Edwin C Kan

List of Publications by Year in Descending Order

76 papers	792 citations	14 h-index	26 g-index
98 ext. papers	950 ext. citations	5.1 avg, IF	4.69 L-index

#	Paper	IF	Citations
76	Near-Field Coherent Sensing of Vibration With Harmonic Analysis and Balance Signal Injection. *IEEE Transactions on Microwave Theory and Techniques*, **2021**, 69, 1906-1916	4.1	5
75	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	2.8	6
74	Furniture-Integrated Respiration Sensors by Notched Transmission Lines. *IEEE Sensors Journal*, **2021**, 21, 5303-5311	4	4
73	3-D Indoor Device-Free Object Detection by Passive Radio Frequency Identification. *IEEE Transactions on Instrumentation and Measurement*, **2021**, 70, 1-13	5.2	1
72	Wearable RF Near-Field Cough Monitoring by Frequency-Time Deep Learning. *IEEE Transactions on Biomedical Circuits and Systems*, **2021**, 15, 756-764	5.1	1
71	. *IEEE Sensors Journal*, **2021**, 1-1	4	1
70	High-Volume Parallel Mouse Vital-Sign Monitoring With Near-Field Coherent Sensing. *IEEE Antennas and Wireless Propagation Letters*, **2020**, 19, 1152-1156	3.8	2
69	Multi-Point Near-Field RF Sensing of Blood Pressures and Heartbeat Dynamics. *IEEE Access*, **2020**, 8, 89935-89945	3.5	11
68	Indoor Object Sensing Using Radio-Frequency Identification with Inverse Solutions **2020**,		1
67	Wearable radio-frequency sensing of respiratory rate, respiratory volume, and heart rate. *Npj Digital Medicine*, **2020**, 3, 98	15.7	19
66	Seat Integration of RF Vital-Sign Monitoring **2019**,		7
65	Microwave Stethoscope for Heart Sound by Near-Field Coherent Sensing **2019**,		11
64	An RF-to-DC Rectifier Based on Tunable Threshold Diodes. *IEEE Journal of Radio Frequency Identification*, **2019**, 3, 173-182	2.4	8
63	Radio ranging with ultrahigh resolution using a harmonic radio-frequency identification system. *Nature Electronics*, **2019**, 2, 125-131	28.4	18
62	Harmonic UHF RFID Ranging with 50-Micron Accuracy and 1-kHz Sampling Rate **2019**,		1
61	A Wearable RF Sensor for Monitoring Respiratory Patterns. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 1217-1223	0.9	6
60	No-touch measurements of vital signs in small conscious animals. *Science Advances*, **2019**, 5, eaau0169	14.3	20

59	Accurate Extraction of Heartbeat Intervals with Near-Field Coherent Sensing **2018**,		3
58	Collaborative Reader Code Division Multiple Access in the Harmonic RFID System. *IEEE Journal of Radio Frequency Identification*, **2018**, 2, 86-92	2.4	14
57	Mitigation of body movement interference in near-field coherent sensing for heartrate monitoring **2018**,		3
56	Sleep Scoring with a UHF RFID Tag by Near Field Coherent Sensing **2018**,		10
55	Monitoring vital signs over multiplexed radio by near-field coherent sensing. *Nature Electronics*, **2018**, 1, 74-78	28.4	58
54	Non-logic Devices in Logic Processes **2017**,		3
53	Code Division Multiple Access in Centimeter Accuracy Harmonic RFID Locating System. *IEEE Journal of Radio Frequency Identification*, **2017**, 1, 51-58	2.4	20
52	3D real-time indoor localization via broadband nonlinear backscatter in passive devices with centimeter precision **2016**,		60
51	Simultaneous optical and electrical in vivo analysis of the enteric nervous system. *Nature Communications*, **2016**, 7, 11800	17.4	39
50	Circuit Models for Ferroelectrics—Part I: Physics of Polarization Switching. *IEEE Transactions on Electron Devices*, **2016**, 63, 631-636	2.9	3
49	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	3	11
48	Circuit Models for Ferroelectrics—Part II: Analysis of FE-Nonvolatile Latches. *IEEE Transactions on Electron Devices*, **2016**, 63, 637-642	2.9	4
47	Ubiquitous tagless object locating with ambient harmonic tags **2016**,		4
46	Harmonic-WISP: A passive broadband harmonic RFID platform **2016**,		17
45	Sharp Switching by Field-Effect Bandgap Modulation in All-Graphene Side-Gate Transistors. *IEEE Journal of the Electron Devices Society*, **2015**, 3, 144-148	2.3	4
44	Non-Faradaic Electrochemical Detection of Exocytosis from Mast and Chromaffin Cells Using Floating-Gate MOS Transistors. *Scientific Reports*, **2015**, 5, 18477	4.9	3
43	Programmable ion-sensitive transistor interfaces. III. Design considerations, signal generation, and sensitivity enhancement. *Physical Review E*, **2014**, 89, 052817	2.4	13
42	Millimeter accuracy passive tag ranging via second harmonics RF backscattering against body movement interference **2014**,		4

