Igor Stolichnov

List of Publications by Year in descending order

84 papers	4,851 citations	147726 31 h-index	91828 69 g-index
89 all docs	89 docs citations	89 times ranked	4735 citing authors

#	Article	IF	Citations
1	Ferroelectric thin films: Review of materials, properties, and applications. Journal of Applied Physics, 2006, 100, 051606.	1.1	1,480
2	Polarization fatigue in ferroelectric films: Basic experimental findings, phenomenological scenarios, and microscopic features. Journal of Applied Physics, 2001, 90, 1387-1402.	1.1	549
3	Non-Kolmogorov-Avrami switching kinetics in ferroelectric thin films. Physical Review B, 2002, 66, .	1.1	409
4	Injection-controlled size effect on switching of ferroelectric thin films. Applied Physics Letters, 1999, 74, 1326-1328.	1.5	186
5	Non-volatile ferroelectric control of ferromagnetism in (Ga,Mn)As. Nature Materials, 2008, 7, 464-467.	13.3	150
6	Top-interface-controlled switching and fatigue endurance of (Pb,La)(Zr,Ti)O3 ferroelectric capacitors. Applied Physics Letters, 1999, 74, 3552-3554.	1.5	135
7	Space-charge influenced-injection model for conduction in Pb(ZrxTi1âˆ'x)O3 thin films. Journal of Applied Physics, 1998, 84, 3216-3225.	1.1	134
8	Origin of Ferroelectric Phase in Undoped HfO₂ Films Deposited by Sputtering. Advanced Materials Interfaces, 2019, 6, 1900042.	1.9	118
9	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
10	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
11	Controlled stripes of ultrafine ferroelectric domains. Nature Communications, 2014, 5, 4677.	5.8	77
12	Bent Ferroelectric Domain Walls as Reconfigurable Metallic-Like Channels. Nano Letters, 2015, 15, 8049-8055.	4.5	68
13	Negative Capacitance as Performance Booster for Tunnel FETs and MOSFETs: An Experimental Study. IEEE Electron Device Letters, 2017, 38, 1485-1488.	2.2	62
14	Persistent conductive footprints of 109Â° domain walls in bismuth ferrite films. Applied Physics Letters, 2014, 104, .	1.5	60
15	Control of leakage conduction of high-fatigue-endurance (Pb,â€ŠLa)(Zr,â€ŠTi)O3 film ferroelectric capacitors with Pt/SrRuO3 electrodes. Applied Physics Letters, 1999, 75, 1790-1792.	1.5	59
16	Ferroelectric gate for control of transport properties of two-dimensional electron gas at AlGaNâ•GaN heterostructures. Applied Physics Letters, 2006, 88, 043512.	1.5	59
17	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
18	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

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19	Long-term retention in organic ferroelectric-graphene memories. Applied Physics Letters, 2012, 100, 023507.	1.5	54
20	Cold-field-emission test of the fatigued state of Pb(ZrxTi1âˆ'x)O3 films. Applied Physics Letters, 1998, 73, 1361-1363.	1.5	50
21	Unusual size effect on the polarization patterns in micron-size Pb(Zr,Ti)O3 film capacitors. Applied Physics Letters, 2002, 80, 4804-4806.	1.5	50
22	Microscopic aspects of the region-by-region polarization reversal kinetics of polycrystalline ferroelectric Pb(Zr,Ti)O3 films. Applied Physics Letters, 2005, 86, 012902.	1.5	47
23	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
24	Physical model of retention and temperature-dependent polarization reversal in ferroelectric films. Journal of Applied Physics, 2005, 98, 084106.	1.1	44
25	Restricted domain growth and polarization reversal kinetics in ferroelectric polymer thin films. Journal of Applied Physics, 2008, 103, 084120.	1.1	43
26	Downscaling of Pb(Zr,Ti)O3 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
27	Direct observation of inversely polarized frozen nanodomains in fatigued ferroelectric memory capacitors. Applied Physics Letters, 2003, 82, 1604-1606.	1.5	41
28	Dielectric breakdown in (Pb,La)(Zr,Ti)O3 ferroelectric thin films with Pt and oxide electrodes. Journal of Applied Physics, 2000, 87, 1925-1931.	1.1	36
29	Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in Hf_xZr_(1â€“x)O₂ Ultrathin Capacitors. ACS Applied Materials & Interfaces, 2018, 10, 30514-30521.	4.0	36
30	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
31	Effect of hysteretic and non-hysteretic negative capacitance on tunnel FETs DC performance. Nanotechnology, 2018, 29, 095202.	1.3	32
32	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
33	ZnSO4â€“TiO2 doped catalyst with higher activity in photocatalytic processes. Applied Catalysis B: Environmental, 2007, 76, 185-195.	10.8	29
34	Ferroelectric polymer gate on AlGaNâ•GaN heterostructures. Journal of Applied Physics, 2007, 102, 114101.	1.1	27
35	Ferroelectric transistors with improved characteristics at high temperature. Applied Physics Letters, 2010, 97, .	1.5	24
36	Negative Capacitance as Universal Digital and Analog Performance Booster for Complementary MOS Transistors. Scientific Reports, 2019, 9, 9105.	1.6	23

