

# Igor Stolichnov

## List of Publications by Year in descending order

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84  
papers

4,851  
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147726

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89  
all docs

89  
docs citations

89  
times ranked

4735  
citing authors

#	ARTICLE	IF	CITATIONS
1	Negative Capacitance in HfO <sub>2</sub> Gate Stack Structures With and Without Metal Interlayer. IEEE Transactions on Electron Devices, 2022, 69, 2680-2685.	1.6	6
2	Intrinsic switching in Si-doped HfO <sub>2</sub> : A study of Curie-Weiss law and its implications for negative capacitance field-effect transistor. Applied Physics Letters, 2021, 118, .	1.5	12
3	Intrinsic or nucleation-driven switching: An insight from nanoscopic analysis of negative capacitance Hf <sub>1-x</sub> Zr <sub>x</sub> O <sub>2</sub> -based structures. Applied Physics Letters, 2020, 117, .	1.5	11
4	Radio-Frequency Characteristics of Ge-Doped Vanadium Dioxide Thin Films with Increased Transition Temperature. ACS Applied Electronic Materials, 2020, 2, 1263-1272.	2.0	14
5	Experimental Investigation of Pulsed Laser Deposition of Ferroelectric Gd:HfO <sub>2</sub> in a CMOS BEOL Compatible Process. ACS Applied Electronic Materials, 2020, 2, 1752-1758.	2.0	16
6	Nanowire Tunnel FET with Simultaneously Reduced Subthermionic Subthreshold Swing and Off-Current due to Negative Capacitance and Voltage Pinning Effects. Nano Letters, 2020, 20, 3255-3262.	4.5	58
7	Negative Capacitance as Universal Digital and Analog Performance Booster for Complementary MOS Transistors. Scientific Reports, 2019, 9, 9105.	1.6	23
8	Origin of Ferroelectric Phase in Undoped HfO <sub>2</sub> Films Deposited by Sputtering. Advanced Materials Interfaces, 2019, 6, 1900042.	1.9	118
9	Piezoresponse Force Microscopy (PFM). , 2019, , 291-316.		4
10	Effect of hysteretic and non-hysteretic negative capacitance on tunnel FETs DC performance. Nanotechnology, 2018, 29, 095202.	1.3	32
11	Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in Hf <sub>x</sub> Zr <sub>(1-x)</sub> O <sub>2</sub> Ultrathin Capacitors. ACS Applied Materials & Interfaces, 2018, 10, 30514-30521.	4.0	36
12	Negative Capacitance as Performance Booster for Tunnel FETs and MOSFETs: An Experimental Study. IEEE Electron Device Letters, 2017, 38, 1485-1488.	2.2	62
13	Double-Gate Negative-Capacitance MOSFET With PZT Gate-Stack on Ultra Thin Body SOI: An Experimentally Calibrated Simulation Study of Device Performance. IEEE Transactions on Electron Devices, 2016, 63, 4678-4684.	1.6	80
14	Non-volatile polarization switch of magnetic domain wall velocity. Applied Physics Letters, 2015, 107, .	1.5	2
15	Bent Ferroelectric Domain Walls as Reconfigurable Metallic-Like Channels. Nano Letters, 2015, 15, 8049-8055.	4.5	68
16	Persistent conductive footprints of 109Å° domain walls in bismuth ferrite films. Applied Physics Letters, 2014, 104, .	1.5	60
17	Controlled stripes of ultrafine ferroelectric domains. Nature Communications, 2014, 5, 4677.	5.8	77
18	Ferroelectric control of magnetic domains in ultra-thin cobalt layers. Applied Physics Letters, 2013, 103, 222902.	1.5	12

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19	Polarization screening in polymer ferroelectric films: Uncommon bulk mechanism. Applied Physics Letters, 2012, 101, 132905.	1.5	2
20	Long-term retention in organic ferroelectric-graphene memories. Applied Physics Letters, 2012, 100, 023507.	1.5	54
21	Magnetic domain wall propagation under ferroelectric control. Physical Review B, 2012, 86, .	1.1	16
22	Non-volatile ferroelectric gating of magnetotransport anisotropy in (Ga,Mn)(As,P). Applied Physics Letters, 2012, 100, .	1.5	6
23	Cold-Field Switching in PVDF-TrFE Ferroelectric Polymer Nanomesas. Physical Review Letters, 2012, 108, 027603.	2.9	16
24	Ag-surfaces sputtered by DC and pulsed DC-magnetron sputtering effective in bacterial inactivation: Testing and characterization. Surface and Coatings Technology, 2012, 206, 2410-2416.	2.2	33
25	Thermally Induced Cooperative Molecular Reorientation and Nanoscale Polarization Switching Behaviors of Ultrathin Poly(vinylidene fluoride-trifluoroethylene) Films. Journal of Physical Chemistry B, 2011, 115, 13455-13466.	1.2	54
26	Enhanced Curie temperature and nonvolatile switching of ferromagnetism in ultrathin (Ga,Mn)As channels. Physical Review B, 2011, 83, .	1.1	12
27	Ferroelectric polymer gates for non-volatile field effect control of ferromagnetism in (Ga, Mn)As layers. Nanotechnology, 2011, 22, 254004.	1.3	14
28	Polarization Reversal in BiFeO <sub>3</sub> Capacitors: Complex Behavior Revealed by PFM. Ferroelectrics, 2011, 421, 54-59.	0.3	1
29	Polarization Screening in Multiferroic (Ga,Mn)As/P(VDF-TrFE) Transistors. Ferroelectrics, 2011, 421, 98-102.	0.3	0
30	Control of Ferromagnetism in a (Ga, Mn)As <sup>ε</sup> -Based Multiferroic System via a Ferroelectric Gate. , 2010, , .		0
31	Ferroelectric Polymer Gate Transistor as a Model System for Exploring the Mechanisms of the Retention Loss. Ferroelectrics, 2010, 409, 185-189.	0.3	0
32	Ferroelectric transistors with improved characteristics at high temperature. Applied Physics Letters, 2010, 97, .	1.5	24
33	Evidence for dielectric aging due to progressive $\cos^2$ domain wall pinning in polydomain $\cos^2$		

