

# Keith E Holbert

## List of Publications by Year in descending order

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123  
papers

1,677  
citations

331259

21  
h-index

360668

35  
g-index

129  
all docs

129  
docs citations

129  
times ranked

1305  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling of Ionizing Radiation-Induced Degradation in Multiple Gate Field Effect Transistors. IEEE Transactions on Nuclear Science, 2011, 58, 499-505.	1.2	88
2	Modeling Inter-Device Leakage in 90 nm Bulk CMOS Devices. IEEE Transactions on Nuclear Science, 2011, 58, 793-799.	1.2	83
3	Mechanisms of Enhanced Radiation-Induced Degradation Due to Excess Molecular Hydrogen in Bipolar Oxides. IEEE Transactions on Nuclear Science, 2007, 54, 1913-1919.	1.2	75
4	Enhanced TID Susceptibility in Sub-100 nm Bulk CMOS I/O Transistors and Circuits. IEEE Transactions on Nuclear Science, 2007, 54, 2210-2217.	1.2	73
5	The Effects of Hydrogen on the Enhanced Low Dose Rate Sensitivity (ELDRS) of Bipolar Linear Circuits. IEEE Transactions on Nuclear Science, 2008, 55, 3169-3173.	1.2	72
6	Embedding Remote Experimentation in Power Engineering Education. IEEE Transactions on Power Systems, 2004, 19, 139-143.	4.6	67
7	Total ionizing dose effect of $\beta$ -ray radiation on the switching characteristics and filament stability of HfOx resistive random access memory. Applied Physics Letters, 2014, 104, .	1.5	57
8	Use of Satellite Technologies for Power System Measurements, Command, and Control. Proceedings of the IEEE, 2005, 93, 947-955.	16.4	40
9	Optimizing Radiation Hard by Design SRAM Cells. IEEE Transactions on Nuclear Science, 2007, 54, 2028-2036.	1.2	38
10	Strategies, Challenges and Prospects for Active Learning in the Computer-Based Classroom. IEEE Transactions on Education, 2009, 52, 31-38.	2.0	37
11	Total-Ionizing-Dose Effects on the Resistance Switching Characteristics of Chalcogenide Programmable Metallization Cells. IEEE Transactions on Nuclear Science, 2013, 60, 4563-4569.	1.2	34
12	Total Ionizing Dose Retention Capability of Conductive Bridging Random Access Memory. IEEE Electron Device Letters, 2014, 35, 205-207.	2.2	33
13	An Integrated Signal Validation System for Nuclear Power Plants. Nuclear Technology, 1990, 92, 411-427.	0.7	30
14	Nonlinear dynamic modeling and simulation of a passively cooled small modular reactor. Progress in Nuclear Energy, 2016, 91, 116-131.	1.3	30
15	The Impact of Total Ionizing Dose on Unhardened SRAM Cell Margins. IEEE Transactions on Nuclear Science, 2008, 55, 3280-3287.	1.2	29
16	Modeling the Dose Rate Response and the Effects of Hydrogen in Bipolar Technologies. IEEE Transactions on Nuclear Science, 2009, 56, 3196-3202.	1.2	29
17	Ionizing Radiation Effects on Nonvolatile Memory Properties of Programmable Metallization Cells. IEEE Transactions on Nuclear Science, 2014, 61, 2985-2990.	1.2	29
18	Redundant Sensor Validation by Using Fuzzy Logic. Nuclear Science and Engineering, 1994, 118, 54-64.	0.5	28

