Mutsumi Kimura

List of Publications by Year
in descending order

149	1,787	394421 19	289244 40
papers	citations	h-index	g-index

151	151	151	1470
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Neuromorphic System Using Memcapacitors and Autonomous Local Learning. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 2366-2373.	11.3	6
2	Neuromorphic chip integrated with a large-scale integration circuit and amorphous-metal-oxide semiconductor thin-film synapse devices. Scientific Reports, 2022, 12, 5359.	3.3	9
3	Switchover behavior between long-term potentiation and depression in amorphous Gaâ€“Snâ€“O thin-film spike-timing-dependent-plasticity device. Japanese Journal of Applied Physics, 2022, 61, 058002.	1.5	1
4	Amorphous metal oxide semiconductor thin film, analog memristor, and autonomous local learning for neuromorphic systems. Scientific Reports, 2021, 11, 580.	3.3	20
5	50.3: Invited Paper: GTO TFT, Memristor, Thermoelectric Device, Neuromorphic System, etc.. Digest of Technical Papers SID International Symposium, 2021, 52, 337-337.	0.3	0
6	Stacked cross-point memory using IGZO thin film for synaptic elements. , 2021, , .		0
7	Ferroelectric thin film for a capacitor-type synapse in neuromorphic systems. , 2021, , .		0
8	GTO thin film thermoelectric conversion device manufactured by RF magnetron sputtering method. , 2021, , .		0
9	Amorphous-Metal-Oxide-Semiconductor Thin-Film Planar-Type Spike-Timing- Dependent-Plasticity Synapse Device. IEEE Electron Device Letters, 2021, 42, 1014-1016.	3.9	11
10	Amorphous Gaâ€“Snâ€“O thin-film crosspoint-type spike-timing-dependent-plasticity device. Japanese Journal of Applied Physics, 2021, 60, 078003.	1.5	6
11	8.3: Invited Paper: GTOâ€TFT deposited using Mistâ€CVD. Digest of Technical Papers SID International Symposium, 2021, 52, 142-144.	0.3	0
12	Preliminary Evaluation for Multi-domain Spike Coding on Memcapacitive Neuromorphic Circuit. , 2021, , .		0
13	Record-High-Performance Hydrogenated Inâ€“Gaâ€“Znâ€“O Flexible Schottky Diodes. ACS Applied Materials & Interfaces, 2020, 12, 47739-47746.	8.0	27
14	Memristor property of an amorphous Snâ€“Gaâ€“O thin-film device deposited using mist chemical-vapor-deposition method. AIP Advances, 2020, 10, .	1.3	7
15	Retinal Prosthesis Using Thin-Film Devices on a Transparent Substrate and Wireless Power Transfer. IEEE Transactions on Electron Devices, 2020, 67, 529-534.	3.0	7
16	Influence of characteristic variation of oxide semiconductor and comparison of the activation function in neuromorphic hardware. Nonlinear Theory and Its Applications IEICE, 2020, 11, 232-252.	0.6	4
17	Ga-Sn-O Thin Film Synapse for Neuromorphic Device. , 2020, , .		1
18	Analysis of Carrier Mobility in Amorphous Metal-Oxide Semiconductor Thin-Film Transistor using Hall Effect. IEEE Electron Device Letters, 2020, , 1-1.	3.9	1

