S P Buchner

List of Publications by Year
in descending order

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70	2,050	331670	254184
papers	citations	21	43
		h-index	g-index

70	70	70	614
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Critical evaluation of the pulsed laser method for single event effects testing and fundamental studies. IEEE Transactions on Nuclear Science, 1994, 41, 2574-2584.	2.0	209
2	Subbandgap laser-induced single event effects: carrier generation via two-photon absorption. IEEE Transactions on Nuclear Science, 2002, 49, 3002-3008.	2.0	202
3	Comparison of error rates in combinational and sequential logic. IEEE Transactions on Nuclear Science, 1997, 44, 2209-2216.	2.0	194
4	Application of a pulsed laser for evaluation and optimization of SEU-hard designs [CMOS]. IEEE Transactions on Nuclear Science, 2000, 47, 559-565.	2.0	131
5	Pulsed-Laser Testing for Single-Event Effects Investigations. IEEE Transactions on Nuclear Science, 2013, 60, 1852-1875.	2.0	124
6	Three-dimensional mapping of single-event effects using two photon absorption. IEEE Transactions on Nuclear Science, 2003, 50, 2199-2207.	2.0	104
7	Pulsed laser-induced single event upset and charge collection measurements as a function of optical penetration depth. Journal of Applied Physics, 1998, 84, 690-703.	2.5	78
8	Comparison of SETs in bipolar linear circuits generated with an ion microbeam, laser light, and circuit simulation. IEEE Transactions on Nuclear Science, 2002, 49, 3163-3170.	2.0	72
9	Charge collection from focussed picosecond laser pulses. IEEE Transactions on Nuclear Science, 1988, 35, 1517-1522.	2.0	57
10	Theoretical Investigation of an Equivalent Laser LET. Microelectronics Reliability, 2001, 41, 1513-1518.	1.7	55
11	Laser probing of bipolar amplification in 0.25-Î¼m MOS/SOI transistors. IEEE Transactions on Nuclear Science, 2000, 47, 2196-2203.	2.0	46
12	Comparison of Single Event Transients Generated at Four Pulsed-Laser Test Facilities-NRL, IMS, EADS, JPL. IEEE Transactions on Nuclear Science, 2012, 59, 988-998.	2.0	41
13	Design of Radiation-Hardened RF Low-Noise Amplifiers Using Inverse-Mode SiGe HBTs. IEEE Transactions on Nuclear Science, 2014, 61, 3218-3225.	2.0	34
14	Single-event transient (SET) characterization of an LM119 voltage comparator: an approach to SET model validation using a pulsed laser. IEEE Transactions on Nuclear Science, 2002, 49, 1502-1508.	2.0	30
15	A Dosimetry Methodology for Two-Photon Absorption Induced Single-Event Effects Measurements. IEEE Transactions on Nuclear Science, 2014, 61, 3416-3423.	2.0	30
16	Laser-Induced Latchup Screening and Mitigation in CMOS Devices. IEEE Transactions on Nuclear Science, 2006, 53, 1819-1824.	2.0	28
17	Experimental Validation of an Equivalent LET Approach for Correlating Heavy-Ion and Laser-Induced Charge Deposition. IEEE Transactions on Nuclear Science, 2018, 65, 1724-1733.	2.0	25
18	Using TCAD Modeling to Compare Heavy-Ion and Laser-Induced Single Event Transients in SiGe HBTs. IEEE Transactions on Nuclear Science, 2017, 64, 398-405.	2.0	24

