Arokia Nathan

List of Publications by Year
in descending order

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116 papers	4,539 citations	126907 33 h-index	106344 65 g-index
122 all docs	122 docs citations	122 times ranked	4889 citing authors

#	Article	IF	Citations
1	Gated three-terminal device architecture to eliminate persistent photoconductivity in oxide semiconductor photosensor arrays. Nature Materials, 2012, 11, 301-305.	27.5	434
2	Trap-limited and percolation conduction mechanisms in amorphous oxide semiconductor thin film transistors. Applied Physics Letters, 2011, 98, .	3.3	249
3	Complementary Metal Oxide Semiconductor Technology With and On Paper. Advanced Materials, 2011, 23, 4491-4496.	21.0	235
4	Printed subthreshold organic transistors operating at high gain and ultralow power. Science, 2019, 363, 719-723.	12.6	208
5	Subthreshold Schottky-barrier thin-film transistors with ultralow power and high intrinsic gain. Science, 2016, 354, 302-304.	12.6	199
6	Size Tunable ZnO Nanoparticles To Enhance Electron Injection in Solution Processed QLEDs. ACS Photonics, 2016, 3, 215-222.	6.6	159
7	Metal Oxide Thin Film Phototransistor for Remote Touch Interactive Displays. Advanced Materials, 2012, 24, 2631-2636.	21.0	143
8	High-mobility nanocrystalline silicon thin-film transistors fabricated by plasma-enhanced chemical vapor deposition. Applied Physics Letters, 2005, 86, 222106.	3.3	142
9	Persistent photoconductivity in Hfâ€“Inâ€“Znâ€“O thin film transistors. Applied Physics Letters, 2010, 97, .	3.3	139
10	Amorphous Oxide Semiconductor TFTs for Displays and Imaging. Journal of Display Technology, 2014, 10, 917-927.	1.2	133
11	Recyclable, Flexible, Lowâ€Power Oxide Electronics. Advanced Functional Materials, 2013, 23, 2153-2161.	14.9	124
12	An Analysis of Electrode Patterns in Capacitive Touch Screen Panels. Journal of Display Technology, 2014, 10, 362-366.	1.2	119
13	Instability in threshold voltage and subthreshold behavior in Hfâ€“Inâ€“Znâ€“O thin film transistors induced by bias-and light-stress. Applied Physics Letters, 2010, 97, .	3.3	108
14	Stable indium oxide thin-film transistors with fast threshold voltage recovery. Applied Physics Letters, 2007, 91, 263508.	3.3	104
15	Controlling Surface Termination and Facet Orientation in Cu₂O Nanoparticles for High Photocatalytic Activity: A Combined Experimental and Density Functional Theory Study. ACS Applied Materials & Interfaces, 2017, 9, 8100-8106.	8.0	99
16	Arrays of Parallel Connected Coaxial Multiwallâ€Carbonâ€Nanotubeâ€“Amorphousâ€Silicon Solar Cells. Advanced Materials, 2009, 21, 3919-3923.	21.0	95
17	Transparent Semiconducting Oxide Technology for Touch Free Interactive Flexible Displays. Proceedings of the IEEE, 2015, 103, 644-664.	21.3	85
18	Energy Autonomous Sweatâ€Based Wearable Systems. Advanced Materials, 2021, 33, e2100899.	21.0	85