#	Article	IF	Citations
19	Evaluation of Neuromorphic Hardware using Cellular Neural Networks and Oxide Semiconductors. , 2019, , .		2
20	Memristive Characteristic of an Amorphous Ga-Sn-O Thin-Film Device with Double Layers of Different Oxygen Density. Materials, 2019, 12, 3236.	2.9	9
21	Sensor applications of thinâ€ſilm devices originating in display technologies. Journal of the Society for Information Display, 2019, 27, 741-756.	2.1	1
22	Infrared sensors using polyâ€Si thinâ€ſilm transistors for proximity sensors integrated in smartphone displays. Journal of the Society for Information Display, 2019, 27, 147-154.	2.1	6
23	Ga-Sn-O thin film thermoelectric conversion devise fabricated by Mist CVD method. , 2019, , .		0
24	Neuromorphic System with Crosspoint-Type Amorphous Ga-Sn-O Thin-Film Devices as Self-Plastic Synapse Elements. ECS Transactions, 2019, 90, 157-166.	0.5	9
25	Emerging applications using metal-oxide semiconductor thin-film devices. Japanese Journal of Applied Physics, 2019, 58, 090503.	1.5	34
26	Pulseâ€width modulation with current uniformization for <scp>AMâ€OLED</scp> microâ€displays on <scp>Si LSI</scp> chips. Journal of the Society for Information Display, 2019, 27, 402-408.	2.1	8
27	Memristive characteristic of an amorphous Ga-Sn-O thin-film device. Scientific Reports, 2019, 9, 2757.	3.3	17
28	A Programmable Calculation Unit Employing Memcapacitor-based Neuromorphic Circuit. , 2019, , .		5
29	Inâ€“Gaâ€“Znâ€“O Thin-Film Devices As Synapse Elements in a Neural Network. IEEE Journal of the Electron Devices Society, 2018, 6, 100-105.	2.1	18
30	Multilayer Cross-Point Synapses Using Ga-Sn-O Thin Films for Neural Network. , 2018, , .		0
31	Evaluation of (Bi, La)4Ti3012 Thin Film for Capacitor-Type Synapses. , 2018, , .		0
32	Evaluation of GTO Film Deposited Using mistCVD Method. , 2018, , .		0
33	Evaluation of Ga-Sn-O Thermoelectric Device. , 2018, , .		0
34	Multilayer Cross-Point Device Using IGZO as Synapses in Artificial Neural Networks. , 2018, , .		0
35	Cellular Neural Network using IGZO Thin Film as Synapses and LSI as Neurons. , 2018, , .		0
36	In-Ga-Zn-O Thin Film Synapse in Neural Network Using LSI. , 2018, , .		0

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37	49.2: Invited Paper: Research and Applications of Amorphous Metalâ€Oxide Semiconductor Devices â€•Inâ€Gaâ€Znâ€O and Gaâ€Snâ€O Thinâ€Film Devices â€• Digest of Technical Papers SID International Symposium, 2018, 49, 512-515.	0.3	0
38	Evaluation of Letter Reproduction System Using Cellular Neural Network and Oxide Semiconductor Synapses by Logic Simulation. , 2018, , .		0
39	Thermoelectric Conversion Devise Using Ga-Sn-O Thin Film Prepared by Mist CVD Method. , 2018, , .		0
40	Development of Memristor Characteristic Device Using In-Ga-Zn-O Thin Film. , 2018, , .		1
41	Hopfield Neural Network with Double-Layer Amorphous Metal-Oxide Semiconductor Thin-Film Devices as Crosspoint-Type Synapse Elements and Working Confirmation of Letter Recognition. Lecture Notes in Computer Science, 2018, , 637-646.	1.3	2
42	Research and development of Ga-Sn-O thin films for application to neural networks. , 2018, , .		0
43	Biological Stimulation Performance of LTPS-TFTs Artificial Retina by Wireless Power Drive. , 2018, , .		0
44	Photosensing circuit using thin-film transistors for retinal prosthesis. Japanese Journal of Applied Physics, 2018, 57, 1002B1.	1.5	7
45	Room Temperature Fabrication of Variable Resistive Memory Using Ga-Sn-O Thin Film. , 2018, , .		0
46	Cross-Point Device using Ta2O5/Ta Layer for Synapse Element in Neural Network. , 2018, , .		0
47	Cellular neural network formed by simplified processing elements composed of thin-film transistors. Neurocomputing, 2017, 248, 112-119.	5.9	25
48	Hybrid-Type Temperature Sensor Using Poly-Si Thin-Film Transistors Outputting Rectangle Waveforms. IEEE Sensors Journal, 2017, 17, 4365-4368.	4.7	4
49	Room-temperature fabrication of a Ga-Sn-O thin-film transistor. Solid-State Electronics, 2017, 134, 19-21.	1.4	9
50	Rare-metal-free high-performance Ga-Sn-O thin film transistor. Scientific Reports, 2017, 7, 44326.	3.3	68
51	Planar device using In-Ga-Zn-O semiconductor for synapse element in neural network. , 2017, , .		0
52	Magnetoresistance effect of Ga-Sn-O film deposited using mist chemical vapor deposition. , 2017, , .		0
53	Room-temperature forming of Ga-Sn-O film for thin-film transistors. , 2017, , .		0
54	Wireless power transmission to thin-film devices. , 2017, , .		0