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19	Single-Event Transient and Total Dose Response of Precision Voltage Reference Circuits Designed in a 90-nm SiGe BiCMOS Technology. IEEE Transactions on Nuclear Science, 2014, 61, 3210-3217.	2.0	22
20	A Comparison of Single-Event Transients in Pristine and Irradiated <formula formulatype="inline"><tex Notation="TeX">${{m Al}_{0.3}}{{m Ga}_{0.7}}{{m N}/{m GaN}}$</tex> </formula> HEMTs using Two-Photon Absorption and Heavy Ions. IEEE Transactions on Nuclear Science, 2015, 62, 2743-2751.	2.0	22
21	The Impact of Technology Scaling on the Single-Event Transient Response of SiGe HBTs. IEEE Transactions on Nuclear Science, 2017, 64, 406-414.	2.0	22
22	SEL-Sensitive Area Mapping and the Effects of Reflection and Diffraction From Metal Lines on Laser SEE Testing. IEEE Transactions on Nuclear Science, 2013, 60, 2550-2558.	2.0	21
23	An Investigation of Single-Event Effects and Potential SEU Mitigation Strategies in Fourth-Generation, 90Ânm SiGe BiCMOS. IEEE Transactions on Nuclear Science, 2013, 60, 4175-4183.	2.0	20
24	Spatial Mapping of Pristine and Irradiated AlGaN/GaN HEMTs With UV Single-Photon Absorption Single-Event Transient Technique. IEEE Transactions on Nuclear Science, 2016, 63, 1995-2001.	2.0	20
25	A New Approach for Single-Event Effects Testing With Heavy Ion and Pulsed-Laser Irradiation: CMOS/SOI SRAM Substrate Removal. IEEE Transactions on Nuclear Science, 2010, , .	2.0	18
26	An Investigation of Single Event Transient Response in 45-nm and 32-nm SOI RF-CMOS Devices and Circuits. IEEE Transactions on Nuclear Science, 2013, 60, 4405-4411.	2.0	18
27	Two-Photon Absorption Induced Single-Event Effects: Correlation Between Experiment and Simulation. IEEE Transactions on Nuclear Science, 2015, 62, 2867-2873.	2.0	18
28	Simulation of Laser-Based Two-Photon Absorption Induced Charge Carrier Generation in Silicon. IEEE Transactions on Nuclear Science, 2015, 62, 1550-1557.	2.0	18
29	A Simplified Approach for Predicting Pulsed-Laser-Induced Carrier Generation in Semiconductor. IEEE Transactions on Nuclear Science, 2017, 64, 1006-1013.	2.0	18
30	An Investigation of Single-Event Effect Modeling Techniques for a SiGe RF Low-Noise Amplifier. IEEE Transactions on Nuclear Science, 2016, 63, 273-280.	2.0	16
31	New Approach for Pulsed-Laser Testing That Mimics Heavy-Ion Charge Deposition Profiles. IEEE Transactions on Nuclear Science, 2020, 67, 81-90.	2.0	16
32	Simulation of Light-Matter Interaction and Two-Photon Absorption Induced Charge Deposition by Ultrashort Optical Pulses in Silicon. IEEE Transactions on Nuclear Science, 2014, 61, 3504-3511.	2.0	15
33	An Investigation of Single-Event Transients in C-SiGe HBT on SOI Current Mirror Circuits. IEEE Transactions on Nuclear Science, 2014, 61, 3193-3200.	2.0	15
34	On the Transient Response of a Complementary (npn <formula formulatype="inline"><tex) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 Transactions on Nuclear Science, 2014, 61, 3146-3153.	2.0	15
35	Optimizing Optical Parameters to Facilitate Correlation of Laser- and Heavy-Ion-Induced Single-Event Transients in SiGe HBTs. IEEE Transactions on Nuclear Science, 2019, 66, 359-367.	2.0	15
36	Strong Correlation Between Experiment and Simulation for Two-Photon Absorption Induced Carrier Generation. IEEE Transactions on Nuclear Science, 2017, 64, 1133-1136.	2.0	14

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37	Optical Single-Event Transients Induced in Integrated Silicon-Photonic Waveguides by Two-Photon Absorption. IEEE Transactions on Nuclear Science, 2021, 68, 785-792.	2.0	14
38	Single-Event Upsets in Substrate-Etched CMOS SOI SRAMs Using Ultraviolet Optical Pulses With Sub-Micrometer Spot Size. IEEE Transactions on Nuclear Science, 2013, 60, 4184-4191.	2.0	13
39	Correlation of Pulsed-Laser Energy and Heavy-Ion LET by Matching Analog SET Ensemble Signatures and Digital SET Thresholds. IEEE Transactions on Nuclear Science, 2013, 60, 4412-4420.	2.0	13
40	An Investigation of the Use of Inverse-Mode SiGe HBTs as Switching Pairs for SET-Mitigated RF Mixers. IEEE Transactions on Nuclear Science, 2016, 63, 1099-1108.	2.0	13
41	Evaluating the Effects of Single Event Transients in FET-Based Single-Pole Double-Throw RF Switches. IEEE Transactions on Nuclear Science, 2014, 61, 756-765.	2.0	12
42	Single-Event Effects in a W-Band (75-110ÂGHz) Radar Down-Conversion Mixer Implemented in 90Ânm, 300ÂGHz SiGe HBT Technology. IEEE Transactions on Nuclear Science, 2015, 62, 2657-2665.	2.0	12
43	Charge-collection dynamics of InP-based high electron mobility transistors (HEMTs). IEEE Transactions on Nuclear Science, 2002, 49, 1396-1400.	2.0	10
44	Evaluating the Influence of Various Body-Contacting Schemes on Single Event Transients in 45-nm SOI CMOS. IEEE Transactions on Nuclear Science, 2010, , .	2.0	10
45	The Effect of the Gate-Connected Field Plate on Single-Event Transients in AlGaN/GaN Schottky-Gate HEMTs. IEEE Transactions on Nuclear Science, 2019, 66, 1682-1687.	2.0	10
46	Application of a Focused, Pulsed X-Ray Beam to the Investigation of Single-Event Transients in Al_{0.3}Ga_{0.7}N/GaN HEMTs. IEEE Transactions on Nuclear Science, 2017, 64, 97-105.	2.0	9
47	On the Application of Inverse-Mode SiGe HBTs in RF Receivers for the Mitigation of Single-Event Transients. IEEE Transactions on Nuclear Science, 2017, 64, 1142-1150.	2.0	9
48	Investigation of Single-Event Transients in AlGaN/GaN MIS-Gate HEMTs Using a Focused X-Ray Beam. IEEE Transactions on Nuclear Science, 2019, 66, 368-375.	2.0	9
49	Using Bessel beams and two-photon absorption to predict radiation effects in microelectronics. Optics Express, 2019, 27, 37652.	3.4	9
50	Optimization of SiGe HBT RF Switches for Single-Event Transient Mitigation. IEEE Transactions on Nuclear Science, 2015, 62, 3057-3063.	2.0	8
51	Single-Event Transient Response of Comparator Pre-Amplifiers in a Complementary SiGe Technology. IEEE Transactions on Nuclear Science, 2017, 64, 89-96.	2.0	8
52	The Use of Inverse-Mode SiGe HBTs as Active Gain Stages in Low-Noise Amplifiers for the Mitigation of Single-Event Transients. IEEE Transactions on Nuclear Science, 2017, 64, 359-366.	2.0	8
53	Application of a Pulsed Laser to Identify a Single-Event Latchup Precursor. IEEE Transactions on Nuclear Science, 2015, 62, 2679-2686.	2.0	7
54	Comparison of Single-Event Transients in SiGe HBTs on Bulk and Thick-Film SOI. IEEE Transactions on Nuclear Science, 2020, 67, 71-80.	2.0	7