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19	All ink-jet printed low-voltage organic field-effect transistors on flexible substrate. Organic Electronics, 2016, 38, 186-192.	2.6	74
20	Localized Tail States and Electron Mobility in Amorphous ZnON Thin Film Transistors. Scientific Reports, 2015, 5, 13467.	3.3	70
21	High-current field-emission of carbon nanotubes and its application as a fast-imaging X-ray source. Carbon, 2015, 94, 687-693.	10.3	68
22	Origin of High Photoconductive Gain in Fully Transparent Heterojunction Nanocrystalline Oxide Image Sensors and Interconnects. Advanced Materials, 2014, 26, 7102-7109.	21.0	65
23	Localized tail state distribution in amorphous oxide transistors deduced from low temperature measurements. Applied Physics Letters, 2012, 101, .	3.3	64
24	PIN Diodes Array Made of Perovskite Single Crystal for Xâ€Ray Imaging. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800380.	2.4	63
25	Ultrathin Multifunctional Graphene-PVDF Layers for Multidimensional Touch Interactivity for Flexible Displays. ACS Applied Materials & Interfaces, 2017, 9, 18410-18416.	8.0	62
26	All Solution-processed Stable White Quantum Dot Light-emitting Diodes with Hybrid ZnO@TiO2 as Blue Emitters. Scientific Reports, 2014, 4, 4085.	3.3	61
27	Oxygen Defect-Induced Metastability in Oxide Semiconductors Probed by Gate Pulse Spectroscopy. Scientific Reports, 2015, 5, 14902.	3.3	53
28	Low leakage p-NiOâ•i-ZnOâ•n-ITO heterostructure ultraviolet sensor. Applied Physics Letters, 2006, 89, 172105.	3.3	49
29	Highâ€Performance Nanowire Oxide Photoâ€Thin Film Transistor. Advanced Materials, 2013, 25, 5549-5554.	21.0	49
30	Directly deposited nanocrystalline silicon thin-film transistors with ultra high mobilities. Applied Physics Letters, 2006, 89, 252101.	3.3	47
31	Zinc Oxide Nanostructures and High Electron Mobility Nanocomposite Thin Film Transistors. IEEE Transactions on Electron Devices, 2008, 55, 3001-3011.	3.0	46
32	Modeling Sub-Threshold Currentâ€“Voltage Characteristics in Thin Film Transistors. Journal of Display Technology, 2013, 9, 883-889.	1.2	42
33	Flexible Ultralow-Power Sensor Interfaces for E-Skin. Proceedings of the IEEE, 2019, 107, 2084-2105.	21.3	41
34	Temperature dependent electron transport in amorphous oxide semiconductor thin film transistors. , 2011, , .		37
35	Organic thin-film transistor integration using silicon nitride gate dielectric. Applied Physics Letters, 2007, 90, 133514.	3.3	31
36	Piezoelectric vs. Capacitive Based Force Sensing in Capacitive Touch Panels. IEEE Access, 2016, 4, 3769-3774.	4.2	31

