Ananth Dodabalapur

List of Publications by Year
in descending order

92	3,474	147801 31	138484 58
papers	citations	h-index	g-index

92	92	92	5281
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Lowâ€Bandgap Diketopyrrolopyrroleâ€Benzothiadiazoleâ€Based Copolymer for Highâ€Mobility Ambipolar Organic Thinâ€Film Transistors. Advanced Materials, 2010, 22, 5409-5413.	21.0	397
2	Toward air-stable multilayer phosphorene thin-films and transistors. Scientific Reports, 2015, 5, 8989.	3.3	344
3	Organic and polymer transistors for electronics. Materials Today, 2006, 9, 24-30.	14.2	259
4	Radio frequency rectifiers based on organic thin-film transistors. Applied Physics Letters, 2006, 88, 123502.	3.3	205
5	High mobility organic thin film transistor and efficient photovoltaic devices using versatile donorâ€“acceptor polymer semiconductor by molecular design. Energy and Environmental Science, 2011, 4, 2288.	30.8	166
6	High-Speed, Inkjet-Printed Carbon Nanotube/Zinc Tin Oxide Hybrid Complementary Ring Oscillators. Nano Letters, 2014, 14, 3683-3687.	9.1	133
7	Solution-processed zincâ€“tin oxide thin-film transistors with low interfacial trap density and improved performance. Applied Physics Letters, 2010, 96, 243501.	3.3	115
8	Furan containing diketopyrrolopyrrolecopolymers: synthesis, characterization, organic field effect transistor performance and photovoltaic properties. Journal of Materials Chemistry, 2012, 22, 4425-4435.	6.7	113
9	Nanoscale organic and polymeric field-effect transistors as chemical sensors. Analytical and Bioanalytical Chemistry, 2005, 384, 310-321.	3.7	110
10	Synthesis, characterization and comparative study of thiopheneâ€“benzothiadiazole based donorâ€“acceptorâ€“donor (Dâ€“Aâ€“D) materials. Journal of Materials Chemistry, 2009, 19, 3228.	6.7	98
11	A furan-containing conjugated polymer for high mobility ambipolar organic thin film transistors. Chemical Communications, 2012, 48, 8383.	4.1	88
12	High-Mobility Organic Thin Film Transistors Based on Benzothiadiazole-Sandwiched Dihexylquaterthiophenes. Chemistry of Materials, 2008, 20, 3184-3190.	6.7	83
13	Band transport and mobility edge in amorphous solution-processed zinc tin oxide thin-film transistors. Applied Physics Letters, 2010, 97, .	3.3	62
14	Inkjetâ€Printed Lithiumâ€“Sulfur Microcathodes for Allâ€Printed, Integrated Nanomanufacturing. Small, 2017, 13, 1603786.	10.0	62
15	High-Performance Current Saturating Graphene Field-Effect Transistor With Hexagonal Boron Nitride Dielectric on Flexible Polymeric Substrates. IEEE Electron Device Letters, 2013, 34, 172-174.	3.9	53
16	Thiopheneâ€“benzothiadiazoleâ€“thiophene (Dâ€“Aâ€“D) based polymers: effect of donor/acceptor moieties adjacent to Dâ€“Aâ€“D segment on photophysical and photovoltaic properties. Journal of Materials Chemistry, 2011, 21, 10532.	6.7	52
17	Furan substituted diketopyrrolopyrrole and thienylenevinylene based low band gap copolymer for high mobility organic thin film transistors. Journal of Materials Chemistry, 2012, 22, 17284.	6.7	52
18	Logic-Gate Devices Based on Printed Polymer Semiconducting Nanostripes. Nano Letters, 2013, 13, 3643-3647.	9.1	44