#	ARTICLE	IF	CITATIONS
19	A dynamic model of a passively cooled small modular reactor for controller design purposes. Nuclear Engineering and Design, 2015, 289, 218-230.	0.8	27
20	A Study of Gamma-Ray Exposure of Cu <sup>64</sup> SiO <sub>2</sub> Programmable Metallization Cells. IEEE Transactions on Nuclear Science, 2015, 62, 2404-2411.	1.2	24
21	Lung Dose Estimates from <sup>222</sup> Rn in Arizona Groundwater Based on Liquid Scintillation Measurements. Health Physics, 1995, 68, 699-703.	0.3	22
22	Response of lead metaniobate acoustic emission sensors to gamma irradiation. IEEE Transactions on Nuclear Science, 2005, 52, 2583-2590.	1.2	22
23	Applying the equivalent pi circuit to the modeling of hydraulic pressurized lines. Mathematics and Computers in Simulation, 2009, 79, 2064-2075.	2.4	22
24	Radiation Hardened by Design RF Circuits Implemented in 0.13 $\mu$ m CMOS Technology. IEEE Transactions on Nuclear Science, 2006, 53, 3449-3454.	1.2	21
25	Fuzzy associative memories for instrument fault detection. Annals of Nuclear Energy, 1996, 23, 739-756.	0.9	20
26	Response of piezoresistive MEMS accelerometers and pressure transducers to high gamma dose. IEEE Transactions on Nuclear Science, 2003, 50, 1852-1859.	1.2	20
27	Post-Irradiation Annealing Mechanisms of Defects Generated in Hydrogenated Bipolar Oxides. IEEE Transactions on Nuclear Science, 2008, 55, 3032-3038.	1.2	19
28	Effects of Cobalt-60 Gamma-Rays on Ge-Se Chalcogenide Glasses and Ag/Ge-Se Test Structures. IEEE Transactions on Nuclear Science, 2012, 59, 3093-3100.	1.2	19
29	Sensors Based on Radiation-Induced Diffusion of Silver in Germanium Selenide Glasses. IEEE Transactions on Nuclear Science, 2013, 60, 4257-4264.	1.2	19
30	Effects of sterilization techniques on chemodenitrification and N <sub>2</sub> O production in tropical peat soil microcosms. Biogeosciences, 2019, 16, 4601-4612.	1.3	19
31	Total Ionizing Dose Tolerance of $\{m Ag\} - \{m Ge\}_{40}\{m S\}_{60}$ based Programmable Metallization Cells. IEEE Transactions on Nuclear Science, 2014, 61, 1726-1731.	1.2	18
32	An Embedded Microprocessor Radiation Hardened by Microarchitecture and Circuits. IEEE Transactions on Computers, 2016, 65, 382-395.	2.4	17
33	Effects of Gamma Irradiation and Electrical Stress on a-Si:H Thin-Film Transistors for Flexible Electronics and Displays. Journal of Display Technology, 2011, 7, 325-329.	1.3	16
34	Gamma radiation induced effects in floppy and rigid Ge-containing chalcogenide thin films. Journal of Applied Physics, 2014, 115, 043502.	1.1	16
35	Radiation Hardening by Process of CBRAM Resistance Switching Cells. IEEE Transactions on Nuclear Science, 2016, 63, 2145-2151.	1.2	15
36	A Dual Mode Redundant Approach for Microprocessor Soft Error Hardness. IEEE Transactions on Nuclear Science, 2011, 58, 3018-3025.	1.2	14

