Shengdong Zhang

List of Publications by Year
in descending order

138 papers	1,095 citations	516710 16 h-index	526287 27 g-index
138 all docs	138 docs citations	138 times ranked	1052 citing authors

#	Article	IF	Citations
1	High performance triboelectric nanogenerators with aligned carbon nanotubes. Nanoscale, 2016, 8, 18489-18494.	5.6	107
2	Vertical CNTâ€“Ecoflex nanofins for highly linear broad-range-detection wearable strain sensors. Journal of Materials Chemistry C, 2018, 6, 5132-5139.	5.5	63
3	Radio-frequency characterization for the single-walled carbon nanotubes. Applied Physics Letters, 2006, 88, 163109.	3.3	46
4	Room-Temperature-Processed Flexible Amorphous InGaZnO Thin Film Transistor. ACS Applied Materials & Interfaces, 2018, 10, 25850-25857.	8.0	36
5	Carbon Nanotube/Copper Composites for Via Filling and Thermal Management. , 2007, , .		35
6	One Gate Diode-Connected Dual-Gate a-IGZO TFT Driven Pixel Circuit for Active Matrix Organic Light-Emitting Diode Displays. IEEE Transactions on Electron Devices, 2016, 63, 3800-3803.	3.0	34
7	Radio-frequency transmission properties of carbon nanotubes in a field-effect transistor configuration. IEEE Electron Device Letters, 2006, 27, 668-670.	3.9	33
8	Metal Reaction-Induced Bulk-Doping Effect in Forming Conductive Source-Drain Regions of Self-Aligned Top-Gate Amorphous InGaZnO Thin-Film Transistors. ACS Applied Materials & Interfaces, 2021, 13, 11442-11448.	8.0	33
9	Stretchable Temperature-Responsive Multimodal Neuromorphic Electronic Skin with Spontaneous Synaptic Plasticity Recovery. ACS Nano, 2022, 16, 8283-8293.	14.6	30
10	Universal DNA detection realized by peptide based carbon nanotube biosensors. Nanoscale Advances, 2020, 2, 717-723.	4.6	27
11	Structures, properties, and applications of CNT-graphene heterostructures. 2D Materials, 2019, 6, 042005.	4.4	23
12	Polyvinyl Alcohol/SiO₂ Hybrid Dielectric for Transparent Flexible/Stretchable Allâ€Carbonâ€Nanotube Thinâ€Filmâ€Transistor Integration. Advanced Electronic Materials, 2020, 6, 1901133.	5.1	22
13	Ultralow-power flexible transparent carbon nanotube synaptic transistors for emotional memory. Nanoscale, 2021, 13, 11360-11369.	5.6	22
14	Tetrahedral DNA nanostructure based biosensor for high-performance detection of circulating tumor DNA using all-carbon nanotube transistor. Biosensors and Bioelectronics, 2022, 197, 113785.	10.1	22
15	Carbon Nanotubes for Thin Film Transistor: Fabrication, Properties, and Applications. Journal of Nanomaterials, 2013, 2013, 1-16.	2.7	21
16	Ultra-high drivability, high-mobility, low-voltage and high-integration intrinsically stretchable transistors. Nanoscale, 2020, 12, 23546-23555.	5.6	21
17	Performance Enhancement and Bending Restoration for Flexible Amorphous Indium Gallium Zinc Oxide Thin-Film Transistors by Low-Temperature Supercritical Dehydration Treatment. ACS Applied Materials & Interfaces, 2021, 13, 8584-8594.	8.0	20
18	Highly transparent, ultraâ€thin flexible, fullâ€color miniâ€LED display with indiumâ€“galliumâ€“zinc oxide thinâ€film transistor substrate. Journal of the Society for Information Display, 2020, 28, 926-935.	2.1	17

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19	Ultralow-voltage all-carbon low-dimensional-material flexible transistors integrated by room-temperature photolithography incorporated filtration. Nanoscale, 2019, 11, 15029-15036.	5.6	16
20	Cooperation and competition of hydrogen and halogen bonds in 2D self-assembled nanostructures based on bromine substituted coumarins. New Journal of Chemistry, 2019, 43, 17182-17187.	2.8	16