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55	Magnetoresistive Effect of Amorphous In-Ga-Zn-O Magnetic Field Sensors. IEEE Electron Device Letters, 2017, 38, 1143-1145.	3.9	8
56	Thermoelectric effects of amorphous Gaâ€“Snâ€“O thin film. Japanese Journal of Applied Physics, 2017, 56, 070309.	1.5	16
57	Evaluation of thin-film biostimulating device using thin-film transistors. , 2017, , .		0
58	Cross-point device using In-Ga-Zn-O semiconductor for synapse element in neural network. , 2017, , .		0
59	Characteristic evaluation of Ga-Sn-O films deposited using mist chemical vapor deposition. , 2017, , .		3
60	Hall effect in thin-film transistor: - Sensitivity dependence on applied voltage -. , 2017, , .		0
61	Neuromorphic Hardware Using Simplified Elements and Thin-Film Semiconductor Devices as Synapse Elements - Simulation of Hopfield and Cellular Neural Network -. Lecture Notes in Computer Science, 2017, , 769-776.	1.3	4
62	Characteristic evaluation of Ga-Sn-O thin film by Hall measurement. , 2016, , .		0
63	Simplification of synapse devices in cellular neural network. , 2016, , .		0
64	Characteristic evaluation of Ga-Sn-O thin films fabricated using RF magnetron sputtering. , 2016, , .		0
65	Magnetoresistance effect of Ga-Sn-O thin-film device. , 2016, , .		0
66	Characteristic evaluation of photo-induced current by infrared light irradiation in low-temperature poly-Si TFT. , 2016, , .		2
67	Neural network using FPGA for neurons and IGZO thin films for synapses. , 2016, , .		1
68	Characteristic reliability of a hybrid-type temperature sensor using poly-Si thin-film transistors. , 2016, , .		0
69	Hall Effect in Thin-Film Transistor. IEEE Transactions on Electron Devices, 2016, , 1-3.	3.0	0
70	Evaluation of Ga-Sn-O films fabricated using mist chemical vapor deposition. , 2016, , .		0
71	Wireless power supply to artificial retina using poly-Si thin-film transistor. , 2016, , .		0
72	Stimulus performance of poly-Si thin-film transistor in in-vitro experiment for artificial retinas. , 2016, , .		0

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73	Artificial neural networks using poly-Si thin-film transistors. , 2016, , .		0
74	Anomalous Increase in Field-Effect Mobility in Inâ€“Gaâ€“Znâ€“O Thin-Film Transistors Caused by Dry-Etching Damage Through Etch-Stop Layer. IEEE Transactions on Electron Devices, 2016, 63, 2785-2789.	3.0	19
75	6.2: Hybridâ€Type Temperature Sensors Using Thinâ€Film Transistors: Characteristic Comparion of n, p., and Pinâ€Type Transistors. Digest of Technical Papers SID International Symposium, 2015, 46, 40-44.	0.3	0
76	Apoptotic self-organized electronic device using thin-film transistors for artificial neural networks with unsupervised learning functions. Japanese Journal of Applied Physics, 2015, 54, 03CB02.	1.5	11
77	Hall effect in a p-type poly-Si thin-film transistor with Hall terminals. , 2015, , .		0
78	Characteristic analysis of thin-film phototransistors. , 2015, , .		0
79	Hybrid-type temperature sensor using thin-film transistors generating rectangle output waveform. , 2015, , .		0
80	Neuron MOS inverter and source follower using thin-film transistors. , 2015, , .		2
81	Hybrid-type temperature sensor using n-type low-temperature processed poly-Si thin-film transistors. , 2015, , .		0
82	Comparison of defects in crystalline oxide semiconductor materials by electron spin resonance. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	4
83	Evaluation of In<inf>2</inf>O<inf>3</inf> thin film deposited by RF magnetron sputtering. , 2015, , .		0
84	Evaluation of SnO<inf>2</inf> / Al<inf>2</inf>O<inf>3</inf> thin film deposited by RF magnetron sputtering. , 2015, , .		0
85	Hybrid-Type Temperature Sensor Using Thin-Film Transistors. IEEE Journal of the Electron Devices Society, 2014, 2, 182-186.	2.1	11
86	Artificial retina using thin-film devices driven by wireless power supply — Working confirmation of pattern recognition. , 2014, , .		0
87	Soft actuator using ionic polymer-metal composite driven with ionic liquid. , 2014, , .		0
88	49.3: Highâ€Resolution Activeâ€Matrix Imager using Polyâ€Si Thinâ€Film Phototransistors in a Magnifying Viewer. Digest of Technical Papers SID International Symposium, 2014, 45, 709-712.	0.3	5
89	Comparison of defects in crystalline oxide semiconductor materials by electron spin resonance. , 2014, , .		0
90	Pâ€3: Hybridâ€Type Temperature Sensor using Thinâ€Film Transistors. Digest of Technical Papers SID International Symposium, 2014, 45, 952-955.	0.3	2