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37	Measurement of Radioactivity in Arizona Groundwater Using Improved Analytical Techniques for Samples with High Dissolved Solids. Health Physics, 1995, 68, 185-194.	0.3	13
38	Power engineering education and the Internet: motivation and instructional tools. IEEE Transactions on Power Systems, 2002, 17, 7-12.	4.6	13
39	A 130-nm RHBD SRAM With High Speed SET and Area Efficient TID Mitigation. IEEE Transactions on Nuclear Science, 2007, 54, 2092-2099.	1.2	13
40	Blockage diagnostics for nuclear power plant pressure transmitter sensing lines. Nuclear Engineering and Design, 2009, 239, 365-372.	0.8	13
41	Validation of and delay variation in total ionizing dose hardened standard cell libraries. , 2011, , .		13
42	Nuclear Power Plant Instrumentation Fault Detection Using Fuzzy Logic. Science and Technology of Nuclear Installations, 2012, 2012, 1-11.	0.3	13
43	A 90-nm Radiation Hardened Clock Spine. IEEE Transactions on Nuclear Science, 2012, 59, 1020-1026.	1.2	13
44	The Effects of Aging and Hydrogen on the Radiation Response of Gated Lateral PNP Bipolar Transistors. IEEE Transactions on Nuclear Science, 2009, 56, 3361-3366.	1.2	12
45	Ethnic and age trends for body composition in women residing in the U.S. Southwest: I. regional fat. Medicine and Science in Sports and Exercise, 1997, 29, 82-89.	0.2	12
46	Impact of solar thermal power plants on water resources and electricity costs in the Southwest. , 2009, , .		11
47	Fully Automated, Testable Design of Fine-Grained Triple Mode Redundant Logic. IEEE Transactions on Nuclear Science, 2011, 58, 3046-3052.	1.2	11
48	Temporal sequential logic hardening by design with a low power delay element. , 2011, , .		11
49	Flexible Sensors Based on Radiation-Induced Diffusion of Ag in Chalcogenide Glass. IEEE Transactions on Nuclear Science, 2014, 61, 3432-3437.	1.2	11
50	Discrimination of Neutron-Gamma Ray Pulses With Pileup Using Normalized Cross Correlation and Principal Component Analysis. IEEE Transactions on Nuclear Science, 2016, 63, 2764-2771.	1.2	11
51	Total-Ionizing-Dose Effects on Resistance Stability of Programmable Metallization Cell Based Memory and Selectors. IEEE Transactions on Nuclear Science, 2017, 64, 269-276.	1.2	11
52	Mitigation of Elevated Indoor Radon Gas Resulting from Underground Air Return Usage. Health Physics, 1992, 63, 674-680.	0.3	10
53	Ethnic and age trends for body composition in women residing in the U.S. Southwest: II. total fat. Medicine and Science in Sports and Exercise, 1997, 29, 90-98.	0.2	10
54	Underground Air Returns As Active Transportation Pathways for Radon Gas Entry Into Homes. Health Physics, 1992, 63, 665-673.	0.3	9

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55	Intrusion detection through SCADA systems using fuzzy logic-based state estimation methods. International Journal of Critical Infrastructures, 2007, 3, 58.	0.1	9
56	Design, Construction, and Modeling of a <sup>252</sup> Cf Neutron Irradiator. Science and Technology of Nuclear Installations, 2016, 2016, 1-12.	0.3	9
57	An analysis of Utility Incentives for Residential Photovoltaic Installations in Phoenix, Arizona. , 2007, , .		8
58	High speed redundant self-correcting circuits for radiation hardened by design logic. , 2009, , .		8
59	Magnetic Fields Produced by Underground Residential Distribution System. IEEE Transactions on Power Delivery, 2009, 24, 1616-1622.	2.9	7
60	Radiation Hardened By Design Digital I/O for High SEE and TID Immunity. IEEE Transactions on Nuclear Science, 2009, 56, 3408-3414.	1.2	7
61	A 90 nm Bulk CMOS Radiation Hardened by Design Cache Memory. IEEE Transactions on Nuclear Science, 2010, 57, 2089-2097.	1.2	7
62	Single event upset mitigation techniques for FPGAs utilized in nuclear power plant digital instrumentation and control. Nuclear Engineering and Design, 2011, 241, 3317-3324.	0.8	7
63	Development of a linearized model of a pressurized water reactor generating station for power system dynamic simulations. , 2013, , .		7
64	Development of software for calculating electromagnetic fields near power lines. , 2014, , .		7
65	Flexible Ag-ChG Radiation Sensors: Limit of Detection and Dynamic Range Optimization Through Physical Design Tuning. IEEE Transactions on Nuclear Science, 2016, 63, 2137-2144.	1.2	7
66	Prediction of Corning InfiniCor 300 Optical Fiber Attenuation at Low Gamma Dose Rates. IEEE Transactions on Nuclear Science, 2008, 55, 3515-3522.	1.2	6
67	Solar thermal electricity generation and desalination in the Southwestern United States. , 2010, , .		6
68	Implementing a pressurized water reactor nuclear power plant model into grid simulations. , 2014, , .		6
69	High event rate, pulse shape discrimination algorithm for CLYC. , 2015, , .		6
70	TID Impact on Process Modified CBRAM Cells. , 2015, , .		6
71	Total Ionizing Dose Effects on Multistate HfO <sub>2</sub> -Based RRAM Synaptic Array. IEEE Transactions on Nuclear Science, 2021, 68, 756-761.	1.2	6
72	Memory design for high temperature radiation environments. , 2008, , .		5