21	A Back-Channel-Etched Amorphous InGaZnO Thin-Film Transistor Technology With Al-Doped ZnO as Source/Drain and Pixel Electrodes. IEEE Transactions on Electron Devices, 2016, 63, 2205-2209.	3.0	15
22	High-Current Drivability Fibonacci Charge Pump With Connectâ€“Pointâ€“Shift Enhancement. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 2164-2173.	3.1	15
23	Local silicon-gate carbon nanotube field effect transistors using silicon-on-insulator technology. Applied Physics Letters, 2006, 89, 023116.	3.3	14
24	Pâ€53: A Novel Pixel Circuit Providing Expanded Input Voltage Range for OLEDoS Microdisplays. Digest of Technical Papers SID International Symposium, 2017, 48, 1438-1441.	0.3	14
25	Improving Performance of All-Carbon-Nanotube Thin-Film Transistors by Low Temperature Supercritical CO₂ Fluid Activation. IEEE Electron Device Letters, 2019, 40, 921-924.	3.9	14
26	Nb Doped TiO₂Protected Back-Channel-Etched Amorphous InGaZnO Thin Film Transistors. IEEE Electron Device Letters, 2017, 38, 213-216.	3.9	13
27	Recent progress in flexible tactile sensor systems: from design to application. , 0, , .		13
28	Performance enhancement and mechanism exploration of all-carbon-nanotube memory with hydroxylation and dehydration through supercritical carbon dioxide. Carbon, 2021, 173, 97-104.	10.3	11
29	Novel Local Silicon-Gate Carbon Nanotube Transistors Combining Silicon-on-Insulator Technology for Integration. IEEE Nanotechnology Magazine, 2009, 8, 260-268.	2.0	10
30	A Carbon Nanotube Electrode a-IGZO-TFT. IEEE Journal of the Electron Devices Society, 2017, 5, 411-415.	2.1	10
31	Threshold Voltage Shift Effect of a-Si:H TFTs Under Bipolar Pulse Bias. IEEE Transactions on Electron Devices, 2015, 62, 4037-4043.	3.0	9
32	Back Channel Anodization Amorphous Indium Gallium Zinc Oxide Thin-Film Transistors Process. IEEE Electron Device Letters, 2015, 36, 357-359.	3.9	9
33	Leakage current elimination for Dickson charge pump with a linear regulator. Microelectronics Journal, 2017, 64, 29-34.	2.0	9
34	Intrinsically stretchable all-carbon-nanotube transistors with styreneâ€“ethyleneâ€“butyleneâ€“styrene as gate dielectrics integrated by photolithography-based process. RSC Advances, 2020, 10, 8080-8086.	3.6	9
35	Dickson Charge Pump with Gate Drive Enhancement and Area Saving. Journal of Power Electronics, 2016, 16, 1209-1217.	1.5	9
36	Intrinsically flexible all-carbon-nanotube electronics enabled by a hybrid organicâ€“inorganic gate dielectric. Npj Flexible Electronics, 2022, 6, .	10.7	9

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37	A simple and novel method for the quantitative detection of 5-hydroxymethylcytosine using carbon nanotube field-effect transistors. Nano Research, 2016, 9, 1701-1708.	10.4	8
38	A High Conversion Ratio Component-Efficient Charge Pump for Display Drivers. Journal of Display Technology, 2016, 12, 1057-1063.	1.2	8
39	Aligned carbon nanotube field effect transistors by repeated compression-expansion cycles in Langmuir-Blodgett. , 2017, , .		8
40	Low-temperature supercritical dehydroxylation for achieving an ultra-low subthreshold swing of thin-film transistors. Nanoscale, 2021, 13, 5700-5705.	5.6	8
41	Ultralowâ€Power Synaptic Transistors Based on Ta₂O₅/Al₂O₃ Bilayer Dielectric for Algebraic Arithmetic. Advanced Electronic Materials, 2022, 8, .	5.1	8
42	Metal Exchange and Diffusion during Atomic Layer Deposition of Cobalt and Nickel Sulfides. Chemistry of Materials, 2021, 33, 9403-9412.	6.7	8
