tunnel-FET. Environmental Science and Engineering, 2014, , 295-298.	0.1	1

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55	pH Sensing Characteristics of Silicon on Insulator (SOI) Junctionless (JL) Ion-Sensitive Field-Effect Transistor. <i>Advanced Science, Engineering and Medicine</i> , 2016, 8, 960-967.	0.3	1
56	Single Event Transient Effect on Tapered Angle Hetero-junction Dopingless TFET for Radiation Sensitive Applications. , 2022, , .		1
57	Mixedmode circuit simulation of silicon and germanium nanowire MOSFETs - A comparative study. , 2011, , .		0
58	An analytical modeling approach for a gate all around (GAA) tunnel field effect transistor (TFET). , 2012, , .		0
59	Merits of designing Tunnel Field Effect Transistors with underlap near drain region. , 2015, , .		0
60	Modeling and simulation study of short gate TFET architecture considering the impact of mobile charge carriers. , 2015, , .		0
61	Drain Current Model for Hetero-Dielectric Based TFET Architectures: Accumulation to Inversion Mode Analysis. <i>Journal of Nano Research</i> , 2015, 36, 31-43.	0.8	0
62	Analytical model of gate underlap Double Gate Junctionless MOSFET as a bio-sensor. , 2016, , .		0
63	Analytical model of junctionless double gate radiation sensitive FET (RADFET) dosimeter. , 2016, , .		0
64	Investigation of Sensitivity of Gate Underlap Junctionless DG MOSFET for Biomolecules. <i>Springer Proceedings in Physics</i> , 2019, , 717-724.	0.1	0
65	Analytical Modeling and Simulation Study of Homo and Hetero III-V Semiconductor Based Tunnel Field Effect Transistor (TFET). <i>Springer Proceedings in Physics</i> , 2019, , 1185-1194.	0.1	0
66	Investigation of single-event-transient effect in floating-gate junctionless double-gate field-effect-transistor. , 2019, , .		0
67	Improved Gate Modulation in Tunnel Field Effect Transistors with Non-rectangular Tapered Y-Gate Geometry. <i>Communications in Computer and Information Science</i> , 2017, , 463-473.	0.4	0
68	Analysis of Electrolyte-Insulator-Semiconductor Tunnel Field-Effect Transistor as pH Sensor. <i>Communications in Computer and Information Science</i> , 2017, , 249-258.	0.4	0
69	Numerical Analysis of Variability Effects in Nanogap Embedded Dielectric Modulated Field Effect Transistor. <i>Advanced Science, Engineering and Medicine</i> , 2017, 9, 155-161.	0.3	0
70	Simulation Study on Stability Aspect of Dual Metal Dual Dielectric Based TFET Architectures Against Temperature Variations. <i>Springer Proceedings in Physics</i> , 2019, , 649-655.	0.1	0