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73	Single event transient mitigation in cache memory using transient error checking circuits. , 2010, , .		5
74	A 90-nm radiation hardened clock spine. , 2011, , .		5
75	Total ionizing dose tolerance of the resistance switching of Ag-Ge <sub>40</sub> Se <sub>60</sub> based Programmable Metallization Cells. , 2013, , .		5
76	FREEDM Precollege Programs: Inspiring Generation Y to Pursue Careers in the Electric Power Industry. IEEE Transactions on Power Systems, 2014, 29, 1888-1895.	4.6	5
77	Optimization of Flexible Ag-Chalcogenide Glass Sensors for Radiation Detection. , 2015, , .		5
78	Evaluation of 1.5-T Cell Flash Memory Total Ionizing Dose Response. IEEE Transactions on Nuclear Science, 2015, 62, 2431-2439.	1.2	5
79	<i>In Situ</i> Synaptic Programming of CBRAM in an Ionizing Radiation Environment. IEEE Transactions on Nuclear Science, 2018, 65, 192-199.	1.2	5
80	Process hypercube comparison for signal validation. IEEE Transactions on Nuclear Science, 1991, 38, 803-811.	1.2	4
81	Valid Ranges for Using the Cross-Power Spectral Density Phase Angle for Moderator Temperature Coefficient Sign Determination. Nuclear Science and Engineering, 1995, 119, 203-211.	0.5	4
82	Novel Technique to Improve Power Engineering Education Through Computer-Assisted Interactive Learning. IEEE Transactions on Power Systems, 2004, 19, 81-87.	4.6	4
83	Reverse-Body Biasing for Radiation-Hard by Design Logic Gates. , 2007, , .		4
84	Void diagnostics in liquid-filled pressure sensing lines. Progress in Nuclear Energy, 2010, 52, 503-511.	1.3	4
85	Failure Analysis and Radiation-Enabled Circuit Simulation of a Dual Charge Pump Circuit. IEEE Transactions on Nuclear Science, 2010, , .	1.2	4
86	Design and Experimental Validation of Radiation Hardened by Design SRAM Cells. IEEE Transactions on Nuclear Science, 2010, 57, 258-265.	1.2	4
87	Integrated circuit identification and true random numbers using 1.5-transistor flash memory. , 2017, , .		4
88	Evidence of Interface Trap Build-Up in Irradiated 14-nm Bulk FinFET Technologies. IEEE Transactions on Nuclear Science, 2021, 68, 671-676.	1.2	4
89	CMOS Compatible SOI MESFETs for Wide Temperature Range Electronics. , 2007, , .		3
90	Modeling of ionizing radiation-induced degradation in multiple gate field effect transistors. , 2009, , .		3