43	A novel linear regulator in build-in capacitor Dickson charge pump applications with low output ripple. , 2015, , .		7
44	An Accurate and Fast Current-Biased Voltage-Programmed AMOLED Pixel Circuit With OLED Biased in AC Mode. Journal of Display Technology, 2015, 11, 615-619.	1.2	7
45	P-37: A High Accuracy Current Comparison Scheme for External Compensation Circuit of AMOLED Displays. Digest of Technical Papers SID International Symposium, 2016, 47, 1261-1264.	0.3	7
46	Structure and stoichiometry evolution of sputtered Nb doped TiO2 films induced by O2 pressure variation during postannealing process. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	2.1	7
47	Source-drain resistance characteristics of back-channel etched amorphous InGaZnO thin film transistors with TiO 2 :Nb protective layer. Materials Science in Semiconductor Processing, 2017, 68, 147-151.	4.0	7
48	A Pixel Circuit With Wide Data Voltage Range for OLEDoS Microdisplays With High Uniformity. IEEE Transactions on Electron Devices, 2019, 66, 4798-4804.	3.0	7
49	Design and Mechanism of Embedding Specific Carbon Nanotubes in Sputtered Sandwiched InGaZnO Thin-Film Transistors. IEEE Electron Device Letters, 2019, 40, 407-410.	3.9	7
50	A â^'80 dB PSRR 4.99Ââ€‹ppm/Â°C TC bandgap reference with nonlinear compensation. Microelectronics Journal, 2020, 95, 104664.	2.0	7
51	Low-temperature supercritical activation enables high-performance detection of cell-free DNA by all-carbon-nanotube transistor. Carbon, 2022, 196, 120-127.	10.3	7
52	Reliability Evaluation of Carbon Nanotube Interconnect in a Silicon CMOS Environment. , 2006, , .		6
53	A Compact Pixel Circuit for Externally Compensated AMOLED Displays. IEEE Journal of the Electron Devices Society, 2018, 6, 936-941.	2.1	6
54	Pâ€48: Integrated aâ€IGZO TFT Gate Driver with Programmable Output for AMOLED Display. Digest of Technical Papers SID International Symposium, 2018, 49, 1377-1380.	0.3	6

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55	51â€²: Pixel Design Solutions for Transmittance Improvement in 8k VA LCD. Digest of Technical Papers SID International Symposium, 2019, 50, 707-710.	0.3	6
56	Intrinsically stretchable carbon nanotube synaptic transistors with associative learning ability and mechanical deformation response. Carbon, 2022, 189, 386-394.	10.3	6
57	Tunable stretchable strain sensors enabled by patterned Ecoflex-vertical aligned carbon nanotube arrays and pre-stretching transfer. Carbon, 2022, 197, 218-225.	10.3	6
58	MixedâEDimensional van der Waals Engineering for Charge Transfer Enables WaferâELevel Flexible Electronics. Advanced Functional Materials, 2022, 32, .	14.9	6
59	A low-power regulator for display driver IC requiring a moderate current drivability. , 2015, , .		5
60	A Step-Up Charge Pump with High Integration and Full-Coverage Voltage Conversion Ratio. , 2018, , .		5
61	Sensing-range-tunable pressure sensors realized by self-patterned-spacer design and vertical CNT arrays embedded in PDMS. RSC Advances, 2020, 10, 33558-33565.	3.6	5
62	A Full-Color Micro LEDs Display Based on IGZO TFT. , 2020, , .		5
63	A High-Efficiency Segmented Reconfigurable Cyclic Shifter for 5G QC-LDPC Decoder. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 401-414.	5.4	5
64	Pursuit of Future Interconnect Technology with Aligned Carbon Nanotube Arrays [Nanopackaging]. IEEE Nanotechnology Magazine, 2011, 5, 22-26.	1.3	4
