

# Christophe J Muller

## List of Publications by Year in descending order

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90  
papers

1,633  
citations

304743

22  
h-index

345221

36  
g-index

91  
all docs

91  
docs citations

91  
times ranked

1873  
citing authors

#	ARTICLE	IF	CITATIONS
1	Coexistence of the bipolar and unipolar resistive-switching modes in NiO cells made by thermal oxidation of Ni layers. <i>Journal of Applied Physics</i> , 2010, 107, .	2.5	170
2	Robust Compact Model for Bipolar Oxide-Based Resistive Switching Memories. <i>IEEE Transactions on Electron Devices</i> , 2014, 61, 674-681.	3.0	101
3	Synchronous Non-Volatile Logic Gate Design Based on Resistive Switching Memories. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014, 61, 443-454.	5.4	90
4	Sr-doped $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ ceramic: structural study and field-induced reorientation of ferroelectric domains. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2000, 75, 43-52.	3.5	61
5	Neutron diffraction study of the relaxor-ferroelectric phase transition in disordered $\text{Pb}(\text{Sc}_{1/2}\text{Nb}_{1/2})\text{O}_3$ . <i>Journal of Physics Condensed Matter</i> , 2000, 12, 7523-7539.	1.8	57
6	Self-consistent physical modeling of set/reset operations in unipolar resistive-switching memories. <i>Applied Physics Letters</i> , 2011, 98, .	3.3	57
7	BICOVOX family of oxide anion conductors: chemical, electrical and structural studies. <i>Journal of Materials Chemistry</i> , 1995, 5, 1395.	6.7	48
8	Experimental and theoretical study of electrode effects in $\text{HfO}_2$ based RRAM. , 2011, , .		44
9	Oxidation kinetics of Ni metallic films: Formation of NiO-based resistive switching structures. <i>Thin Solid Films</i> , 2008, 516, 4083-4092.	1.8	42
10	Ge-doped GaSb thin films with zero mass density change upon crystallization for applications in phase change memories. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	39
11	Polarization fatigue in $\text{PbZr}_{0.45}\text{Ti}_{0.55}\text{O}_3$ -based capacitors studied from high resolution synchrotron x-ray diffraction. <i>Journal of Applied Physics</i> , 2005, 97, 064108.	2.5	38
12	Bipolar ReRAM Based non-volatile flip-flops for low-power architectures. , 2012, , .		37
13	Switching of nanosized filaments in NiO by conductive atomic force microscopy. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	37
14	Role of Ti and Pt electrodes on resistance switching variability of $\text{HfO}_2$ -based Resistive Random Access Memory. <i>Thin Solid Films</i> , 2013, 533, 19-23.	1.8	32
15	A Highly Reliable 3-D Integrated SBT Ferroelectric Capacitor Enabling FeRAM Scaling. <i>IEEE Transactions on Electron Devices</i> , 2005, 52, 447-453.	3.0	31
16	Temperature-dependent neutron powder diffraction evidence for splitting of the cationic sites in ferroelectric $\text{PbHf}_{0.4}\text{Ti}_{0.6}\text{O}_3$ . <i>Acta Crystallographica Section B: Structural Science</i> , 1999, 55, 8-16.	1.8	30
17	Accurate analysis of parasitic current overshoot during forming operation in RRAMs. <i>Microelectronic Engineering</i> , 2011, 88, 1129-1132.	2.4	29
18	Compact Modeling Solutions for Oxide-Based Resistive Switching Memories (OxRAM). <i>Journal of Low Power Electronics and Applications</i> , 2014, 4, 1-14.	2.0	27