#	Article	IF	Citations
55	Correlation of the Spatial Variation of Single-Event Transient Sensitivity With Thermoreflectance Thermography in ${ext {Al}}_{x} {ext {Ga}}_{1-x}$ N/GaN HEMTs. IEEE Transactions on Nuclear Science, 2018, 65, 369-375.	2.0	6
56	p-n-p-Based RF Switches for the Mitigation of Single-Event Transients in a Complementary SiGe BiCMOS Platform. IEEE Transactions on Nuclear Science, 2018, 65, 391-398.	2.0	6
57	Single-Event Effects in High-Frequency Linear Amplifiers: Experiment and Analysis. IEEE Transactions on Nuclear Science, 2017, 64, 125-132.	2.0	5
58	Single-Event Effects in a Millimeter-Wave Receiver Front-End Implemented in 90 nm, 300 GHz SiGe HBT Technology. IEEE Transactions on Nuclear Science, 2017, 64, 536-543.	2.0	5
59	Comparison of Sensitive Volumes Associated With Ion- and Laser-Induced Charge Collection in an Epitaxial Silicon Diode. IEEE Transactions on Nuclear Science, 2020, 67, 57-62.	2.0	5
60	Mapping the Spatial Dependence of Charge-Collection Efficiency in Semiconductor Devices Using Pulsed-Laser Testing. IEEE Transactions on Nuclear Science, 2021, 68, 617-625.	2.0	5
61	Comparison of Single-Event Transients in an Epitaxial Silicon Diode Resulting From Heavy-Ion-, Focused X-Ray-, and Pulsed Laser-Induced Charge Generation. IEEE Transactions on Nuclear Science, 2021, 68, 626-633.	2.0	5
62	The Role of Negative Feedback Effects on Single-Event Transients in SiGe HBT Analog Circuits. IEEE Transactions on Nuclear Science, 2015, 62, 2599-2605.	2.0	4
63	An Electrostatic Discharge Protection Circuit Technique for the Mitigation of Single-Event Transients in SiGe BiCMOS Technology. IEEE Transactions on Nuclear Science, 2018, 65, 426-431.	2.0	4
64	Best Practices for Using Electrostatic Discharge Protection Techniques for Single-Event Transient Mitigation. IEEE Transactions on Nuclear Science, 2019, 66, 240-247.	2.0	3
65	Electronic-to-Photonic Single-Event Transient Propagation in a Segmented Machâ€“Zehnder Modulator in a Si/SiGe Integrated Photonics Platform. IEEE Transactions on Nuclear Science, 2020, 67, 260-267.	2.0	3
66	Tradeoffs Between RF Performance and SET Robustness in Low-Noise Amplifiers in a Complementary SiGe BiCMOS Platform. IEEE Transactions on Nuclear Science, 2020, 67, 1521-1529.	2.0	3
67	Pulsed-Laser Testing to Quantitatively Evaluate Latchup Sensitivity in Mixed-Signal ASICs. IEEE Transactions on Nuclear Science, 2022, 69, 429-435.	2.0	3
68	Simulation of Pulsed Laser-Induced Testing in Microelectronic Devices. IEEE Transactions on Nuclear Science, 2021, , 1-1.	2.0	2
69	Voltage-Controlled Oscillator Utilizing Inverse-Mode SiGe-HBT Biasing Circuit for the Mitigation of Single-Event Effects. IEEE Transactions on Nuclear Science, 2022, 69, 1242-1248.	2.0	2
70	The Effects of Temperature on the Single-Event Transient Response of a High-Voltage (>30 V) Complementary SiGe-on-SOI Technology. IEEE Transactions on Nuclear Science, 2019, 66, 389-396.	2.0	1