

Edwin C Kan

List of Publications by Year in descending order

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Version: 2024-02-01

97
papers

1,146
citations

566801

15
h-index

500791

28
g-index

98
all docs

98
docs citations

98
times ranked

1124
citing authors

#	ARTICLE	IF	CITATIONS
1	Self-assembly of metal nanocrystals on ultrathin oxide for nonvolatile memory applications. Journal of Electronic Materials, 2005, 34, 1-11.	1.0	192
2	Monitoring vital signs over multiplexed radio by near-field coherent sensing. Nature Electronics, 2018, 1, 74-78.	13.1	92
3	Flash Memory for Ubiquitous Hardware Security Functions: True Random Number Generation and Device Fingerprints. , 2012, , .		86
4	3D real-time indoor localization via broadband nonlinear backscatter in passive devices with centimeter precision. , 2016, , .		75
5	Wearable radio-frequency sensing of respiratory rate, respiratory volume, and heart rate. Npj Digital Medicine, 2020, 3, 98.	5.7	63
6	Simultaneous optical and electrical in vivo analysis of the enteric nervous system. Nature Communications, 2016, 7, 11800.	5.8	51
7	No-touch measurements of vital signs in small conscious animals. Science Advances, 2019, 5, eaau0169.	4.7	41
8	Radio ranging with ultrahigh resolution using a harmonic radio-frequency identification system. Nature Electronics, 2019, 2, 125-131.	13.1	31
9	An extended H ¹ /4ckel theory based atomistic model forÂgrapheneÂnanoelectronics. Journal of Computational Electronics, 2008, 7, 372-375.	1.3	28
10	Code Division Multiple Access in Centimeter Accuracy Harmonic RFID Locating System. IEEE Journal of Radio Frequency Identification, 2017, 1, 51-58.	1.5	24
11	Fermi-Level Pinning in Nanocrystal Memories. IEEE Electron Device Letters, 2007, 28, 103-106.	2.2	22
12	Harmonic-WISP: A passive broadband harmonic RFID platform. , 2016, , .		22
13	Collaborative Reader Code Division Multiple Access in the Harmonic RFID System. IEEE Journal of Radio Frequency Identification, 2018, 2, 86-92.	1.5	19
14	Multi-Point Near-Field RF Sensing of Blood Pressures and Heartbeat Dynamics. IEEE Access, 2020, 8, 89935-89945.	2.6	19
15	Sleep Scoring with a UHF RFID Tag by Near Field Coherent Sensing. , 2018, , .		18
16	Programable molecular orbital states of C60 from integrated circuits. Applied Physics Letters, 2006, 89, 253113.	1.5	17
17	A real-time spike classification method based on dynamic time warping for extracellular enteric neural recording with large waveform variability. Journal of Neuroscience Methods, 2016, 261, 97-109.	1.3	16
18	Seat Integration of RF Vital-Sign Monitoring. , 2019, , .		16

#	ARTICLE	IF	CITATIONS
19	Microwave Stethoscope for Heart Sound by Near-Field Coherent Sensing. , 2019, , .		16
20	Near-Field Coherent Sensing of Vibration With Harmonic Analysis and Balance Signal Injection. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 1906-1916.	2.9	16
21	Electrical transport in a two-dimensional electron and hole gas on a Si surface. Physical Review B, 2008, 78, .	1.1	15
22	A Wireless Wearable RF Sensor for Brumation Study of Chelonians. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2021, 5, 17-24.	2.3	15
23	Programmable ion-sensitive transistor interfaces. III. Design considerations, signal generation, and sensitivity enhancement. Physical Review E, 2014, 89, 052817.	0.8	14
24	An RF-to-DC Rectifier Based on Tunable Threshold Diodes. IEEE Journal of Radio Frequency Identification, 2019, 3, 173-182.	1.5	13
25	Understanding sources of variations in flash memory for physical unclonable functions. , 2014, , .		12
26	Hiding Information in Flash Memory. , 2013, , .		11
27	A Wearable RF Sensor for Monitoring Respiratory Patterns. , 2019, 2019, 1217-1223.		11
28	A Low-Power UWB-IR Transmitter by Tapered Nonlinear Transmission Lines. IEEE Microwave and Wireless Components Letters, 2012, 22, 618-620.	2.0	10
29	Furniture-Integrated Respiration Sensors by Notched Transmission Lines. IEEE Sensors Journal, 2021, 21, 5303-5311.	2.4	10
30	Nonvolatile memory with molecule-engineered tunneling barriers. Applied Physics Letters, 2008, 92, 153109.	1.5	9
31	Objective Scoring of Physiologically Induced Dyspnea by Non-Invasive RF Sensors. IEEE Transactions on Biomedical Engineering, 2022, 69, 432-442.	2.5	9
32	Microwave pulse generation using the Bragg cutoff of a nonlinear transmission line. , 2008, , .		8
33	Wearable RF Near-Field Cough Monitoring by Frequency-Time Deep Learning. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 756-764.	2.7	8
34	Ferroelectric-Assisted Dual-Switching Speed DRAM as Flash Hybrid Memory. IEEE Transactions on Electron Devices, 2013, 60, 1944-1950.	1.6	7
35	Non-Faradaic Electrochemical Detection of Exocytosis from Mast and Chromaffin Cells Using Floating-Gate MOS Transistors. Scientific Reports, 2016, 5, 18477.	1.6	6
36	Accurate Extraction of Heartbeat Intervals with Near-Field Coherent Sensing. , 2018, , .		6

