Enrique A Miranda

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

235	3,814	30	53
papers	citations	h-index	g-index
275	4,422	2.9	5.37
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
235	Volume Resistive Switching in Metallic Perovskite Oxides Driven by the Metal-Insulator Transition. *Kluwer International Series in Electronic Materials: Science and Technology*, **2022**, 289-310		
234	SPICE Implementation of the Dynamic Memdiode Model for Bipolar Resistive Switching Devices.. *Micromachines*, **2022**, 13,	3.3	4
233	Nano-memristors with 4mV Switching Voltage Based On Surface-modified Copper Nanoparticles.. *Advanced Materials*, **2022**, e2201197	24	1
232	Connectome of memristive nanowire networks through graph theory.. *Neural Networks*, **2022**, 150, 137-148	9.1	0
231	SPICE Model for Complementary Resistive Switching Devices Based on Anti-Serially Connected Quasi-Static Memdiodes. *Solid-State Electronics*, **2022**, 108312	1.7	
230	Quantum conductance in memristive devices: fundamentals, developments, and applications.. *Advanced Materials*, **2022**, e2201248	24	4
229	Ternary Neural Networks Based on on/off Memristors: Set-Up and Training. *Electronics (Switzerland)*, **2022**, 11, 1526	2.6	
228	Study of TiN/Ti/HfO2/W resistive switching devices: characterization and modeling of the set and reset transitions using an external capacitor discharge. *Solid-State Electronics*, **2022**, 108385	1.7	
227	Standards for the Characterization of Endurance in Resistive Switching Devices. *ACS Nano*, **2021**,	16.7	36
226	Tunability Properties and Compact Modeling of HfO2-Based Complementary Resistive Switches Using a Three-Terminal Subcircuit. *IEEE Transactions on Electron Devices*, **2021**, 1-8	2.9	1
225	Assessment and Improvement of the Pattern Recognition Performance of Memdiode-Based Cross-Point Arrays with Randomly Distributed Stuck-at-Faults. *Electronics (Switzerland)*, **2021**, 10, 2427	2.6	1
224	Application of artificial neural networks to the identification of weak electrical regions in large area MIM structures. *Microelectronics Reliability*, **2021**, 114312	1.2	
223	A New Perspective Towards the Understanding of the Frequency-Dependent Behavior of Memristive Devices. *IEEE Electron Device Letters*, **2021**, 42, 565-568	4.4	2
222	On the Thermal Models for Resistive Random Access Memory Circuit Simulation. *Nanomaterials*, **2021**, 11,	5.4	14
221	Minimization of the Line Resistance Impact on Memdiode-Based Simulations of Multilayer Perceptron Arrays Applied to Pattern Recognition. *Journal of Low Power Electronics and Applications*, **2021**, 11, 9	1.7	5
220	Experimental study of the series resistance effect and its impact on the compact modeling of the conduction characteristics of HfO2-based resistive switching memories. *Journal of Applied Physics*, **2021**, 130, 054503	2.5	10
219	SPICE Simulation of RRAM-Based Cross-Point Arrays Using the Dynamic Memdiode Model. *Frontiers in Physics*, **2021**, 9,	3.9	1

218	SPICE modeling of cycle-to-cycle variability in RRAM devices. *Solid-State Electronics*, **2021**, 185, 108040	1.7	4
217	A simple, robust, and accurate compact model for a wide variety of complementary resistive switching devices. *Solid-State Electronics*, **2021**, 185, 108083	1.7	1
216	Modeling of the temperature effects in filamentary-type resistive switching memories using quantum point-contact theory. *Journal Physics D: Applied Physics*, **2020**, 53, 295106	3	3
215	Compact Modeling of the I-V Characteristics of ZnO Nanowires Including Nonlinear Series Resistance Effects. *IEEE Nanotechnology Magazine*, **2020**, 19, 297-300	2.6	6
214	Impact of the forming and cycling processes on the electrical and physical degradation characteristics of HfO2-based resistive switching devices. *Thin Solid Films*, **2020**, 706, 138027	2.2	0
213	Analysis of the successive breakdown statistics of multilayer Al2O3/HfO2 gate stacks using the time-dependent clustering model. *Microelectronics Reliability*, **2020**, 114, 113748	1.2	2