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37	Conduction Threshold in Accumulation-Mode InGaZnO Thin Film Transistors. Scientific Reports, 2016, 6, 22567.	3.3	31
38	Analytical Field-Effect Method for Extraction of Subgap States in Thin-Film Transistors. IEEE Electron Device Letters, 2012, 33, 1006-1008.	3.9	28
39	13.2: Invited Paper: LTPS vs Oxide Backplanes for AMOLED Displays: System Design Considerations and Compensation Techniques. Digest of Technical Papers SID International Symposium, 2014, 45, 153-156.	0.3	27
40	Unified Analytic Model for Currentâ€“Voltage Behavior in Amorphous Oxide Semiconductor TFTs. IEEE Electron Device Letters, 2014, 35, 84-86.	3.9	25
41	ZnO nanowire array growth on precisely controlled patterns of inkjet-printed zinc acetate at low-temperatures. Nanoscale, 2016, 8, 11760-11765.	5.6	24
42	TFT Compact Modeling. Journal of Display Technology, 2016, 12, 898-906.	1.2	23
43	Interpreting anomalies observed in oxide semiconductor TFTs under negative and positive bias stress. AIP Advances, 2016, 6, .	1.3	21
44	Cell constant studies of bipolar and tetrapolar electrode systems for impedance measurement. Sensors and Actuators B: Chemical, 2015, 221, 1264-1270.	7.8	20
45	User-Oriented Piezoelectric Force Sensing and Artificial Neural Networks in Interactive Displays. IEEE Journal of the Electron Devices Society, 2018, 6, 766-773.	2.1	20
46	Interactive Displays: The Next Omnipresent Technology [Point of View]. Proceedings of the IEEE, 2016, 104, 1503-1507.	21.3	19
47	Precise control of Cu₂O nanostructures and LED-assisted photocatalysis. RSC Advances, 2016, 6, 78181-78186.	3.6	19
48	A Lewisâ€Acid Monopolar Gate Dielectric for Allâ€Inkjetâ€Printed Highly Biasâ€Stress Stable Organic Transistors. Advanced Electronic Materials, 2017, 3, 1700029.	5.1	19
49	High Security User Authentication Enabled by Piezoelectric Keystroke Dynamics and Machine Learning. IEEE Sensors Journal, 2020, 20, 13037-13046.	4.7	18
50	The Advancement of Radio Frequency Energy Harvesters (RFEHs) as a Revolutionary Approach for Solving Energy Crisis in Wireless Communication Devices: A Review. IEEE Access, 2021, 9, 106107-106139.	4.2	18
51	Optical-reconfigurable carbon nanotube and indium-tin-oxide complementary thin-film transistor logic gates. Nanoscale, 2018, 10, 13122-13129.	5.6	17
52	Deep Subthreshold TFT Operation and Design Window for Analog Gain Stages. IEEE Journal of the Electron Devices Society, 2018, 6, 195-200.	2.1	16
53	Tactile and Vision Perception for Intelligent Humanoids. Advanced Intelligent Systems, 2022, 4, 2100074.	6.1	16
54	Surface/Interface Carrier-Transport Modulation for Constructing Photon-Alternative Ultraviolet Detectors Based on Self-Bending-Assembled ZnO Nanowires. ACS Applied Materials & Interfaces, 2017, 9, 31042-31053.	8.0	15

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55	Localized surface plasmon resonance enhanced quantum dot light-emitting diodes via quantum dot-capped gold nanoparticles. RSC Advances, 2014, 4, 57574-57579.	3.6	14
56	Vertically Integrated Optical Sensor With Photoconductive Gain > 10 and Fill Factor > 70%. IEEE Electron Device Letters, 2018, 39, 386-389.	3.9	14
57	Influence of polarization on contact angle saturation during electrowetting. Applied Physics Letters, 2016, 109, .	3.3	13
58	Dye-Assisted Transformation of Cu₂O Nanocrystals to Amorphous Cu_xO Nanoflakes for Enhanced Photocatalytic Performance. ACS Omega, 2018, 3, 1939-1945.	3.5	13
59	Low voltage thin film transistors based on solution-processed In2O3:W. A remarkably stable semiconductor under negative and positive bias stress. Applied Physics Letters, 2020, 116, .	3.3	13
60	A comparative study of plasma-enhanced chemical vapor gate dielectrics for solution-processed polymer thin-film transistor circuit integration. Journal of Applied Physics, 2008, 104, .	2.5	12
61	3-D Dual-Gate Photosensitive Thin-Film Transistor Architectures Based on Amorphous Silicon. IEEE Transactions on Electron Devices, 2017, 64, 4952-4958.	3.0	12
62	Phototransistor with nanocrystalline Si/amorphous Si bilayer channel. Applied Physics Letters, 2010, 96, .	3.3	11
63	25.2: Photoâ€Sensor Thin Film Transistor based on Double Metalâ€Oxide Layer for Inâ€cell Remote Touch Screen. Digest of Technical Papers SID International Symposium, 2012, 43, 334-337.	0.3	11
64	Vertical CNT-Si Photodiode Array. Nano Letters, 2013, 13, 4131-4136.	9.1	11
65	Device-Circuit Interactions and Impact on TFT Circuit-System Design. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2017, 7, 71-80.	3.6	11
66	Flat-Panel Compatible Photovoltaic Energy Harvesting System. Journal of Display Technology, 2012, 8, 204-211.	1.2	10
67	TFT Small Signal Model and Analysis. IEEE Electron Device Letters, 2016, 37, 890-893.	3.9	10
68	Influence of Surface Energy and Roughness on Hole Mobility in Solution-Processed Hybrid Organic Thin Film Transistors. IEEE Journal of the Electron Devices Society, 2018, 6, 653-657.	2.1	10
69	3.1: Invited Paper: Amorphous Oxide TFTs: Progress and Issues. Digest of Technical Papers SID International Symposium, 2012, 43, 1-4.	0.3	9
70	Graphene oxide/PEDOT:PSS as injection layer for quantum dot light emitting diode. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2856-2861.	1.8	9
71	Inkjet-printed Ag electrodes on paper for high sensitivity impedance measurements. RSC Advances, 2016, 6, 84547-84552.	3.6	9
72	How to achieve ultra high photoconductive gain for transparent oxide semiconductor image sensors. , 2012, , .		8