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37	Innovative UVC Light (185 nm) and Radio-Frequency-Plasma Pretreatment of Nylon Surfaces at Atmospheric Pressure and Their Implications in Photocatalytic Processes. ACS Applied Materials & Interfaces, 2009, 1, 2190-2198.	4.0	31
38	Non-volatile ferroelectric control of ferromagnetism in (Ga,Mn)As. Nature Materials, 2008, 7, 464-467.	13.3	150
39	Restricted domain growth and polarization reversal kinetics in ferroelectric polymer thin films. Journal of Applied Physics, 2008, 103, 084120.	1.1	43
40	Ferroelectric control of ferromagnetism in diluted magnetic semiconductors. , 2008, , .		0
41	Low voltage Ferroelectric FET with sub-100nm copolymer P(VDF-TrFE) gate dielectric for non-volatile 1T memory. , 2008, , .		9
42	Ferroelectric polymer gate on AlGaIn <sup>x</sup> GaN heterostructures. Journal of Applied Physics, 2007, 102, 114101.	1.1	27
43	Study of the evolution of 180° domain pattern microstructure using measurements of nonlinear permittivity. Applications of Ferroelectrics, IEEE International Symposium on, 2007, , .	0.0	2
44	Quantum Well ZnCdTe/CdTe Structures with Integrated Ferroelectric Gates. Applications of Ferroelectrics, IEEE International Symposium on, 2007, , .	0.0	1
45	ZnSO <sub>4</sub> •TiO <sub>2</sub> doped catalyst with higher activity in photocatalytic processes. Applied Catalysis B: Environmental, 2007, 76, 185-195.	10.8	29
46	Nonvolatile gate effect in the PZT/AlGaIn/GaN heterostructure. Journal of the European Ceramic Society, 2007, 27, 4307-4311.	2.8	6
47	Cross-Sectional Imaging of Polarization Reversal in Ferroelectric Films. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	0
48	Ferroelectric Gate on AlGaIn/GaN Heterostructures. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	2
49	Ferroelectric thin films: Review of materials, properties, and applications. Journal of Applied Physics, 2006, 100, 051606.	1.1	1,480
50	Nonvolatile Gate Effect in a Ferroelectric-Semiconductor Quantum Well. Physical Review Letters, 2006, 97, 247601.	2.9	11
51	Ferroelectric gate for control of transport properties of two-dimensional electron gas at AlGaIn <sup>x</sup> GaN heterostructures. Applied Physics Letters, 2006, 88, 043512.	1.5	59
52	Ferroelectric film switching via oblique domain growth observed by cross-sectional nanoscale imaging. Applied Physics Letters, 2006, 89, 082906.	1.5	16
53	Ferroelectric Gates with Rewritable Domain Nanopatterns for Modulation of Transport Properties in GaN/AlGaIn Heterostructures. AIP Conference Proceedings, 2005, , .	0.3	0
54	Microscopic aspects of the region-by-region polarization reversal kinetics of polycrystalline ferroelectric Pb(Zr,Ti)O <sub>3</sub> films. Applied Physics Letters, 2005, 86, 012902.	1.5	47