212	Application of the Clustering Model to Time-Correlated Oxide Breakdown Events in Multilevel Antifuse Memory Cells. *IEEE Electron Device Letters*, **2020**, 41, 1770-1773	4.4	1
211	Tailoring the Switching Dynamics in Yttrium Oxide-Based RRAM Devices by Oxygen Engineering: From Digital to Multi-Level Quantization toward Analog Switching. *Advanced Electronic Materials*, **2020**, 6, 2000439	6.4	9
210	Modeling of Short-Term Synaptic Plasticity Effects in ZnO Nanowire-Based Memristors Using a Potentiation-Depression Rate Balance Equation. *IEEE Nanotechnology Magazine*, **2020**, 19, 609-612	2.6	10
209	. *IEEE Access*, **2020**, 8, 202174-202193	3.5	9
208	Memristive State Equation for Bipolar Resistive Switching Devices Based on a Dynamic Balance Model and Its Equivalent Circuit Representation. *IEEE Nanotechnology Magazine*, **2020**, 19, 837-840	2.6	7
207	SPICE model for the current-voltage characteristic of resistive switching devices including the snapback effect. *Microelectronic Engineering*, **2019**, 215, 110998	2.5	5
206	Analysis and simulation of the multiple resistive switching modes occurring in HfOx-based resistive random access memories using memdiodes. *Journal of Applied Physics*, **2019**, 125, 234503	2.5	14
205	Assessing the Correlation Between Location and Size of Catastrophic Breakdown Events in High-K MIM Capacitors. *IEEE Transactions on Device and Materials Reliability*, **2019**, 19, 452-460	1.6	3
204	Compact Modeling of Complementary Resistive Switching Devices Using Memdiodes. *IEEE Transactions on Electron Devices*, **2019**, 66, 2831-2836	2.9	7
203	An improved analytical model for the statistics of SET emergence point in HfO2 memristive device. *AIP Advances*, **2019**, 9, 025118	1.5	1
202	Study on the Connection Between the Set Transient in RRAMs and the Progressive Breakdown of Thin Oxides. *IEEE Transactions on Electron Devices*, **2019**, 66, 3349-3355	2.9	9
201	Detection of inhibitory effects in the generation of breakdown spots in HfO2-based MIM devices. *Microelectronic Engineering*, **2019**, 215, 111023	2.5	2

200	Simple method for monitoring the switching activity in memristive cross-point arrays with line resistance effects. *Microelectronics Reliability*, **2019**, 100-101, 113327	1.2	1
199	Recommended Methods to Study Resistive Switching Devices. *Advanced Electronic Materials*, **2019**, 5, 1800143	6.4	297
198	Experimental Observation and Mitigation of Dielectric Screening in Hexagonal Boron Nitride Based Resistive Switching Devices. *Crystal Research and Technology*, **2018**, 53, 1800006	1.3	6
197	Switching Voltage and Time Statistics of Filamentary Conductive Paths in HfO2-Based ReRAM Devices. *IEEE Electron Device Letters*, **2018**, 39, 656-659	4.4	10
196	Characterization of HfO2-based devices with indication of second order memristor effects. *Microelectronic Engineering*, **2018**, 195, 101-106	2.5	12
195	Multivariate analysis and extraction of parameters in resistive RAMs using the Quantum Point Contact model. *Journal of Applied Physics*, **2018**, 123, 014501	2.5	16
194	Coherent choice functions, desirability and indifference. *Fuzzy Sets and Systems*, **2018**, 341, 1-36	3.7	10
193	SPICE simulation of memristive circuits based on memdiodes with sigmoidal threshold functions. *International Journal of Circuit Theory and Applications*, **2018**, 46, 39-49	2	2
192	Impact of the precursor chemistry and process conditions on the cell-to-cell variability in 1T-1R based HfO RRAM devices. *Scientific Reports*, **2018**, 8, 11160	4.9	20
191	Device variability tolerance of a RRAM-based self-organizing neuromorphic system **2018**,		5
190	Approximations of Coherent Lower Probabilities by 2-monotone Capacities. *Communications in Computer and Information Science*, **2018**, 214-225	0.3	
189	Natural Extension of Choice Functions. *Communications in Computer and Information Science*, **2018**, 201-213	0.3	1
188	Lexicographic choice functions. *International Journal of Approximate Reasoning*, **2018**, 92, 97-119	3.6	9