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37	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
38	Toward a low-voltage multiferroic transistor: Magnetic (Ga,Mn)As under ferroelectric control. Applied Physics Letters, 2009, 94, .	1.5	20
39	Evidence for dielectric aging due to progressive<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>180</mml:mn><mml:mo>Â°</mml:mo></mml:mrow></mml:math>domain wall pinning in polydomain<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"		

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55	Physical origin of conduction in PZT thin films. Ferroelectrics, 1999, 225, 147-154.	0.3	6
56	Nonvolatile gate effect in the PZT/AlGaN/GaN heterostructure. Journal of the European Ceramic Society, 2007, 27, 4307-4311.	2.8	6
57	Non-volatile ferroelectric gating of magnetotransport anisotropy in (Ga,Mn)(As,P). Applied Physics Letters, 2012, 100, .	1.5	6
58	Negative Capacitance in HfO₂ Gate Stack Structures With and Without Metal Interlayer. IEEE Transactions on Electron Devices, 2022, 69, 2680-2685.	1.6	6
59	Wannier-Stark resonances under strong localization conditions in natural silicon-carbide superlattices. JETP Letters, 1996, 64, 114-119.	0.4	5
60	Constant-current study of dielectric breakdown of Pb(Zr,Ti)O3 ferroelectric film capacitors. Integrated Ferroelectrics, 2001, 32, 45-54.	0.3	5
61	Tunneling conduction in virgin and fatigued states of PZT films. Ferroelectrics, 1999, 225, 125-132.	0.3	4
62	Piezoresponse Force Microscopy (PFM). , 2019, , 291-316.		4
63	Low-Voltage Pb(Zr,Ti)O₃ Film Capacitors: Control of Charge Relaxation at the Interfaces. Materials Research Society Symposia Proceedings, 1999, 596, 387.	0.1	3
64	Kinetics of polarization reversal in ferroelectric films: role of domain nucleation and domain wall motion. Ceramics International, 2004, 30, 1095-1099.	2.3	3
65	Ferroelectric Gate on AlGaN/GaN Heterostructures. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	2
66	Study of the evolution of 180Â° domain pattern microstructure using measurements of nonlinear permittivity. Applications of Ferroelectrics, IEEE International Symposium on, 2007, , .	0.0	2
67	Polarization screening in polymer ferroelectric films: Uncommon bulk mechanism. Applied Physics Letters, 2012, 101, 132905.	1.5	2
68	Non-volatile polarization switch of magnetic domain wall velocity. Applied Physics Letters, 2015, 107, .	1.5	2
69	Integrated Ferroelectrics, 1999, 23, 191-198.	0.3	1
70	Degradation of asymmetrical Pt/SRO/PLZT/Pt capacitors: Role of Pt and oxide electrodes. Integrated Ferroelectrics, 1999, 26, 311-321.	0.3	1
71	Quantum Well ZnCdTe/CdTe Structures with Integrated Ferroelectric Gates. Applications of Ferroelectrics, IEEE International Symposium on, 2007, , .	0.0	1
72	Polarization Reversal in BiFeO3Capacitors: Complex Behavior Revealed by PFM. Ferroelectrics, 2011, 421, 54-59.	0.3	1

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73	Size Effects In Ferroelectric Film Capacitors: Role of The Film Thickness and Capacitor Size. , 2004, , 39-56.		1
74	Novel UV-assisted Rapid Thermal Annealing of Ferroelectric Materials. , 2003, , 75-82.		1
75	Electron transport under Wannierâ€“Stark localization conditions in silicon carbide polytypes. Semiconductors, 1997, 31, 489.	0.2	1
76	Charge relaxation at the interfaces of low-voltage ferroelectric film capacitors: Fatigue endurance and size effects. Ferroelectrics, 2001, 258, 221-230.	0.3	0
77	Polarization Reversal Model and Prediction of Temperature-Dependent Switching of Ferroelectric Capacitors. Materials Research Society Symposia Proceedings, 2003, 784, 671.	0.1	0
78	Ferroelectric Gates with Rewritable Domain Nanopatterns for Modulation of Transport Properties in GaN/AlGaN Heterostructures. AIP Conference Proceedings, 2005, , .	0.3	0
79	Ferroelectric Gates for Modulation of 2D Electron Gas at GaN/AlGaN Interfaces. Materials Research Society Symposia Proceedings, 2005, 902, 1.	0.1	0
80	Cross-Sectional Imaging of Polarization Reversal in Ferroelectric Films. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	0
81	Ferroelectric control of ferromagnetism in diluted magnetic semiconductors. , 2008, , .		0
82	Control of Ferromagnetism in a (Ga, Mn)Asâ€”Based Multiferroic System via a Ferroelectric Gate. , 2010, , .		0
83	Ferroelectric Polymer Gate Transistor as a Model System for Exploring the Mechanisms of the Retention Loss. Ferroelectrics, 2010, 409, 185-189.	0.3	0
84	Polarization Screening in Multiferroic (Ga,Mn)As/P(VDF-TrFE) Transistors. Ferroelectrics, 2011, 421, 98-102.	0.3	0