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73	New Compact Modeling Solutions for Organic and Amorphous Oxide TFTs. IEEE Journal of the Electron Devices Society, 2021, 9, 911-932.	2.1	8
74	Oxide electronics: Translating materials science from lab-to-fab. MRS Bulletin, 2021, 46, 1028-1036.	3.5	8
75	Fast Readout and Low Power Consumption in Capacitive Touch Screen Panel by Downsampling. Journal of Display Technology, 2016, 12, 1417-1422.	1.2	6
76	Pâ€209: Augmenting Capacitive Touch with Piezoelectric Force Sensing. Digest of Technical Papers SID International Symposium, 2017, 48, 2068-2071.	0.3	6
77	Applications of Disordered Semiconductors in Modern Electronics: Selected Examples. , 2006, , 149-177.		5
78	Transparent Oxide Semiconductors for Advanced Display Applications. Information Display, 2013, 29, 6-11.	0.2	5
79	Orthogonal Thin Film Photovoltaics on Vertical Nanostructures. Nanoscale Research Letters, 2015, 10, 486.	5.7	5
80	Dirac-Point Shift by Carrier Injection Barrier in Graphene Field-Effect Transistor Operation at Room Temperature. ACS Applied Materials & Interfaces, 2018, 10, 10618-10621.	8.0	5
81	39â€2: Highly Sensitive aâ€Si:H PIN Photodiode Gated LTPS TFT for Optical Inâ€Display Fingerprint Identification. Digest of Technical Papers SID International Symposium, 2018, 49, 490-493.	0.3	5
82	Indium Silicon Oxide TFT Fully Photolithographically Processed for Circuit Integration. IEEE Journal of the Electron Devices Society, 2020, 8, 1162-1167.	2.1	5
83	Dual gate photo-thin film transistor with high photoconductive gain for high reliability, and low noise flat panel transparent imager. , 2011, , .		4
84	Electrical Characterization of Electrochemically Grown ZnO Nanorods using STM. Materials Research Society Symposia Proceedings, 2012, 1391, 71.	0.1	4
85	P-180: Force Sensing Technique for Capacitive Touch Panel. Digest of Technical Papers SID International Symposium, 2016, 47, 1814-1817.	0.3	4
86	Pâ€193: High Force Sensing Accuracy in Piezoelectric Based Interactive Displays by Artificial Neural Networks. Digest of Technical Papers SID International Symposium, 2018, 49, 1893-1896.	0.3	4
87	Tail state mediated conduction in zinc tin oxide thinfilm phototransistors under below bandgap optical excitation. Scientific Reports, 2021, 11, 19016.	3.3	4
88	Challenges in visible wavelength detection using optically transparent oxide semiconductors. , 2012, , .		3
89	Stability Analysis of All-Inkjet-Printed Organic Thin-Film Transistors. MRS Advances, 2018, 3, 1871-1876.	0.9	3
90	ZnON MIS Thin-Film Diodes. IEEE Journal of the Electron Devices Society, 2019, 7, 375-381.	2.1	3