187	Simulation of Cycle-to-Cycle Instabilities in SiO $_{{x}}$ -Based ReRAM Devices Using a Self-Correlated Process With Long-Term Variation. *IEEE Electron Device Letters*, **2018**, 1-1	4.4	5
186	A new method for estimating the conductive filament temperature in OxRAM devices based on escape rate theory. *Microelectronics Reliability*, **2018**, 88-90, 142-146	1.2	2
185	Analysis and control of the intermediate memory states of RRAM devices by means of admittance parameters. *Journal of Applied Physics*, **2018**, 124, 152101	2.5	10
184	Silicon Oxide (SiO): A Promising Material for Resistance Switching?. *Advanced Materials*, **2018**, 30, e1801187	24	105
183	Characterization of the Failure Site Distribution in MIM Devices Using Zoomed Wavelet Analysis. *Journal of Electronic Materials*, **2018**, 47, 5033-5038	1.9	2

182	Coexistence of Grain-Boundaries-Assisted Bipolar and Threshold Resistive Switching in Multilayer Hexagonal Boron Nitride. *Advanced Functional Materials*, **2017**, 27, 1604811	15.6	149
181	Spatial analysis of failure sites in large area MIM capacitors using wavelets. *Microelectronic Engineering*, **2017**, 178, 10-16	2.5	4
180	Effect of the voltage ramp rate on the set and reset voltages of ReRAM devices. *Microelectronic Engineering*, **2017**, 178, 61-65	2.5	8
179	SPICE simulation of 1T1R structures based on a logistic hysteresis operator **2017**,		1
178	Study of the admittance hysteresis cycles in $TiN/Ti/HfO_2/W$-based RRAM devices. *Microelectronic Engineering*, **2017**, 178, 30-33	2.5	11
177	Model for multi-filamentary conduction in graphene/hexagonal-boron-nitride/graphene based resistive switching devices. *2D Materials*, **2017**, 4, 025099	5.9	33
176	Modeling of the multilevel conduction characteristics and fatigue profile of $Ag/La_{1/3}Ca_{2/3}MnO_3/Pt$ structures using a compact memristive approach. *Journal of Applied Physics*, **2017**, 121, 205302	2.5	6
175	Comparative study of the breakdown transients of thin Al_2O_3 and HfO_2 films in MIM structures and their connection with the thermal properties of materials. *Journal of Applied Physics*, **2017**, 121, 094102	2.5	10
174	Function-fit model for the rate of conducting filament generation in constant voltage-stressed multilayer oxide stacks. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2017**, 35, 01A108	1.3	1
173	Voltage-Driven Hysteresis Model for Resistive Switching: SPICE Modeling and Circuit Applications. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2017**, 36, 2044-2051	2.5	23
172	({ SIM}^2{ RRAM}): a physical model for RRAM devices simulation. *Journal of Computational Electronics*, **2017**, 16, 1095-1120	1.8	37
171	Investigation on the Conductive Filament Growth Dynamics in Resistive Switching Memory via a Universal Monte Carlo Simulator. *Scientific Reports*, **2017**, 7, 11204	4.9	14
170	Volume Resistive Switching in metallic perovskite oxides driven by the Metal-Insulator Transition. *Journal of Electroceramics*, **2017**, 39, 185-196	1.5	18
169	Identification of the generation/rupture mechanism of filamentary conductive paths in ReRAM devices using oxide failure analysis. *Microelectronics Reliability*, **2017**, 76-77, 178-183	1.2	5
168	Experimental Observation of Negative Susceptance in HfO_2-Based RRAM Devices. *IEEE Electron Device Letters*, **2017**, 38, 1216-1219	4.4	9
167	Resistive Switching with Self-Rectifying Tunability and Influence of the Oxide Layer Thickness in $Ni/HfO_2/n+-Si$ RRAM Devices. *IEEE Transactions on Electron Devices*, **2017**, 64, 3159-3166	2.9	16
166	Exploratory study and application of the angular wavelet analysis for assessing the spatial distribution of breakdown spots in $Pt/HfO_2/Pt$ structures. *Journal of Applied Physics*, **2017**, 122, 215304	2.5	4
165	**2017**,		4

164	Quantum Point Contact Conduction **2016**, 197-224		7
163	Study From Cryogenic to High Temperatures of the High- and Low-Resistance-State Currents of ReRAM Ni/HfO2/Si Capacitors. *IEEE Transactions on Electron Devices*, **2016**, 63, 1877-1883	2.9	12
162	Electrical characterization and modeling of pulse-based forming techniques in RRAM arrays. *Solid-State Electronics*, **2016**, 115, 17-25	1.7	37