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19	Isoindigo dye incorporated copolymers with naphthalene and anthracene: promising materials for stable organic field effect transistors. Polymer Chemistry, 2013, 4, 1983.	3.9	44
20	Low voltage, high performance inkjet printed carbon nanotube transistors with solution processed ZrO2 gate insulator. Applied Physics Letters, 2013, 103, .	3.3	44
21	Solution-Processed High-k Dielectric, ZrO2, and Integration in Thin-Film Transistors. Journal of Electronic Materials, 2012, 41, 895-898.	2.2	43
22	Charge transport study of high mobility polymer thin-film transistors based on thiophene substituted diketopyrrolopyrrole copolymers. Physical Chemistry Chemical Physics, 2013, 15, 9735.	2.8	43
23	Synthesis of diketopyrrolopyrrole based copolymers via the direct arylation method for p-channel and ambipolar OFETs. Physical Chemistry Chemical Physics, 2014, 16, 4275.	2.8	43
24	Investigation of the physics of sensing in organic field effect transistor based sensors. Journal of Applied Physics, 2012, 111, 044509.	2.5	42
25	A fluorenone based low band gap solution processable copolymer for air stable and high mobility organic field effect transistors. Chemical Communications, 2013, 49, 1588-1590.	4.1	41
26	Double-Gate MoS₂ Field-Effect Transistor with a Multilayer Graphene Floating Gate: A Versatile Device for Logic, Memory, and Synaptic Applications. ACS Applied Materials & Interfaces, 2020, 12, 33926-33933.	8.0	41
27	Charge transport and density of trap states in balanced high mobility ambipolar organic thin-film transistors. Organic Electronics, 2012, 13, 136-141.	2.6	40
28	Synthesis, thin-film morphology, and comparative study of bulk and bilayer heterojunction organic photovoltaic devices using soluble diketopyrrolopyrrole molecules. Energy and Environmental Science, 2011, 4, 3617.	30.8	37
29	Zinc tin oxide thin film transistor sensor. Sensors and Actuators B: Chemical, 2009, 143, 50-55.	7.8	33
30	Improved Performance in Diketopyrrolopyrrole-Based Transistors with Bilayer Gate Dielectrics. ACS Applied Materials & Interfaces, 2014, 6, 3170-3175.	8.0	33
31	Solution-Processed ZTO TFTs With Recessed Gate and Low Operating Voltage. IEEE Electron Device Letters, 2010, 31, 1410-1412.	3.9	31
32	Fluoropolymer coatings for improved carbon nanotube transistor device and circuit performance. Applied Physics Letters, 2014, 105, 122107.	3.3	26
33	Enhanced Photoresponse in Metasurface-Integrated Organic Photodetectors. Nano Letters, 2018, 18, 3362-3367.	9.1	25
34	Relationship between photoluminescence spectra and lowâ€field electrical properties of modulationâ€doped AlGaAs/GaAs quantum wells. Journal of Applied Physics, 1990, 68, 4119-4126.	2.5	23
35	Scanning photocurrent microscopy of lateral organic bulk heterojunctions. Physical Chemistry Chemical Physics, 2012, 14, 13199.	2.8	21
36	Mapping electric field distributions in biased organic bulk heterojunctions under illumination by nonlinear optical microscopy. Applied Physics Letters, 2013, 102, .	3.3	20