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91	Photoconductive laser spectroscopy as a method to enhance defect spectral signatures in amorphous oxide semiconductor thin-film transistors. Applied Physics Letters, 2019, 114, 011907.	3.3	3
92	Ensemble Learning-Based Technique for Force Classifications in Piezoelectric Touch Panels. IEEE Sensors Journal, 2020, , 1-1.	4.7	3
93	Top Down Scale-Up of Semiconducting Nanostructures for Large Area Electronics. Journal of Display Technology, 2014, 10, 660-665.	1.2	2
94	LED-Assisted Degradation of Aromatic Organics Using Cu2O Photocatalysts. MRS Advances, 2017, 2, 3377-3381.	0.9	2
95	Interchannel Mismatch Calibration Techniques for Time-Interleaved SAR ADCs. IEEE Open Journal of Circuits and Systems, 2021, 2, 420-433.	1.9	2
96	Thin Film Coil Design Considerations for Wireless Power Transfer in Flat Panel Display. Materials Research Society Symposia Proceedings, 2012, 1388, 1.	0.1	1
97	Fourier spectrum based extraction of an equivalent trap state density in indium gallium zinc oxide transistors. Applied Physics Letters, 2014, 104, 203505.	3.3	1
98	Large area quantitative analysis of nanostructured thin-films. RSC Advances, 2015, 5, 12409-12415.	3.6	1
99	Mono-Type TFT Logic Architectures for Low Power Systems on Panel Applications. Journal of Display Technology, 2016, , 1-1.	1.2	1
100	42.2: Invited Paper: Multiâ€Force Touch Technology Augmenting Capacitive Touch in Displays. Digest of Technical Papers SID International Symposium, 2019, 50, 472-475.	0.3	1
101	Films Stoichiometry Effects on the Electronic Transport Properties of Solutionâ€Processed Yttrium Doped Indiumâ€“Zinc Oxide Crystalline Semiconductors for Thin Film Transistor Applications. Advanced Electronic Materials, 2020, 6, 1900976.	5.1	1
102	Emerging Applications. , 2021, , 179-229.		1
103	Touch Detection Technologies. , 2021, , 19-89.		1
104	Amorphous Silicon Thin Film Transistor Biosensing System. Materials Research Society Symposia Proceedings, 2013, 1530, 1.	0.1	0
105	Foreword [Special Issue on the 8th International Thin-Film Transistor Conference (ITC 2012)]. Journal of Display Technology, 2013, 9, 687-687.	1.2	0
106	Oxide thin film transistor technology: Capturing device-circuit interactions. , 2015, , .		0
107	Editorial For J-EDS Website. IEEE Journal of the Electron Devices Society, 2018, 6, 743-743.	2.1	0
108	Transparent and Flexible Oxide Nano-Electronics. , 2018, , .		0

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109	Foreword Special Issue From the Selected Extended Papers Presented at EDTM 2020. IEEE Journal of the Electron Devices Society, 2020, 8, 1105-1110.	2.1	0
110	Ultralow-Power All-Inkjet-Printed Organic Thin-Film Transistors for Wearables. , 2020, , .		0
111	Performance Optimization. , 2021, , 109-154.		0
112	43.2: Invited Paper: Can TFTs Meet Low Power Requirements of Sensor Interfaces?. Digest of Technical Papers SID International Symposium, 2021, 52, 539-539.	0.3	0
113	50.5: Invited Paper: Reducing Trap Density in Allâ€Inkjetâ€Printed Organic Thinâ€Film Transistors. Digest of Technical Papers SID International Symposium, 2021, 52, 611-611.	0.3	0
114	Guest Editorial Special Section From the Selected Extended Papers Presented at the CAD-TFT 2020. IEEE Journal of the Electron Devices Society, 2021, 9, 909-910.	2.1	0
115	Guest Editorial Special Issue on Papers From the IEEE FLEPS Conference 2020. IEEE Sensors Journal, 2021, 21, 26207-26207.	4.7	0
116	46â€2: Invited Paper: Stripâ€Helixâ€Fiber Architecture for Stretchable TFTs and Circuits. Digest of Technical Papers SID International Symposium, 2022, 53, 581-584.	0.3	0