161	Analysis on the Filament Structure Evolution in Reset Transition of Cu/HfO2/Pt RRAM Device. *Nanoscale Research Letters*, **2016**, 11, 269	5	8
160	Resistive switching in CeO2/La0.8Sr0.2MnO3 bilayer for non-volatile memory applications. *Microelectronic Engineering*, **2015**, 147, 37-40	2.5	23
159	Breakdown time statistics of successive failure events in constant voltage-stressed Al2O3/HfO2 nanolaminates. *Microelectronic Engineering*, **2015**, 147, 85-88	2.5	3
158	Temperature and polarity dependence of the switching behavior of Ni/HfO2-based RRAM devices. *Microelectronic Engineering*, **2015**, 147, 75-78	2.5	12
157	Conduction and stability of holmium titanium oxide thin films grown by atomic layer deposition. *Thin Solid Films*, **2015**, 591, 55-59	2.2	1
156	Model for the Current–Voltage Characteristic of Resistive Switches Based on Recursive Hysteretic Operators. *IEEE Electron Device Letters*, **2015**, 36, 944-946	4.4	3
155	Compact Model for the Major and Minor Hysteretic I–V Loops in Nonlinear Memristive Devices. *IEEE Nanotechnology Magazine*, **2015**, 14, 787-789	2.6	29
154	Threading dislocations in III-V semiconductors: Analysis of electrical conduction **2015**,		3
153	Electrical characterization of multiple leakage current paths in HfO2/Al2O3-based nanolaminates. *Microelectronics Reliability*, **2015**, 55, 1442-1445	1.2	3
152	Relationship among Current Fluctuations during Forming, Cell-To-Cell Variability and Reliability in RRAM Arrays **2015**,		18
151	A Physical Model for the Statistics of the Set Switching Time of Resistive RAM Measured With the Width-Adjusting Pulse Operation Method. *IEEE Electron Device Letters*, **2015**, 36, 1303-1306	4.4	11
150	Modeling of the switching I-V characteristics in ultrathin (5 nm) atomic layer deposited HfO2 films using the logistic hysteron. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 01A102	1.3	6
149	A thorough investigation of the progressive reset dynamics in HfO2-based resistive switching structures. *Applied Physics Letters*, **2015**, 107, 113507	3.4	5
148	Impact of Intercell and Intracell Variability on Forming and Switching Parameters in RRAM Arrays. *IEEE Transactions on Electron Devices*, **2015**, 62, 2502-2509	2.9	42
147	Equivalent circuit modeling of the bistable conduction characteristics in electroformed thin dielectric films. *Microelectronics Reliability*, **2015**, 55, 1-14	1.2	16

146	Multiple Diode-Like Conduction in Resistive Switching SiOx-Based MIM Devices. *IEEE Nanotechnology Magazine*, **2015**, 14, 15-17	2.6	7
145	Three-state resistive switching in HfO2-based RRAM. *Solid-State Electronics*, **2014**, 98, 38-44	1.7	8
144	. *IEEE Electron Device Letters*, **2014**, 35, 390-392	4.4	14
143	A comprehensive analysis on progressive reset transitions in RRAMs. *Journal Physics D: Applied Physics*, **2014**, 47, 205102	3	28
142	Equivalent circuit model for the switching conduction characteristics of TiO2-based MIM structures **2014**,		1
141	Simulation of thermal reset transitions in resistive switching memories including quantum effects. *Journal of Applied Physics*, **2014**, 115, 214504	2.5	52
140	Multi-scale quantum point contact model for filamentary conduction in resistive random access memories devices. *Journal of Applied Physics*, **2014**, 115, 244507	2.5	45
139	Investigation of switching mechanism in forming-free multi-level resistive memories with atomic layer deposited HfTiOx nanolaminate **2014**,		1
138	Single-parameter model for the post-breakdown conduction characteristics of HoTiOx-based MIM capacitors. *Microelectronics Reliability*, **2014**, 54, 1707-1711	1.2	
137	Assessing the spatial correlation and conduction state of breakdown spot patterns in Pt/HfO2/Pt structures using transient infrared thermography. *Journal of Applied Physics*, **2014**, 115, 174502	2.5	5
136	(Invited) Elucidating the Origin of Resistive Switching in Ultrathin Hafnium Oxides through High Spatial Resolution Tools. *ECS Transactions*, **2014**, 64, 19-28	1	13