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19	Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> layer used as solid electrolyte in conductive-bridge memory devices fabricated on flexible substrate. <i>Solid-State Electronics</i> , 2013, 79, 159-165.	1.4	26
20	Unusual crystallization behavior in Ga-Sb phase change alloys. <i>APL Materials</i> , 2013, 1, .	5.1	25
21	Phase transition in stoichiometric GaSb thin films: Anomalous density change and phase segregation. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	24
22	Lattice vibrations and order-disorder transition in the oxide anion conductor BICOVOX.15: a neutron thermodiffraction study. <i>Solid State Ionics</i> , 1998, 111, 27-36.	2.7	23
23	Evaluation of OxRAM cell variability impact on memory performances through electrical simulations. , 2011, , .		23
24	Low-power resistive switching in Au/NiO/Au nanowire arrays. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	23
25	Structural investigation of temperature-induced phase transitions in HfV <sub>2</sub> O <sub>7</sub> . <i>EPJ Applied Physics</i> , 2000, 10, 15-27.	0.7	22
26	Degradation and recovery of polarization under synchrotron x rays in SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>9</sub> ferroelectric capacitors. <i>Journal of Applied Physics</i> , 2005, 97, 044106.	2.5	22
27	Design and Test Challenges in Resistive Switching RAM (ReRAM): An Electrical Model for Defect Injections. , 2009, , .		22
28	Cationic disorder, microstructure and dielectric response of ferroelectric SBT ceramics. <i>Journal of Applied Crystallography</i> , 2003, 36, 880-889.	4.5	21
29	Structural Disorder and Ionic Conductivity in LiVO <sub>3</sub> : A Neutron Powder Diffraction Study from 340 to 890 K. <i>Journal of Solid State Chemistry</i> , 2001, 156, 379-389.	2.9	20
30	Electrical nanocharacterization of copper tetracyanoquinodimethane layers dedicated to resistive random access memories. <i>Applied Physics Letters</i> , 2010, 96, 263504.	3.3	19
31	Structural Studies of the Fast Oxygen Ion Conductor BICOVOX.15 by Single-Crystal Neutron Diffraction at Room Temperature. <i>Journal of Solid State Chemistry</i> , 1998, 141, 241-247.	2.9	18
32	Octahedral deformations and cationic displacements in the ferroelectric PbHf <sub>0.8</sub> Ti <sub>0.2</sub> O <sub>3</sub> : a neutron powder diffraction study from 10 to 770 K. <i>Acta Crystallographica Section B: Structural Science</i> , 2000, 56, 27-38.	1.8	18
33	Influence of irradiation on the switching behavior in PZT thin films. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2005, 120, 141-145.	3.5	18
34	Pressure and magnetic field effects on the crystallographic texture and electrical conductivity of the compound. <i>Journal Physics D: Applied Physics</i> , 1996, 29, 3106-3112.	2.8	17
35	Bipolar OxRRAM memory array reliability evaluation based on fault injection. , 2011, , .		17
36	Density change upon crystallization of Ga-Sb films. <i>Applied Physics Letters</i> , 2014, 105, 181910.	3.3	17