65	Uniform DNA Biosensors Based on Threshold Voltage of Carbon Nanotube Thin-Film Transistors. Nano, 2016, 11, 1650060.	1.0	4
66	Pâ€47: An OLEDoS Pixel Circuit with Extended Data Voltage Range for High Resolution Microâ€Displays. Digest of Technical Papers SID International Symposium, 2018, 49, 1373-1376.	0.3	4
67	23â€3: High Transparent, Ultraâ€thin Flexible, Full color Miniâ€LED Display with IGZO TFT substrate. Digest of Technical Papers SID International Symposium, 2020, 51, 332-334.	0.3	4
68	Ultra-flexible high-k transparent integratable fully-carbon-based capacitor arrays for sharp-switching transistors. Carbon, 2021, 182, 117-123.	10.3	4
69	51â€4: QLEDâ€onâ€Silicon Microdisplays. Digest of Technical Papers SID International Symposium, 2020, 51, 758-761.	0.3	4
70	Beam steering with nanoring reflectarray metasurfaces. , 2014, , .		3
71	Annealing temperature optimization for high-performance carbon nanotube thin film transistors. , 2015, , .		3
72	Pâ€52: A Fibonacciâ€Like Charge Pump and its Current Drive Capacity Enhancement for Display Driver ICs. Digest of Technical Papers SID International Symposium, 2017, 48, 1434-1437.	0.3	3

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73	An a-IGZO TFT Pixel Circuit for AMOLED Display Systems With Compensation for Mobility and Threshold Voltage Variations. , 2018, , .		3
74	15â€2: Student Paper: Programmable LTPSâ€TFT Gate Driver with Tunable Pulse Width for Adjusting AMOLED Brightness. Digest of Technical Papers SID International Symposium, 2021, 52, 180-183.	0.3	3
75	Supercritical Ammoniation-Enabled Interfacial Polarization for Function-Mode Transformation and Overall Optimization of Thin-Film Transistors. ACS Applied Materials & Interfaces, 2021, 13, 40053-40061.	8.0	3
76	Applying SOI Technology on Carbon Nanotube Transistors. SOI Conference, Proceedings of the IEEE International, 2006, , .	0.0	2
77	A novel Makowski charge pump and its optimization using Lagrange theorem. , 2014, , .		2
78	P-41: A Low-Power ESL a-IZGO TFT Integrated Gate Driver Circuit. Digest of Technical Papers SID International Symposium, 2016, 47, 1272-1275.	0.3	2
79	A novel thin-film transistor using carbon nanotubes as both channel and electrodes. , 2016, , .		2
80	Transparent all-carbon-nanotube thin-film transistors. , 2017, , .		2
81	23â€4: Highâ€Slewâ€Rate Lowâ€Staticâ€Power Dynamicâ€Bias Railâ€toâ€Rail Output Buffer for OLEDâ€onâ€Silicon VR Microdisplay. Digest of Technical Papers SID International Symposium, 2018, 49, 295-298.	0.3	2
82	P-45: A Multi-Phase, High-Current-Drivability Charge Pump in Display Driver ICs. Digest of Technical Papers SID International Symposium, 2018, 49, 1365-1368.	0.3	2
83	Electric-field-induced microstructure modulation of carbon nanotubes for high-performance supercapacitors. Frontiers of Materials Science, 2019, 13, 270-276.	2.2	2
84	Realizing Controllable Carbon Nanotube Arrays for Soft Devices by Asymmetric Langmuirâ€“Blodgett and Hydrophilization Process. IEEE Nanotechnology Magazine, 2019, 18, 1144-1147.	2.0	2
85	Pâ€39: A 1.05% Sensing Error Current Comparator for AMOLED Displays with External Compensation. Digest of Technical Papers SID International Symposium, 2020, 51, 1494-1497.	0.3	2
86	Optimized optical design of thin-film transistor arrays for high transmittance and excellent chromaticity. Frontiers of Materials Science, 2020, 14, 89-95.	2.2	2
87	Fast Progressive Compensation Method for Externally Compensated AMOLED Displays. IEEE Journal of the Electron Devices Society, 2021, 9, 257-264.	2.1	2