135	Set statistics in conductive bridge random access memory device with Cu/HfO2/Pt structure. *Applied Physics Letters*, **2014**, 105, 193501	3.4	39
134	On the properties of conducting filament in ReRAM **2014**,		4
133	Failure Analysis of MIM and MIS Structures Using Point-to-Event Distance and Angular Probability Distributions. *IEEE Transactions on Device and Materials Reliability*, **2014**, 14, 1080-1090	1.6	4
132	Modeling of hysteretic Schottky diode-like conduction in Pt/BiFeO3/SrRuO3 switches. *Applied Physics Letters*, **2014**, 105, 082904	3.4	10
131	Statistical characteristics of reset switching in Cu/HfO2/Pt resistive switching memory. *Nanoscale Research Letters*, **2014**, 9, 2500	5	13
130	Direct observation of the generation of breakdown spots in MIM structures under constant voltage stress. *Microelectronics Reliability*, **2013**, 53, 1257-1260	1.2	2
129	Experimental evidence for a quantum wire state in HfO2-based VCM-RRAM **2013**,		1

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128	Field-effect control of breakdown paths in HfO2 based MIM structures. *Microelectronics Reliability*, **2013**, 53, 1346-1350	1.2	1
127	DC and low-frequency noise behavior of the conductive filament in bipolar HfO2-based resistive random access memory. *Microelectronic Engineering*, **2013**, 107, 1-5	2.5	12
126	Modeling of the output characteristics of advanced n-MOSFETs after a severe gate-to-channel dielectric breakdown. *Microelectronic Engineering*, **2013**, 109, 322-325	2.5	
125	Analysis and Simulation of the Postbreakdown $I-V$ Characteristics of n-MOS Transistors in the Linear Response Regime. *IEEE Electron Device Letters*, **2013**, 34, 798-800	4.4	1
124	Effect of an ultrathin SiO2 interfacial layer on the hysteretic current�voltage characteristics of CeOx-based metal�insulator�metal structures. *Thin Solid Films*, **2013**, 533, 38-42	2.2	1
123	Voltage and power-controlled regimes in the progressive unipolar RESET transition of HfO�based RRAM. *Scientific Reports*, **2013**, 3, 2929	4.9	118
122	Nonhomogeneous spatial distribution of filamentary leakage current paths in circular area Pt/HfO2/Pt capacitors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 01A107	1.3	7
121	Multi-channel conduction in redox-based resistive switch modelled using quantum point contact theory. *Applied Physics Letters*, **2013**, 103, 222904	3.4	13
120	Threshold Switching and Conductance Quantization in Al/HfO2/Si(p) Structures. *Japanese Journal of Applied Physics*, **2013**, 52, 04CD06	1.4	12
119	Cycle-to-Cycle Intrinsic RESET Statistics in ${rm HfO}_{2}$-Based Unipolar RRAM Devices. *IEEE Electron Device Letters*, **2013**, 34, 623-625	4.4	88
118	A Model for the Set Statistics of RRAM Inspired in the Percolation Model of Oxide Breakdown. *IEEE Electron Device Letters*, **2013**, 34, 999-1001	4.4	111
117	Quantum-size effects in hafnium-oxide resistive switching. *Applied Physics Letters*, **2013**, 102, 183505	3.4	139
116	Multilevel recording in Bi-deficient Pt/BFO/SRO heterostructures based on ferroelectric resistive switching targeting high-density information storage in nonvolatile memories. *Applied Physics Letters*, **2013**, 103, 263502	3.4	18
115	Analysis of the breakdown spot spatial distribution in Pt/HfO2/Pt capacitors using nearest neighbor statistics. *Journal of Applied Physics*, **2013**, 114, 154112	2.5	5
114	Detection and characterization of the spatial inhibition potential in electroperforated sheet materials. *Journal of Electrostatics*, **2012**, 70, 264-268	1.7	
113	Modeling the breakdown statistics of Al2O3/HfO2 nanolaminates grown by atomic-layer-deposition. *Solid-State Electronics*, **2012**, 71, 48-52	1.7	10
112	Degradation and breakdown characteristics of Al/HfYOx/GaAs capacitors. *Thin Solid Films*, **2012**, 520, 2956-2959	2.2	1
111	The Quantum Point-Contact Memristor. *IEEE Electron Device Letters*, **2012**, 33, 1474-1476	4.4	41

#	Publication	IF	Citations
110	From post-breakdown conduction to resistive switching effect in thin dielectric films **2012**,		2