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91	Multiple-input NAND cirucit using polycrystalline silicon thin-film transistors and set-reset flip-flop circuit using the NAND circuits. , 2014, , .		0
92	Maximum and minimum voltage sample and hold circuits employing operational amplifiers composed of polycrystalline silicon thin-film transistors. , 2014, , .		0
93	Temperature Sensor employing Ring Oscillator composed of Poly-Si Thin-Film Transistors: Comparison between Lightly-Doped and Offset Drain Structures. IEICE Transactions on Electronics, 2014, E97.C, 1068-1073.	0.6	1
94	p/i/n-Type poly-Si thin-film transistor for quasi-static capacitanceâ€“voltage measurement. Solid-State Electronics, 2013, 87, 1-3.	1.4	2
95	Evaluation of Thermal Annealing Before and After Formation of Gate Insulator Films by Extracting Trap Densities for SPC Poly-Si TFTs. IEEE Electron Device Letters, 2013, 34, 256-258.	3.9	4
96	Thermal sensor employing ring oscillator composed of poly-Si thin-film transistors. Solid-State Electronics, 2013, 79, 14-17.	1.4	13
97	Thermal Sensor Using Poly-Si Thin-Film Transistors With Self-Aligned and Offset Gate Structures. IEEE Sensors Journal, 2013, 13, 1771-1774.	4.7	4
98	Retinal prosthesis of frequency modulation using thin-film photo transistors. , 2013, , .		0
99	P.8: Trap States in Amorphous Inâ€Snâ€Znâ€O Thinâ€Film Transistors Analyzed Using Dependence on Channel Thickness. Digest of Technical Papers SID International Symposium, 2013, 44, 1014-1017.	0.3	1
100	P.3: 3â€Ð Stacked Complementary TFT Devices using nâ€type Î±â€IGZO and pâ€type F8T2 TFTs â€” Operation Confirmation of NOT and NAND Logic Circuits â€“. Digest of Technical Papers SID International Symposium, 2013, 44, 995-998.	0.3	1
101	Artificial neural network using thin-film transistors - Working confirmation of asymmetric circuit -. , 2013, , .		4
102	Artificial retina using poly-Si TFTs driven by wireless power supply. , 2012, , .		1
103	Characteristic shift of a CTFT inverter using n-type IGZO and p-type F8T2 TFTs after temperature and operation stresses. , 2012, , .		0
104	Extraction Method of Trap Densities in TFTs Combining Câ€“V and F-E Methods. IEEE Electron Device Letters, 2012, 33, 845-847.	3.9	5
105	Soft Actuator Using Ionic Polymerâ€“Metal Composite Composed of Gold Electrodes Deposited Using Vacuum Evaporation. IEEE Electron Device Letters, 2012, 33, 1087-1089.	3.9	10
106	Gamma Correction of Pulse Width Modulation With Current Uniformization for AM-OLEDs. Journal of Display Technology, 2012, 8, 245-249.	1.2	5
107	Maximum applied voltage detector using amorphous Inâ€“Gaâ€“Znâ€“O thin-film transistor exposed to ozone annealing. Solid-State Electronics, 2012, 75, 74-76.	1.4	7
108	Temperature Dependences of Iâ€“ V Characteristics of SD and LDD Poly-Si TFTs. IEEE Electron Device Letters, 2012, 33, 682-684.	3.9	9