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37	Non-Volatile Flip-Flop Based on Unipolar ReRAM for Power-Down Applications. Journal of Low Power Electronics, 2012, 8, 1-10.	0.6	17
38	Direct Observation at Nanoscale of Resistance Switching in NiO Layers by Conductive-Atomic Force Microscopy. Applied Physics Express, 2011, 4, 051101.	2.4	15
39	Title is missing!. Journal of Materials Science: Materials in Electronics, 2001, 12, 543-550.	2.2	14
40	Sidewalls contribution in integrated three-dimensional Sr <sub>0.8</sub> Bi <sub>2.2</sub> Ta <sub>2</sub> O <sub>9</sub> -based ferroelectric capacitors. Applied Physics Letters, 2005, 87, 073502.	3.3	14
41	Compact modeling solutions for OxRAM memories. , 2013, , .		14
42	Design and analysis of crossbar architecture based on complementary resistive switching non-volatile memory cells. Journal of Parallel and Distributed Computing, 2014, 74, 2484-2496.	4.1	14
43	Composition control and ferroelectric properties of sidewalls in integrated three-dimensional SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>9</sub> -based ferroelectric capacitors. Journal of Applied Physics, 2005, 98, 054507.	2.5	13
44	Evidence for correlated structural and electrical changes in a Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> thin film from combined synchrotron X-ray techniques and sheet resistance measurements during <i>in situ</i> thermal annealing. Journal of Applied Crystallography, 2011, 44, 858-864.	4.5	13
45	Metal-Organic Chemical Vapor Deposition of Ferroelectric SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>9</sub> Films from a Fluorine-Containing Precursor System. Chemistry of Materials, 2006, 18, 1016-1022.	6.7	11
46	Using OxRRAM memories for improving communications of reconfigurable FPGA architectures. , 2011, , .		11
47	Combined in situ x-ray scattering and electrical measurements for characterizing phase transformations in nanometric functional films. Thin Solid Films, 2013, 541, 21-27.	1.8	11
48	Resistance change in memory structures integrating CuTCNQ nanowires grown on dedicated HfO <sub>2</sub> switching layer. Solid-State Electronics, 2011, 56, 168-174.	1.4	10
49	Resistive switching characteristics of NiO films deposited on top of W or Cu pillar bottom electrodes. Thin Solid Films, 2011, 519, 3798-3803.	1.8	10
50	Radiation effects on switching kinetics of three-dimensional ferroelectric capacitor arrays. Applied Physics Letters, 2006, 89, 113501.	3.3	9
51	Ferroelectric-paraelectric phase transition in PbHf <sub>0.2</sub> Ti <sub>0.8</sub> O <sub>3</sub> studied by neutron powder diffraction. Journal of Physics Condensed Matter, 2001, 13, 6453-6470.	1.8	8
52	Magnetic-field-induced orientation in Co-doped SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>9</sub> ferroelectric oxide. Journal of Physics Condensed Matter, 2002, 14, 11849-11857.	1.8	8
53	Reliability of NiO-Based Resistive Switching Memory (ReRAM) Elements with Pillar W Bottom Electrode. , 2009, , .		8
54	Structural study of ferroelectric and paraelectric phases in PbK <sub>2</sub> LiNb <sub>5</sub> O <sub>15</sub> . Physica Status Solidi (B): Basic Research, 2004, 241, 2629-2638.	1.5	7

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55	In situsynchrotron x-ray diffraction study of electrical field induced fatigue in Pt/PbZr <sub>0.45</sub> Ti <sub>0.55</sub> O <sub>3</sub> /Pt ferroelectric capacitors. Journal of Physics Condensed Matter, 2005, 17, 7681-7688.	1.8	5
56	Integration of resistive switching NiO in small via structures from localized oxidation of nickel metallic layer. , 2008, , .		5
57	Temperature dependent X-ray and neutron diffraction study of the liquidâ€solid and solidâ€solid equilibria in the Al <sub>29.2</sub> Ga <sub>27</sub> Zn <sub>43.8</sub> ternary alloy. Journal of Alloys and Compounds, 2001, 316, 179-188.	5.5	4
58	Title is missing!. Journal of Superconductivity and Novel Magnetism, 2001, 14, 235-244.	0.5	4
59	Reliability of three-dimensional ferroelectric capacitor memory-like arrays simultaneously submitted to x-rays and electrical stresses. , 2006, , .		4
60	Microstructural analysis of integrated pin-shaped two-dimensional and three-dimensional ferroelectric capacitors from micro-focused synchrotron X-ray techniques. Journal of Applied Crystallography, 2006, 39, 376-384.	4.5	4
61	Catalytic behaviors of ruthenium dioxide films deposited on ferroelectrics substrates, by spin coating process. Applied Surface Science, 2007, 254, 1399-1404.	6.1	4
62	On the Bipolar and Unipolar Switching Mechanisms Observed in NiO Memory Cells Made by Thermal Oxidation of Ni. , 2009, , .		4
63	A novel test structure for OxRRAM process variability evaluation. Microelectronics Reliability, 2013, 53, 1208-1212.	1.7	4
64	Operation and stability analysis of bipolar OxRRAM-based Non-Volatile 8T2R SRAM as solution for information back-up. Solid-State Electronics, 2013, 90, 99-106.	1.4	4
65	Failure Analysis of FeCAPs. Electrical Behaviour Under Synchrotron X-Ray Irradiation. Integrated Ferroelectrics, 2004, 61, 89-95.	0.7	3
66	Effect of Penetrating Irradiation on Polarization Reversal in PZT Thin Films. Ferroelectrics, 2006, 340, 161-167.	0.6	3
67	Enhanced oxidation of TiAlN barriers integrated in three-dimensional ferroelectric capacitor structures. Journal of Applied Physics, 2007, 101, 014908.	2.5	3
68	Design challenges for prototypical and emerging memory concepts relying on resistance switching. , 2011, , .		3
69	Analytical study of complementary memristive synchronous logic gates. , 2013, , .		3
70	Synchronous full-adder based on complementary resistive switching memory cells. , 2013, , .		3
71	Diffraction des neutrons : principe, dispositifs expÃ©rimentaux et applications. European Physical Journal Special Topics, 2003, 103, 101-132.	0.2	2
72	Evolution in Time of a Goldâ€Zirconia Nanopowder at Room Temperature:â€% Nucleation Growth of Gold Nanoparticles. Chemistry of Materials, 2005, 17, 5920-5927.	6.7	2