109	Formation and Characterization of Filamentary Current Paths in $hbox{HfO}_{2}$-Based Resistive Switching Structures. *IEEE Electron Device Letters*, **2012**, 33, 1057-1059	4.4	15
108	Analysis and modeling of the gate leakage current in advanced nMOSFET devices with severe gate-to-drain dielectric breakdown. *Microelectronics Reliability*, **2012**, 52, 1909-1912	1.2	1
107	Nonlinear conductance quantization effects in CeOx/SiO2-based resistive switching devices. *Applied Physics Letters*, **2012**, 101, 012910	3.4	39
106	Quantum point contact model of filamentary conduction in resistive switching memories **2012**,		7
105	Resistive switching in hafnium dioxide layers: Local phenomenon at grain boundaries. *Applied Physics Letters*, **2012**, 101, 193502	3.4	132
104	Atomic layer deposited (TiO2)x(Al2O3)1�/In0.53Ga0.47As gate stacks for III-V based metal-oxide-semiconductor field-effect transistor applications. *Applied Physics Letters*, **2012**, 100, 062905	3.4	27
103	Degradation analysis and characterization of multifilamentary conduction patterns in high-field stressed atomic-layer-deposited TiO2/Al2O3 nanolaminates on GaAs. *Journal of Applied Physics*, **2012**, 112, 064113	2.5	8
102	Stress Conditions to Study the Reliability Characteristics of High-k Nanolaminates. *ECS Transactions* , **2012**, 49, 161-168	1	4
101	Power-law logistic model for the current-time characteristic of metal gate/high-K/III-V semiconductor capacitors **2011**,		1
100	Effect of the Electric Discharge Confinement on the Perforation Density of Porous Materials. *IEEE Transactions on Industry Applications*, **2011**, 47, 2367-2373	4.3	
99	Method for improving the electrostatics perforation pattern using power controlled discharges. *Journal of Physics: Conference Series*, **2011**, 301, 012016	0.3	
98	Analysis of electroperforated materials using the quadrat counts method. *Journal of Physics: Conference Series*, **2011**, 301, 012049	0.3	1
97	Effects of Ti incorporation on the interface properties and band alignment of HfTaOx thin films on sulfur passivated GaAs. *Applied Physics Letters*, **2011**, 98, 022901	3.4	17
96	An extension of the Curie-von Schweidler law for the leakage current decay in MIS structures including progressive breakdown. *Microelectronics Reliability*, **2011**, 51, 1535-1539	1.2	8
95	. *IEEE Transactions on Electron Devices*, **2011**, 58, 3124-3131	2.9	167
94	A physical compact DC drain current model for long-channel undoped ultra-thin body (UTB) SOI and asymmetric double-gate (DG) MOSFETs with independent gate operation. *Solid-State Electronics*, **2011**, 57, 61-66	1.7	14
93	Modeling of the Tunneling Current in MOS Devices After Proton Irradiation Using a Nonlinear Series Resistance Correction. *IEEE Transactions on Nuclear Science*, **2011**, 58, 770-775	1.7	3

92	From dielectric failure to memory function: Learning from oxide breakdown for improved understanding of resistive switching memories **2011**,		3
91	Initial leakage current related to extrinsic breakdown in HfO2/Al2O3 nanolaminate ALD dielectrics. *Microelectronic Engineering*, **2011**, 88, 1380-1383	2.5	16
90	Model for the leakage current decay in high-field stressed Al/HfYOx/GaAs structures. *Microelectronic Engineering*, **2011**, 88, 1295-1297	2.5	1
89	Soft breakdown in irradiated high-nanolaminates. *Microelectronic Engineering*, **2011**, 88, 1425-1427	2.5	4
88	Application of the quadrat counts method to the analysis of the spatial breakdown spots pattern in metal gate/MgO/InP structures. *Microelectronic Engineering*, **2011**, 88, 448-451	2.5	1
87	Analytic expression for the FowlerNordheim V characteristic including the series resistance effect. *Solid-State Electronics*, **2011**, 61, 93-95	1.7	11
86	Mesoscopic nature of the electron transport in electroformed metal-insulator-metal switches. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 01AD05	1.3	4
85	A strong analogy between the dielectric breakdown of high-K gate stacks and the progressive breakdown of ultrathin oxides. *Journal of Applied Physics*, **2011**, 109, 124115	2.5	10