41	Understanding sources of variations in flash memory for physical unclonable functions **2014**,		10
40	Ferroelectric-Assisted Dual-Switching Speed DRAM/Flash Hybrid Memory. *IEEE Transactions on Electron Devices*, **2013**, 60, 1944-1950	2.9	7
39	Accurate indoor ranging by broadband passive NLTL tags **2013**,		2
38	Side-gate-controlled dual-mode power gating device by graphene nanoribbon transistor **2013**,		1
37	Hiding Information in Flash Memory **2013**,		6
36	Switching dynamics in ferroelectric-charge hybrid nonvolatile memory **2012**,		1
35	A Low-Power UWB-IR Transmitter by Tapered Nonlinear Transmission Lines. *IEEE Microwave and Wireless Components Letters*, **2012**, 22, 618-620	2.6	7
34	Flash Memory for Ubiquitous Hardware Security Functions: True Random Number Generation and Device Fingerprints **2012**,		65
33	Interface and oxide quality of CoFeB/MgO/Si tunnel junctions. *Journal of Applied Physics*, **2012**, 111, 093908	2.5	2
32	Transverse-field bandgap modulation on graphene nanoribbon transistors by double-self-aligned spacers **2012**,		1
31	Probing the Orbital Levels of Engineered Fullerenic Molecules from a Nonvolatile Memory Cell. *Materials Research Society Symposia Proceedings*, **2011**, 1286, 29		
30	Low power nonvolatile SRAM circuit with integrated low voltage nanocrystal PMOS Flash **2010**,		2
29	Introduction to the Special Section on Electronic and Ionic Interfaces to Biomolecules and Cells. *IEEE Nanotechnology Magazine*, **2010**, 9, 268-268	2.6	
28	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		1
27	Space efficient CMOS nonlinear transmission lines **2009**,		1
26	Label-free electronic detection of growth factor induced cellular chatter on chemoreceptive neuron MOS (CvMOS) transistors **2009**,		2
25	Microwave pulse generation using the Bragg cutoff of a nonlinear transmission line **2008**,		4
24	Material and electrical characterization of stackable planar polysilicon TFT flash memory cell with metal nanocrystals and high-k dielectrics **2008**,		1

23	Flash Memory Scaling: From Material Selection to Performance Improvement. *Materials Research Society Symposia Proceedings*, **2008**, 1071, 1		2
22	Nonvolatile memory with molecule-engineered tunneling barriers. *Applied Physics Letters*, **2008**, 92, 153109	3.4	8
21	Electrical transport in a two-dimensional electron and hole gas on a Si(001)(2×1) surface. *Physical Review B*, **2008**, 78,	3.3	13
20	An extended Hückel theory based atomistic model for graphene nanoelectronics. *Journal of Computational Electronics*, **2008**, 7, 372-375	1.8	22
19	An atomistic quantum transport solver with dephasing for field-effect transistors. *Journal of Computational Electronics*, **2008**, 7, 423-426	1.8	3
18	Modeling of Multi-layer Nanocrystal Memory. *Device Research Conference, IEEE Annual*, **2007**,		1
17	Fermi-Level Pinning in Nanocrystal Memories. *IEEE Electron Device Letters*, **2007**, 28, 103-106	4.4	21
16	Thermal and Pressure Sensing by Chemoreceptive Neuron MOS Transistors (CνMOS) with PVDF Coating. *Materials Research Society Symposia Proceedings*, **2006**, 952, 8		
15	Three-dimensional analytical modeling of nanocrystal memory electrostatics. *Journal of Applied Physics*, **2006**, 99, 114516	2.5	2
14	Programable molecular orbital states of C60 from integrated circuits. *Applied Physics Letters*, **2006**, 89, 253113	3.4	16
13	Metal nanocrystal/nitride heterogeneous-stack floating gate memory **2005**,		3
12	Self-assembly of metal nanocrystals on ultrathin oxide for nonvolatile memory applications. *Journal of Electronic Materials*, **2005**, 34, 1-11	1.9	175
11	High-frequency permalloy permeability extracted from scattering parameters. *Journal of Applied Physics*, **2004**, 95, 7034-7036	2.5	2
10	Integrated On-chip Planar Solenoid Inductors with Patterned Permalloy Cores for High Frequency Applications. *Materials Research Society Symposia Proceedings*, **2004**, 833, 107		2
9	Characterization of Number Fluctuations in Gate-last Metal Nanocrystal Nonvolatile Memory Array beyond 90nm CMOS Technology. *Materials Research Society Symposia Proceedings*, **2004**, 830, 225		
8	Experimental Observation of Non-Volatile Charge Injection and Molecular Redox in Fullerenes C60 and C70 in an EEPROM-Type Device. *Materials Research Society Symposia Proceedings*, **2004**, 830, 343		2
7	A Critical Examination of the Basis of Macroscopic Quantum Transport Approaches. *Journal of Computational Electronics*, **2004**, 3, 435-438	1.8	
6	The Effect of Gate Geometry on the Charging Characteristics of Metal Nanocrystal Memories. *Materials Research Society Symposia Proceedings*, **2003**, 789, 258		

5	Integration of fullerenes and carbon nanotubes with aggressively scaled CMOS gate stacks. *Materials Research Society Symposia Proceedings*, **2003**, 789, 205		2
4	Band-to-Band Tunneling by Monte Carlo Simulation for Prediction of MOSFET Gate-Induced Drain Leakage Current. *Journal of Computational Electronics*, **2002**, 1, 223-226	1.8	
3	Investigation on Process Dependence of Self-Assembled Metal Nanocrystals. *Materials Research Society Symposia Proceedings*, **2002**, 737, 671		4
2	Eluding Metal Contamination in CMOS Front-End Fabrication by Nanocrystal Formation Process. *Materials Research Society Symposia Proceedings*, **2001**, 686, 1		2
1	Eluding Metal Contamination in CMOS Front-End Fabrication by Nanocrystal Formation Process. *Materials Research Society Symposia Proceedings*, **2001**, 707, 531		