88	A novel local bottom-gate carbon nanotube field effect transistor on SOI. , 2003, , .		1
89	The application of carbon nanotubes in CMOS integrated circuits. , 2008, , .		1
90	Towards future VLSI interconnects using aligned carbon nanotubes. , 2011, , .		1

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91	Using 0-dimensional silica to control diameter and density of carbon nanotubes. , 2014, , .		1
92	Indium gallium zinc oxide - Carbon nanotube composite thin film transistor. , 2014, , .		1
93	High-performance carbon nanotube/InGaZnO composite thin film transistors and concentration effect. , 2015, , .		1
94	Fabrication of stretchable and flexible vertically aligned carbon nanotube film. , 2016, , .		1
95	Fully transparent solution-processed carbon nanotube thin film transistors on a flexible substrate. , 2016, , .		1
96	Triboelectrification based active sensor for liquid flow and bubble detetecting. , 2017, , .		1
97	An AMOLED LTPS-TFT Pixel Circuit Using Mirror Structure to Compensate Vth Variation and Voltage Drop. , 2018, , .		1
98	A High-Efficient, Multi-Phase Charge Pump Scheme. , 2018, , .		1
99	Pâ€43: Implementation of Digital Thinâ€Film Transistor Integrated Ambient Light Sensor with High Reliability. Digest of Technical Papers SID International Symposium, 2018, 49, 1357-1360.	0.3	1
100	Achieving Low Power Classification with Classifier Ensemble. , 2018, , .		1
101	Design of a Peripheral-Circuit-Compensation Adjustable-Gamma-Voltage Driving Chip for OLED-on-Silicon Microdisplay. , 2019, , .		1
102	A Compact Low-Voltage Segmented D/A Converter with Adjustable Gamma Coefficient for AMOLED Displays. , 2019, , .		1
103	Integration and Characterization of Transparent Thin Film Transistors with Carbon Nanotubes as Aligned Channel and Electrodes. , 2019, , .		1
104	A Compensation System using Analog Voltage Adder with Continuous Output for AMOLED Display Drivers. , 2020, , .		1
105	Novel Pixel Design for Transmittance and Picture Quality Improvement. Digest of Technical Papers SID International Symposium, 2020, 51, 169-171.	0.3	1
106	Pseudo Multi-Port SRAM Circuit for Image Processing in Display Drivers. IEEE Transactions on Circuits and Systems for Video Technology, 2021, 31, 2056-2062.	8.3	1
107	Segmented Reconfigurable Cyclic Shifter for QC-LDPC Decoder. , 2021, , .		1
108	Pâ€15: Student Poster: Reliable Gate Driver for Realâ€Time External Compensated AMOLED Display Using InGaZnO TFTs. Digest of Technical Papers SID International Symposium, 2021, 52, 1108-1111.	0.3	1

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109	Pâ€17: Design of AMOLED Pixel Circuit Using LTPO TFTs with Enhanced Reliability. Digest of Technical Papers SID International Symposium, 2021, 52, 1116-1119.	0.3	1
110	Leakage Current Improvement for a Voltage Doubler Charge Pump. Journal of Low Power Electronics, 2016, 12, 227-233.	0.6	1
111	Analysis of Carrier Behavior for Amorphous Indium Gallium Zinc Oxide After Supercritical Carbon Dioxide Treatment. Advanced Materials Interfaces, 2022, 9, .	3.7	1
112	The application of carbon nanotubes in CMOS integrated circuits. , 2008, , .		0
113	Double grating antireflection nanostructure based on nano-cone. , 2014, , .		0
114	A distributive on-chip voltage regulation scheme for power supply in AMOLED driver ICs. , 2015, , .		0
115	P-44: A Current Source Free Separate Frame Compensated Voltage-Programmed Active Matrix Organic Light Emitting Diode Pixel Circuit. Digest of Technical Papers SID International Symposium, 2016, 47, 1282-1285.	0.3	0