84	On the role of Ti adlayers for resistive switching in HfO2-based metal-insulator-metal structures: Top versus bottom electrode integration. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 01AD02	1.3	33
83	Model and Fitting Results for the Filamentary Conduction in MIM Resistive Switching Devices. *ECS Transactions*, **2011**, 39, 187-193	1	1
82	Progressive breakdown dynamics and entropy production in ultrathin SiO2 gate oxides. *Applied Physics Letters*, **2011**, 98, 253504	3.4	2
81	Gate stack insulator breakdown when the interface layer thickness is scaled toward zero. *Applied Physics Letters*, **2010**, 97, 213503	3.4	10
80	Effect of the Electric Discharge Confinement on the Perforation Density of Porous Materials **2010**,		1
79	Analysis of the breakdown spots spatial distribution in large area MOS structures **2010**,		6
78	Model for the Resistive Switching Effect in $ hbox{HfO}_{2}$ MIM Structures Based on the Transmission Properties of Narrow Constrictions. *IEEE Electron Device Letters*, **2010**, 31, 609-611	4.4	142
77	. *IEEE Transactions on Electron Devices*, **2010**, 57, 2405-2409	2.9	92
76	Exploratory analysis of the breakdown spots spatial distribution in metal gate/high-K/IIIV stacks using functional summary statistics. *Microelectronics Reliability*, **2010**, 50, 1294-1297	1.2	
75	Porosity enhancement by the utilization of screening patterns in electro-perforated paper webs. *Journal of Electrostatics*, **2010**, 68, 196-199	1.7	5

74	Soft breakdown in MgO dielectric layers **2009**,		5
73	Post-breakdown conduction in metal gate/MgO/InP structures **2009**,		1
72	Electrical characterization of the soft breakdown failure mode in MgO layers. *Applied Physics Letters*, **2009**, 95, 012901	3.4	7
71	Effects of the Semiconductor Substrate Material on the Post-breakdown Current of MgO Dielectric Layers. *ECS Transactions*, **2009**, 25, 79-86	1	3
70	Effects of the electrical stress on the conduction characteristics of metal gate/MgO/InP stacks. *Microelectronics Reliability*, **2009**, 49, 1052-1055	1.2	13
69	Analysis and simulation of the post-breakdown leakage current in electrically stressed TiO2/SiO2 gate stacks. *Thin Solid Films*, **2009**, 517, 1710-1714	2.2	
68	Degradation dynamics and breakdown of MgO gate oxides. *Microelectronic Engineering*, **2009**, 86, 1715-1717	2.5	8
67	Equivalent Circuit Model for the Gate Leakage Current in Broken Down $hbox{HfO}_{2}/hbox{TaN/TiN}$ Gate Stacks. *IEEE Electron Device Letters*, **2008**, 29, 1353-1355	4.4	9
66	Electron transport through electrically induced nanoconstrictions in HfSiON gate stacks. *Applied Physics Letters*, **2008**, 92, 253505	3.4	4
65	n-Monotone exact functionals. *Journal of Mathematical Analysis and Applications*, **2008**, 347, 143-156	1.1	32
64	Compact modeling of the non-linear post-breakdown current in thin gate oxides using the generalized diode equation. *Microelectronics Reliability*, **2008**, 48, 1604-1607	1.2	
63	Analysis of the post-breakdown current in HfO2/TaN/TiN gate stack MOSFETs for low applied biases. *Microelectronic Engineering*, **2007**, 84, 1960-1963	2.5	1
62	A drain current model for Schottky-barrier CNT-FETs. *Journal of Computational Electronics*, **2007**, 5, 361-364	1.8	5
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8	Point contact conduction at the oxide breakdown of MOS devices		24
7	Extraction of parameters and simulation of the hard breakdown I-V characteristics in ultrathin gate oxides		2
6	A new model for the breakdown dynamics of ultra-thin gate oxides based on the stochastic logistic differential equation		1
5	Logistic modeling of progressive breakdown in ultrathin gate oxides		1
4	Experimental study and modeling of the temperature dependence of soft breakdown conduction in ultrathin gate oxides		2
3	Effect of the series resistance on the Fowler-Nordheim tunneling characteristics of ultra-thin gate oxides		1

2	Post soft breakdown conduction in SiO/sub 2/ gate oxides	7
1	Analytic modeling of leakage current through multiple breakdown paths in SiO/sub 2/ films	7