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55	Ferroelectric Gates for Modulation of 2D Electron Gas at GaN/AlGaN Interfaces. Materials Research Society Symposia Proceedings, 2005, 902, 1.	0.1	0
56	Physical model of retention and temperature-dependent polarization reversal in ferroelectric films. Journal of Applied Physics, 2005, 98, 084106.	1.1	44
57	Kinetics of polarization reversal in ferroelectric films: role of domain nucleation and domain wall motion. Ceramics International, 2004, 30, 1095-1099.	2.3	3
58	Nature of nonlinear imprint in ferroelectric films and long-term prediction of polarization loss in ferroelectric memories. Journal of Applied Physics, 2004, 96, 6616-6623.	1.1	80
59	Size Effects In Ferroelectric Film Capacitors: Role of The Film Thickness and Capacitor Size. , 2004, , 39-56.		1
60	Polarization Reversal Model and Prediction of Temperature-Dependent Switching of Ferroelectric Capacitors. Materials Research Society Symposia Proceedings, 2003, 784, 671.	0.1	0
61	Direct observation of inversely polarized frozen nanodomains in fatigued ferroelectric memory capacitors. Applied Physics Letters, 2003, 82, 1604-1606.	1.5	41
62	Crossover between nucleation-controlled kinetics and domain wall motion kinetics of polarization reversal in ferroelectric films. Applied Physics Letters, 2003, 83, 3362-3364.	1.5	45
63	Novel UV-assisted Rapid Thermal Annealing of Ferroelectric Materials. , 2003, , 75-82.		1
64	Unusual size effect on the polarization patterns in micron-size Pb(Zr,Ti)O <sub>3</sub> film capacitors. Applied Physics Letters, 2002, 80, 4804-4806.	1.5	50
65	Non-Kolmogorov-Avrami switching kinetics in ferroelectric thin films. Physical Review B, 2002, 66, .	1.1	409
66	Ca and La-Modified Lead Titanate Sol-Gel Thin Films by UV-Assisted Processing for Piezoelectric Sensors. Ferroelectrics, 2002, 267, 335-340.	0.3	7
67	Polarization fatigue in ferroelectric films: Basic experimental findings, phenomenological scenarios, and microscopic features. Journal of Applied Physics, 2001, 90, 1387-1402.	1.1	549
68	Charge relaxation at the interfaces of low-voltage ferroelectric film capacitors: Fatigue endurance and size effects. Ferroelectrics, 2001, 258, 221-230.	0.3	0
69	Constant-current study of dielectric breakdown of Pb(Zr,Ti)O <sub>3</sub> ferroelectric film capacitors. Integrated Ferroelectrics, 2001, 32, 45-54.	0.3	5
70	Downscaling of Pb(Zr,Ti)O <sub>3</sub> film thickness for low-voltage ferroelectric capacitors: Effect of charge relaxation at the interfaces. Journal of Applied Physics, 2000, 88, 2154-2156.	1.1	41
71	Dielectric breakdown in (Pb,La)(Zr,Ti)O <sub>3</sub> ferroelectric thin films with Pt and oxide electrodes. Journal of Applied Physics, 2000, 87, 1925-1931.	1.1	36
72	Physical origin of conduction in PZT thin films. Ferroelectrics, 1999, 225, 147-154.	0.3	6

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73	Control of leakage conduction of high-fatigue-endurance (Pb, $\delta$ La)(Zr, $\delta$ Ti)O <sub>3</sub> film ferroelectric capacitors with Pt/SrRuO <sub>3</sub> electrodes. Applied Physics Letters, 1999, 75, 1790-1792.	1.5	59
74	Integrated Ferroelectrics, 1999, 23, 191-198.	0.3	1
75	Degradation of asymmetrical Pt/SRO/PLZT/Pt capacitors: Role of Pt and oxide electrodes. Integrated Ferroelectrics, 1999, 26, 311-321.	0.3	1
76	Top-interface-controlled switching and fatigue endurance of (Pb,La)(Zr,Ti)O <sub>3</sub> ferroelectric capacitors. Applied Physics Letters, 1999, 74, 3552-3554.	1.5	135
77	Tunneling conduction in virgin and fatigued states of PZT films. Ferroelectrics, 1999, 225, 125-132.	0.3	4
78	Injection-controlled size effect on switching of ferroelectric thin films. Applied Physics Letters, 1999, 74, 1326-1328.	1.5	186
79	Low-Voltage Pb(Zr,Ti)O <sub>3</sub> Film Capacitors: Control of Charge Relaxation at the Interfaces. Materials Research Society Symposia Proceedings, 1999, 596, 387.	0.1	3
80	Negative differential conduction in the Bloch oscillations regime in the hexagonal silicon carbide polytypes 4H, 6H and 8H. Superlattices and Microstructures, 1998, 23, 999-1004.	1.4	22
81	Space-charge influenced-injection model for conduction in Pb(ZrxTi $\delta$ x)O <sub>3</sub> thin films. Journal of Applied Physics, 1998, 84, 3216-3225.	1.1	134
82	Cold-field-emission test of the fatigued state of Pb(ZrxTi $\delta$ x)O <sub>3</sub> films. Applied Physics Letters, 1998, 73, 1361-1363.	1.5	50
83	Electron transport under Wannier- $\delta$ Stark localization conditions in silicon carbide polytypes. Semiconductors, 1997, 31, 489.	0.2	1
84	Wannier- $\delta$ Stark resonances under strong localization conditions in natural silicon-carbide superlattices. JETP Letters, 1996, 64, 114-119.	0.4	5