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37	Mitigation of body movement interference in near-field coherent sensing for heartrate monitoring. , 2018, , .		6
38	An atomistic quantum transport solver with dephasing forÅfield-effect transistors. Journal of Computational Electronics, 2008, 7, 423-426.	1.3	5
39	Millimeter accuracy passive tag ranging via second harmonics RF backscattering against body movement interference. , 2014, , .		5
40	Sharp Switching by Field-Effect Bandgap Modulation in All-Graphene Side-Gate Transistors. IEEE Journal of the Electron Devices Society, 2015, 3, 144-148.	1.2	5
41	Ubiquitous tagless object locating with ambient harmonic tags. , 2016, , .		5
42	3-D Indoor Device-Free Object Detection by Passive Radio Frequency Identification. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-13.	2.4	5
43	Indoor Object Sensing Using Radio-Frequency Identification With Inverse Methods. IEEE Sensors Journal, 2022, 22, 11336-11344.	2.4	5
44	Investigation on Process Dependence of Self-Assembled Metal Nanocrystals. Materials Research Society Symposia Proceedings, 2002, 737, 671.	0.1	4
45	High-frequency permalloy permeability extracted from scattering parameters. Journal of Applied Physics, 2004, 95, 7034-7036.	1.1	4
46	Metal nanocrystal/nitride heterogeneous-stack floating gate memory. , 2005, , .		4
47	Flash Memory Scaling: From Material Selection to Performance Improvement. Materials Research Society Symposia Proceedings, 2008, 1071, 1.	0.1	4
48	Label-free electronic detection of growth factor induced cellular chatter on chemoreceptive neuron MOS (CvMOS) transistors. , 2009, , .		4
49	Reflective nonlinear transmission lines for single-antenna non-self-jamming RFID. , 2011, , .		4
50	Circuit Models for Ferroelectricsâ€™Part I: Physics of Polarization Switching. IEEE Transactions on Electron Devices, 2016, 63, 631-636.	1.6	4
51	Circuit Models for Ferroelectricsâ€™Part II: Analysis of FE-Nonvolatile Latches. IEEE Transactions on Electron Devices, 2016, 63, 637-642.	1.6	4
52	High-Volume Parallel Mouse Vital-Sign Monitoring With Near-Field Coherent Sensing. IEEE Antennas and Wireless Propagation Letters, 2020, 19, 1152-1156.	2.4	4
53	Integration of fullerenes and carbon nanotubes with aggressively scaled CMOS gate stacks. Materials Research Society Symposia Proceedings, 2003, 789, 205.	0.1	3
54	Low power nonvolatile SRAM circuit with integrated low voltage nanocrystal PMOS Flash. , 2010, , .		3