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37	Electrical characteristics of zinc oxide-organic semiconductor lateral heterostructure based hybrid field-effect bipolar transistors. Applied Physics Letters, 2011, 98, .	3.3	19
38	Direct measurement of carrier drift velocity and mobility in a polymer field-effect transistor. Applied Physics Letters, 2006, 89, 242104.	3.3	18
39	ZnO layers for opto-electronic applications from solution-based and low-temperature processing of an organometallic precursor. Journal of Materials Chemistry, 2012, 22, 20896.	6.7	18
40	Temperature dependent transient velocity and mobility studies in an organic field effect transistor. Journal of Applied Physics, 2010, 107, 113714.	2.5	17
41	Electron transport in copper phthalocyanines. Journal of Applied Physics, 2010, 107, .	2.5	17
42	Electrical characteristics of lateral organic bulk heterojunction device structures. Organic Electronics, 2012, 13, 1185-1191.	2.6	17
43	Trapped Carrier Scattering and Charge Transport in Highâ€Mobility Amorphous Metal Oxide Thinâ€Film Transistors. Annalen Der Physik, 2018, 530, 1800341.	2.4	17
44	Short Channel Field-Effect-Transistors with Inkjet-Printed Semiconducting Carbon Nanotubes. Small, 2015, 11, 5505-5509.	10.0	16
45	Redefining the Mobility Edge in Thin-Film Transistors. Physical Review Applied, 2019, 11, .	3.8	16
46	Wafer-Scalable Single-Layer Amorphous Molybdenum Trioxide. ACS Nano, 2022, 16, 3756-3767.	14.6	16
47	A Study of Diphenylfumaronitrile and Furanâ€Substituted Diketopyrrolopyrrole Alternating Copolymer and Its Thinâ€Film Transistors. Macromolecular Chemistry and Physics, 2014, 215, 725-732.	2.2	14
48	Drift mobility and the frequency response of diode connected organic transistors. Applied Physics Letters, 2008, 92, .	3.3	12
49	Dynamic characterization of charge transport inÂorganicÂandÂpolymer transistors. Applied Physics A: Materials Science and Processing, 2009, 95, 153-158.	2.3	12
50	Nongeminate carrier recombination rates in organic solar cells. Applied Physics Letters, 2010, 97, .	3.3	12
51	Density of trap states in a polymer field-effect transistor. Applied Physics Letters, 2014, 105, .	3.3	10
52	Charge Transport in Deep and Shallow States in a High-Mobility Polymer FET. IEEE Transactions on Electron Devices, 2016, 63, 1254-1259.	3.0	10
53	Carrier Velocity in Amorphous Metalâ€“Oxideâ€“Semiconductor Transistors. IEEE Transactions on Electron Devices, 2021, 68, 125-131.	3.0	10
54	Nanospike electrodes and charge nanoribbons: A new design for nanoscale thin-film transistors. Science Advances, 2022, 8, eabm1154.	10.3	10

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55	Velocity-field characteristics of polycrystalline pentacene field-effect transistors. Journal of Applied Physics, 2010, 107, .	2.5	9
56	Symmetry of Gating in Double-Gate MoS₂ FETs. IEEE Transactions on Electron Devices, 2019, 66, 4468-4473.	3.0	9
57	Nanospike Electrode Designs for Improved Electrical Performance in Nanoscale Organic Thin-Film Transistors. ACS Applied Electronic Materials, 2021, 3, 4284-4290.	4.3	9
58	Charge-Carrier Velocity Distributions in High-Mobility Polymer Dual-Gate Thin-Film Transistors. IEEE Electron Device Letters, 2012, 33, 899-901.	3.9	8
59	Synthesis, characterization and organic field effect transistor performance of a diketopyrrolopyrroleâ€“fluorenone copolymer. Physical Chemistry Chemical Physics, 2013, 15, 7475.	2.8	8
60	Modeling of a Back-Gated Monolayer MoS2 FET by Extraction of an Accurate Threshold Voltage and Gate-Bias-Dependent Source/Drain Resistance. IEEE Journal of the Electron Devices Society, 2017, 5, 384-389.	2.1	8
61	State-of-the-art graphene transistors on hexagonal boron nitride, high-k, and polymeric films for GHz flexible analog nanoelectronics. , 2012, , .		7
62	Effects of contact resistance on the evaluation of charge carrier mobilities and transport parameters in amorphous zinc tin oxide thin-film transistors. Applied Physics A: Materials Science and Processing, 2014, 115, 1103-1107.	2.3	7
63	Interface roughness and interface roughness scattering in amorphous oxide thin-film transistors. Journal of Applied Physics, 2021, 130, .	2.5	7
64	Evaluating Charge Carrier Mobility Balance in Organic Bulk Heterojunctions using Lateral Device Structures. Journal of Physical Chemistry C, 2014, 118, 18299-18306.	3.1	6
65	Polarization effects from the ambient and the gate dielectric on charge transport in polymer field-effect transistors. Applied Physics Letters, 2017, 110, 243302.	3.3	6
66	Charge carrier velocity distributions in field-effect transistors. Applied Physics Letters, 2011, 98, 092106.	3.3	5
67	Bimolecular recombination coefficient calculation by in situ potentiometry in a bulk heterojunction organic photovoltaic material. Applied Physics Letters, 2013, 102, 173304.	3.3	5
68	Inkjet printed carbon nanotubes in short channel field effect transistors: influence of nanotube distortion and gate insulator interface modification. Flexible and Printed Electronics, 2016, 1, 035001.	2.7	5
69	Going beyond polaronic theories in describing charge transport in rubrene single crystals. Applied Physics Letters, 2020, 116, 093301.	3.3	5
70	Charge transport and dynamic response of organic and polymer transistors. Journal of Applied Physics, 2020, 127, 105501.	2.5	5
71	Reflecting metagrating-enhanced thin-film organic light emitting devices. Applied Physics Letters, 2021, 118, .	3.3	5
72	Quantifying space charge accumulation in organic bulk heterojunctions by nonlinear optical microscopy. Organic Electronics, 2013, 14, 3014-3018.	2.6	4