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73	Microstructure and resistance switching in NiO binary oxide films obtained from Ni oxidation. , 2006, , .		2
74	From micrometric to nanometric scale switching of CuTCNQ-based non-volatile memory structures. , 2008, , .		2
75	Solution growth of metal-organic complex CuTCNQ in small dimension interconnect structures. Journal of Crystal Growth, 2010, 312, 3267-3275.	1.5	2
76	Study of Ferroelectric Bi <sub>3.25</sub> La <sub>0.75</sub> Ti <sub>3</sub> O <sub>12</sub> Thin Films Deposited by Sol-Gel Method. Ferroelectrics, 2010, 397, 112-121.	0.6	2
77	A hybrid CBRAM/CMOS Look-Up-Table structure for improving performance efficiency of Field-Programmable-Gate-Array. , 2013, , .		2
78	Study of the nanostructuring of ZrAu alloy near the ambient temperature by X-ray diffraction and thermal analyses. Journal of Alloys and Compounds, 2004, 373, 96-103.	5.5	1
79	Phase transitions in functional thin films. Phase Transitions, 2008, 81, 603-606.	1.3	1
80	Catalytic Studies of RuO <sub>2</sub> Films Deposited on Ferroelectrics Films by Spin Coating Process. Ferroelectrics, 2008, 371, 34-42.	0.6	1
81	Growth and In-line Characterization of Silicon Nanodots Integrated in Discrete Charge Trapping Non-volatile Memories. Materials Research Society Symposia Proceedings, 2011, 1337, 35.	0.1	1
82	Extraction of physical parameters on silicon nanocrystals devoted to non-volatile memories. , 2012, , .		1
83	Emerging Memory Concepts. , 2012, , 339-364.		1
84	A CBRAM-based compact interconnect switch for non-volatile reconfigurable logic circuits. , 2013, , .		1
85	Structural and Electrical Properties of the Ferroelectric PbK <sub>2</sub> LiNb <sub>5</sub> O <sub>15</sub> . Ferroelectrics, 2002, 268, 417-422.	0.6	0
86	Kinetics of polarization reversal in irradiated thin PZT films. Physics of the Solid State, 2006, 48, 1174-1176.	0.6	0
87	Nondestructive microstructural diagnostic of integrated ferroelectric capacitor arrays: Correlation with electrical characteristics. Journal of Applied Physics, 2006, 99, 054504.	2.5	0
88	Interface Study of SiO <sub>2</sub> /HfO <sub>2</sub> /SiO <sub>2</sub> Stacks Used as InterPoly Dielectric for Future Generations of Embedded Flash Memories. Materials Research Society Symposia Proceedings, 2010, 1252, 8.	0.1	0
89	Nanostructural defects evidenced in failing silicon-based NMOS capacitors by advanced failure analysis techniques. EPJ Applied Physics, 2014, 66, 10103.	0.7	0
90	(Invited) Temperature Impact on Reliability and Manufacturing of Embedded HfO <sub>x</sub> -Based RRAM: a Novel Pre-coding Method for Bypassing Soldering Reflow. ECS Transactions, 2014, 61, 311-313.	0.5	0