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109	Behavior Analysis of an LDD Poly-Si TFT Using 2-D Device Simulation. IEEE Transactions on Electron Devices, 2012, 59, 705-709.	3.0	6
110	Artificial neural network using poly-Si TFTs - verification of multiple overwriting -. , 2011, , .		1
111	Mechanism Analysis of Off-Leakage Current in an LDD Poly-Si TFT Using Activation Energy. IEEE Electron Device Letters, 2011, 32, 764-766.	3.9	23
112	Analysis of hall effect in micro poly-Si Hall devices with p-type doping films for magnetic area sensors. , 2011, , .		0
113	Effects of excess oxygen on operation characteristics of amorphous In-Ga-Zn-O thin-film transistors. Applied Physics Letters, 2011, 99, .	3.3	203
114	Temperature Sensor Using Thin-Film Transistor. IEEE Sensors Journal, 2011, 11, 995-998.	4.7	29
115	Artificial Retina Using Thin-Film Transistors Driven by Wireless Power Supply. IEEE Sensors Journal, 2011, 11, 1564-1567.	4.7	20
116	Pâ€30: Artificial Retina using Polyâ€Si Thinâ€Film Transistors driven by Wireless Power Supply. Digest of Technical Papers SID International Symposium, 2011, 42, 1201-1204.	0.3	0
117	2-D Simulator of Laser Crystallization for Polycrystalline-Silicon Thin-Film Transistors. IEEE Transactions on Semiconductor Manufacturing, 2011, 24, 472-476.	1.7	3
118	Characteristic Analysis of p-i-n Thin-Film Phototransistor Using Device Simulation. IEEE Transactions on Electron Devices, 2011, 58, 3472-3476.	3.0	7
119	Extraction of trap densities in entire bandgap of poly-Si thin-film transistors fabricated by solid-phase crystallization and dependence on process conditions of post annealing. Solid-State Electronics, 2011, 63, 94-99.	1.4	13
120	Degradation evaluation of poly-Si TFTs by comparing normal and reverse characteristics and behavior analysis of hot-carrier degradation. Solid-State Electronics, 2011, 56, 207-210.	1.4	8
121	Dependence of off-leakage current on channel film quality in poly-Si thin-film transistors and analysis using device simulation. Solid-State Electronics, 2011, 57, 87-89.	1.4	0
122	Reduction of Photo-Leakage Current in ZnO Thin-Film Transistors With Dual-Gate Structure. IEEE Electron Device Letters, 2011, 32, 509-511.	3.9	9
123	Effects of chemical stoichiometry of channel region on bias instability in ZnO thin-film transistors. Applied Physics Letters, 2011, 98, .	3.3	17
124	Features and applications of various TFTs - Si based matured TFTs and oxide semiconductor based transparent TFTs. , 2011, , .		1
125	Thermal Sensor Using Poly-Si Thin-Film Transistor With Widened Detectable Temperature Range. IEEE Electron Device Letters, 2011, 32, 333-335.	3.9	20
126	Pulsewidth Modulation With Current Uniformization for AM-OLEDs. IEEE Transactions on Electron Devices, 2010, 57, 2624-2630.	3.0	15