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73	Analysis of bulk heterojunction material parameters using lateral device structures. Journal of Photonics for Energy, 2014, 4, 040994.	1.3	4
74	Photoluminescence characterization of the effects of rapid thermal annealing on AlGaAs/GaAs modulation-doped quantum wells. Journal of Electronic Materials, 1990, 19, 1333-1338.	2.2	3
75	Nanoscale chemical sensors based on conjugated polymer transistors. , 2004, 5522, 81.		3
76	Analysis of the Advantages of Nanostripe-Channel Geometries for Thin-Film Transistors. IEEE Transactions on Electron Devices, 2019, 66, 2606-2613.	3.0	3
77	Level-Crossing Detection based Low-Power Sigma-Delta ADC for Sensor Applications. , 2020, , .		3
78	Analysis and modelling of lateral heterostructure field-effect bipolar transistors. Organic Electronics, 2011, 12, 1794-1799.	2.6	2
79	Using lateral bulk heterojunctions to study the effects of additives on PTB7:PC61BM space charge regions. Synthetic Metals, 2015, 209, 158-163.	3.9	2
80	Enhanced Hole Injection Into Single Layer WSe2. IEEE Journal of the Electron Devices Society, 2018, 6, 309-313.	2.1	2
81	A Sawtooth Relaxation ICO based 1-1 MASH ADC. , 2020, , .		2
82	Use of lateral structures to monitor and evaluate degradation of key photovoltaic parameters in an organic bulk heterojunction material. Journal of Applied Physics, 2014, 116, .	2.5	1
83	57.4:Invited Paper: Device Physics of Amorphous Oxide Thin-Film Transistors. Digest of Technical Papers SID International Symposium, 2015, 46, 861-864.	0.3	1
84	Phenomenological Model of Gate-Dependent Kink in I-V Characteristics of MoS2 Double-Gate FETs. IEEE Journal of the Electron Devices Society, 2021, 9, 441-446.	2.1	1
85	Field-Emission Enhanced Contacts for Disordered Semiconductor based Thin-Film Transistors. , 2021, , .		1
86	Analog Circuits Using Double-Gate Multilayer MoS₂ Field-Effect Transistor for Sensor Applications. IEEE Transactions on Electron Devices, 2022, 69, 3470-3476.	3.0	1
87	Organic complementary circuits using solution deposited active semiconductors. , 2006, , .		0
88	Dynamic characteristics and applications of organic and polymer transistors. , 2007, , .		0
89	Effect of film nanostructure on in-plane charge transport in organic bulk heterojunction materials. , 2013, , .		0
90	Electrical performance enhancement of 20 nm scale graphene nanoribbon field-effect transistors with dipolar molecules. , 2016, , .		0

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91	Modeling of a tunable memory device made with a double-gate MoS2 FET and graphene floating gate. Applied Physics Letters, 2021, 119, 143506.	3.3	0
92	Charge Focusing and Enhanced Fermi-Level Modulation in Hybrid Graphene Nanospike Organic Thin-Film Transistors. ACS Applied Nano Materials, 2022, 5, 8710-8716.	5.0	0