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55	Real-time code-division multi-tag localization with centimeter accuracy. , 2017, , .		3
56	Eluding Metal Contamination in CMOS Front-End Fabrication by Nanocrystal Formation Process. Materials Research Society Symposia Proceedings, 2001, 686, 1.	0.1	2
57	Integrated On-chip Planar Solenoid Inductors with Patterned Permalloy Cores for High Frequency Applications. Materials Research Society Symposia Proceedings, 2004, 833, 107.	0.1	2
58	Experimental Observation of Non-Volatile Charge Injection and Molecular Redox in Fullerenes C ₆₀ and C ₇₀ in an EEPROM-Type Device. Materials Research Society Symposia Proceedings, 2004, 830, 343.	0.1	2
59	Three-dimensional analytical modeling of nanocrystal memory electrostatics. Journal of Applied Physics, 2006, 99, 114516.	1.1	2
60	Modeling of Multi-layer Nanocrystal Memory. Device Research Conference, IEEE Annual, 2007, , .	0.0	2
61	Space efficient CMOS nonlinear transmission lines. , 2009, , .		2
62	Harmonic generation from integrated nonlinear transmission lines for RFID applications. , 2010, , .		2
63	Interface and oxide quality of CoFeB/MgO/Si tunnel junctions. Journal of Applied Physics, 2012, 111, 093908.	1.1	2
64	Switching dynamics in ferroelectric-charge hybrid nonvolatile memory. , 2012, , .		2
65	Capacitive control of an ISFET using dielectric coated electrodes. , 2013, , .		2
66	Accurate indoor ranging by broadband passive NLTL tags. , 2013, , .		2
67	Indoor Object Sensing Using Radio-Frequency Identification with Inverse Solutions. , 2020, , .		2
68	Characterization of Number Fluctuations in Gate-last Metal Nanocrystal Nonvolatile Memory Array beyond 90nm CMOS Technology. Materials Research Society Symposia Proceedings, 2004, 830, 225.	0.1	1
69	Material and electrical characterization of stackable planar polysilicon TFT flash memory cell with metal nanocrystals and high-k dielectrics. , 2008, , .		1
70	Heterogeneous Integration of Molecules in Nonvolatile Memory. , 2008, , .		1
71	A Low-Range Drift-Free Bio-compatible Pressure Sensor Based on P(VDF-TrFE) Piezoelectric Thin Film. Materials Research Society Symposia Proceedings, 2009, 1222, 1.	0.1	1
72	A hybrid ferroelectric and charge nonvolatile memory. , 2011, , .		1

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73	Transverse-field bandgap modulation on graphene nanoribbon transistors by double-self-aligned spacers. , 2012, , .		1
74	Side-gate-controlled dual-mode power gating device by graphene nanoribbon transistor. , 2013, , .		1
75	Multi-path interference reduction in passive NLTL RFID tags. , 2013, , .		1
76	Harmonic UHF RFID Ranging with 50-Micron Accuracy and 1-kHz Sampling Rate. , 2019, , .		1
77	Eluding Metal Contamination in CMOS Front-End Fabrication by Nanocrystal Formation Process. Materials Research Society Symposia Proceedings, 2001, 707, 531.	0.1	0
78	Title is missing!. Journal of Computational Electronics, 2002, 1, 223-226.	1.3	0
79	The Effect of Gate Geometry on the Charging Characteristics of Metal Nanocrystal Memories. Materials Research Society Symposia Proceedings, 2003, 789, 258.	0.1	0
80	A Critical Examination of the Basis of Macroscopic Quantum Transport Approaches. Journal of Computational Electronics, 2004, 3, 435-438.	1.3	0
81	Thermal and Pressure Sensing by Chemoreceptive Neuron MOS Transistors ($C^{1/2}$ MOS) with PVDF Coating. Materials Research Society Symposia Proceedings, 2006, 952, 8.	0.1	0
82	Ni-based self-aligned silicidation (SAS) process on source and drain for planar polysilicon TFT low-voltage flash memory cell. , 2009, , .		0
83	“Nothing” can be better: Study of porosity in the charge trap layer of Flash memory. , 2009, , .		0
84	3D Finite-Element Analysis of Metal Nanocrystal Memories Variations. , 2009, , .		0
85	Tunable Nonlinear Transmission Lines with switched varactors. , 2009, , .		0
86	Stacking Misalignments in Bilayer Graphene. , 2009, , .		0
87	Introduction to the Special Section on Electronic and Ionic Interfaces to Biomolecules and Cells. IEEE Nanotechnology Magazine, 2010, 9, 268-268.	1.1	0
88	Interface and oxide quality of CoFeB/MgO/Si tunnel junctions. , 2010, , .		0
89	Ultra-thin-body PECVD Ge TFT low-voltage flash memory cell with high-k dielectrics for three-dimensional integration. , 2010, , .		0
90	Probing the Orbital Levels of Engineered Fullerenic Molecules from a Nonvolatile Memory Cell. Materials Research Society Symposia Proceedings, 2011, 1286, 29.	0.1	0

#	ARTICLE	IF	CITATIONS
91	A passive wireless sensor with reflective nonlinear transmission lines for capacitive signal transduction. , 2012, , .		0
92	Electrochemical gating on CMOS: Interplay of field, acidity and salinity on an electrolyte-insulator interface. , 2013, , .		0
93	The DNA transistor interface: The interplay between pH, electric field and membrane screening dictates sensitivity. , 2013, , .		0
94	Towards DRAM-Flash hybrid: Dual-speed low-voltage ferroelectric and charge memory. , 2013, , .		0
95	Design considerations for FE-charge DRAM-Flash hybrid memory. , 2013, , .		0
96	Dynamic modeling of steric effects on polarizable electrodes. , 2017, , .		0
97	Electrolyte Pulse Current Measurements by CvMOS with Microsecond and Thermal Voltage Resolution. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0