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127	An Artificial Neural Network at Device Level Using Simplified Architecture and Thin-Film Transistors. IEEE Transactions on Electron Devices, 2010, 57, 2744-2750.	3.0	27
128	Complete Extraction of Trap Densities in Poly-Si Thin-Film Transistors. IEEE Transactions on Electron Devices, 2010, 57, 3426-3433.	3.0	21
129	Extraction of trap densities in poly-Si thin-film transistors fabricated by solid-phase crystallization and dependence on temperature and time of post annealing. Solid-State Electronics, 2010, 54, 1500-1504.	1.4	8
130	Three-dimensionally stacked flexible integrated circuit: Amorphous oxide/polymer hybrid complementary inverter using n-type a-Inâ€“Gaâ€“Znâ€“O and p-type poly-(9,9-dioctylfluorene-co-bithiophene) thin-film transistors. Applied Physics Letters, 2010, 96, .	3.3	91
131	Mechanism analysis of photoleakage current in ZnO thin-film transistors using device simulation. Applied Physics Letters, 2010, 97, 163503.	3.3	15
132	Extraction Technique of Trap Densities in Thin Films and at Insulator Interfaces of Thin-Film Transistors. IEEE Electron Device Letters, 2010, 31, 570-572.	3.9	11
133	Intrinsic carrier mobility in amorphous Inâ€“Gaâ€“Znâ€“O thin-film transistors determined by combined field-effect technique. Applied Physics Letters, 2010, 96, 262105.	3.3	51
134	Device Characterization of p/i/n Thin-Film Phototransistor for Photosensor Applications. IEEE Electron Device Letters, 2010, 31, 984-986.	3.9	14
135	Degradation Evaluation of $alpha$-IGZO TFTs for Application to AM-OLEDs. IEEE Electron Device Letters, 2010, 31, 963-965.	3.9	42
136	Magnetic-Field Area Sensor Using Poly-Si Micro Hall Devices. IEEE Electron Device Letters, 2010, 31, 1260-1262.	3.9	19
137	An Integrated Potentiostat With an Electrochemical Cell Using Thin-Film Transistors. IEEE Transactions on Electron Devices, 2009, 56, 2114-2119.	3.0	16
138	Tin monoxide as an sâ€orbitalâ€based pâ€type oxide semiconductor: Electronic structures and TFT application. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2187-2191.	1.8	213
139	Novel driving method to improve picture quality of active-matrix organic light-emitting diode displays. , 2009, , .		0
140	Trap densities in amorphous-InGaZnO4 thin-film transistors. Applied Physics Letters, 2008, 92, .	3.3	290
141	Evaluation of Thin-Film Photodiodes and Development of Thin-Film Phototransistor. Japanese Journal of Applied Physics, 2008, 47, 1924-1929.	1.5	28
142	P-1: Artificial Retina Using Thin-Film Devices. Digest of Technical Papers SID International Symposium, 2008, 39, 1169.	0.3	1
143	Pâ€2: Pulseâ€Width Modulation with Current Uniformization for TFTâ€OLEDs. Digest of Technical Papers SID International Symposium, 2008, 39, 1173-1176.	0.3	2
144	P-182: Analysis of Bright Lines in Passive-Matrix OLEDs using High-Speed Photography. Digest of Technical Papers SID International Symposium, 2006, 37, 912.	0.3	1

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145	Time-Ratio Grayscale and Hopping Scan with Current Uniformization for Thin-Film Transistor Driven Organic Light-Emitting Diode Displays. Japanese Journal of Applied Physics, 2006, 45, 4407-4412.	1.5	6
146	Evaluation of trap states at front and back oxide interfaces and grain boundaries using electrical characteristic analysis and device simulation of polycrystalline silicon thin-film transistors. Electronics and Communications in Japan, 2005, 88, 1-10.	0.2	4
147	Extraction of Trap Densities at Front and Back Interfaces in Thin-Film Transistors. Japanese Journal of Applied Physics, 2004, 43, 71-76.	1.5	17
148	P-1: Dependence of Poly-Si TFT Characteristics on Oxide Interface Traps and Grain Boundary Traps and its Application to Diagnosis of Fabrication Processes. Digest of Technical Papers SID International Symposium, 2004, 35, 220.	0.3	4
149	Analysis and Classification of Degradation Phenomena in Polycrystalline-Silicon Thin Film Transistors Fabricated by a Low-Temperature Process Using Emission Light Microscopy. Japanese Journal of Applied Physics, 2003, 42, 1168-1172.	1.5	51