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91	Performance of Commercial Off-the-Shelf Microelectromechanical Systems Sensors in a Pulsed Reactor Environment. , 2010, , .		3
92	Multi-university precollege outreach from a renewable energy focused engineering research center. , 2011, , .		3
93	Reliable techniques for integrated circuit identification and true random number generation using 1.5-transistor flash memory. The Integration VLSI Journal, 2019, 65, 263-272.	1.3	3
94	Lateral-Type Field Emission-Based Magnetic Sensor Fabricated by Electron-Beam Lithography. Journal of the Electrochemical Society, 2004, 151, H81.	1.3	2
95	Effects of high-temperature anneals and Co60 gamma-ray irradiation on strained silicon on insulator. Journal of Applied Physics, 2007, 102, 074507.	1.1	2
96	Survey of underground cable generated magnetic fields in a residential subdivision. , 2008, , .		2
97	Film Bulk Acoustic-Wave Resonator based radiation sensor. , 2010, , .		2
98	Solar Energy Calculations. , 2011, , 189-204.		2
99	Li-Ion Batteries Used as Ubiquitous Neutron Sensors for Nuclear Forensics. IEEE Transactions on Nuclear Science, 2013, 60, 644-651.	1.2	2
100	A novel methodology for power cable monitoring using frequency domain analysis. , 2015, , .		2
101	Climate Change Effects on Solar, Wind and Hydro Power Generation. , 2019, , .		2
102	Failure Thresholds in CBRAM Due to Total Ionizing Dose and Displacement Damage Effects. IEEE Transactions on Nuclear Science, 2019, 66, 69-76.	1.2	2
103	Climate Change Effects on Thermal Power Generation and Projected Losses in Generation and Income in the U.S. for the Period 2020â€“2050. , 2021, , .		2
104	Extension of Power Line Fault Location Techniques to Pressurized Line Diagnostics. , 2006, , .		1
105	A 90 nm bulk CMOS radiation hardened by design cache memory. , 2009, , .		1
106	The sensitivity enhancement for the radiation sensor based on Film Bulk Acoustic-Wave Resonator. , 2011, , .		1
107	Radiation Tolerant MESFET-CMOS Low Dropout Linear Regulator for Integrated Power Management at the 45nm Node. , 2013, , .		1
108	Total-ionizing-dose effects on the impedance of silverdoped chalcogenide programmable metallization cells. , 2014, , .		1

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109	Ag-chalcogenide glass flexible radiation sensor: Impact of atomic ratio of Se on the TID influenced lateral diffusion of Ag. , 2016, , .		1
110	Modeling Magnetic Fields Generated by Single-Phase Distribution Cables. , 2007, , .		0
111	Reliability and economic based analysis to determine an oportune rehabilitation and modernization schedule for hydroelectric facilities. , 2011, , .		0
112	Solar Thermal Electric Power Plants. , 2011, , 225-246.		0
113	An analysis of atmospheric carbon dioxide content and impacts of global generation supply changes. , 2012, , .		0
114	Radiation Effects of High Voltage MESFETs at the 45nm Node. , 2013, , .		0
115	The Stability and Reliability of Mixed Oxide-Based Thin Film Transistors under Gamma Irradiation. ECS Transactions, 2013, 50, 191-196.	0.3	0
116	FREEDM ERC precollege programs: Motivating careers in the electric power industry. , 2013, , .		0
117	Feasibility of using $\text{LiMnO}_2$ batteries for nuclear forensics. , 2013, , .		0
118	Contemplating a residential battery system for the Southwestern U.S.. , 2015, , .		0
119	New passive methodology for online power cable diagnosis by frequency analysis. , 2015, , .		0
120	A Comparative Study on TID Influenced Lateral Diffusion of Group 11 Metals into $\text{GeS}_{1-x}$ and $\text{Ge}_x\text{Se}_{1-x}$ Systems: A Flexible Radiation Sensor Development Perspective. IEEE Transactions on Nuclear Science, 2017, , 1-1.	1.2	0
121	Solar Energy Calculations. , 2021, , 181-200.		0
122	Solar Thermal Electric Power Plants. , 2021, , 157-179.		0
123	A Study of the Minimum Thermal Power of a Nuclear Reactor. Journal of Nuclear Engineering, 2021, 2, 412-421.	0.7	0