116	P-36: An Area-Efficient Segmented R-DAC Realized by Low-Voltage Transistors for AMOLED Driver Ics. Digest of Technical Papers SID International Symposium, 2016, 47, 1257-1260.	0.3	0
117	Rapid thermal annealing for carbon nanotube thin film transistors by a double-themral-region furnace. , 2016, , .		0
118	Mobility variation and threshold voltage shift immunized amorphous-indium-gallium-zinc-oxide pixel circuit. , 2016, , .		0
119	A theoretical and numerical study on percolation mechanism of carbon nanotube network. , 2016, , .		0
120	On-current tunable carbon nanotube thin-film transistor by SiO<inf>2</inf> passivation layer. , 2017, , .		0
121	Reinforced standing multi-walled carbon nanotube film for stretchable strain sensor. , 2017, , .		0
122	Embedding Langmuir-Blodgett Carbon Nanotube Array to Enhance Performance of Amorphous InGaZnO Thin Film Transistor. , 2018, , .		0
123	An Algorithm for Full-Coverage Voltage-Conversion-Ratio Fibonacci-Like Charge Pump. , 2018, , .		0
124	An On-Chip Oscillator with Comparator Offset Cancellation. , 2018, , .		0
125	Pâ€27: A Novel Pixel Circuit with Threshold Voltage Variation Compensation in Threeâ€Dimensional AMOLED on Silicon Microdisplay. Digest of Technical Papers SID International Symposium, 2019, 50, 1313-1316.	0.3	0
126	Pâ€58: Efficiency Enhancement by Nonâ€Overlapping Time Design and Adaptive Ratio Control for Charge Pump of Display Drivers. Digest of Technical Papers SID International Symposium, 2019, 50, 1452-1455.	0.3	0

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127	Asymmetric Langmuir-Blodgett and Hydrophilization Process to Realize Density-Controllable Carbon Nanotube Array on Flexible and Stretchable Substrates. , 2019, , .		0
128	6.1: Invited Paper: Carbon Based Thin Film Transistors for High Drivability and High Flexibility. Digest of Technical Papers SID International Symposium, 2019, 50, 52-52.	0.3	0
129	Pâ€33: A High Currentâ€Drive, Stepâ€Up Capacitive Power Converter for Display Driver. Digest of Technical Papers SID International Symposium, 2020, 51, 1474-1477.	0.3	0
130	Pâ€160: Curing Mechanism and Optimal Solution for Interior Disclination in Ultrahighâ€definition 2â€domain VA LCD. Digest of Technical Papers SID International Symposium, 2020, 51, 1990-1993.	0.3	0
131	Applying Viscous Shear Stress to Align Single-Walled Carbon Nanotubes. , 2020, , .		0
132	Modulating the Electrical Transport Characteristics of a Metal-Semiconductor-Metal Structure by Local Strain Gradient. , 2021, , .		0
133	14â€2: Dataâ€Line Driver with Grayâ€Levelâ€Dependent Farâ€End Auxiliary Driving for Large AMOLED Display Panel. Digest of Technical Papers SID International Symposium, 2021, 52, 169-172.	0.3	0
134	High-Speed Low-Power Rail-to-Rail Buffer using Dynamic-Current Feedback for OLED Source Driver Applications. Analog Integrated Circuits and Signal Processing, 0, , 1.	1.4	0
135	14â€3: OLEDoS Microdisplay with OLED Threshold Voltage Detection and Fastâ€Progressive Compensation. Digest of Technical Papers SID International Symposium, 2021, 52, 173-176.	0.3	0
136	A Photoinduced Electrostatic Doping Effect in Carbon Nanotube Field-Effect Transistors. , 2021, , .		0
137	Stretchable Carbon Nanotube Thin-Film Transistor Arrays Realized by a Universal Transferable-Band-Aid Method. IEEE Transactions on Electron Devices, 2021, , 1-7.	3.0	0
138	A dual-gate IGZO Source-Gated transistor based on field modulation by TCAD simulation. , 2020, , .		0