Alexander Zaslavsky

List of Publications by Year
in descending order

150	3,044	186265	197818
papers	citations	28 h-index	49 g-index

155	155	155	2406
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High-performance dual-gate graphene pH sensors. Applied Physics Letters, 2022, 120, 263701.	3.3	1
2	Impact ionization-induced bistability in CMOS transistors at cryogenic temperatures for capacitorless memory applications. Applied Physics Letters, 2021, 119, .	3.3	3
3	Optimization of Photoelectron In-Situ Sensing Device in FD-SOI. IEEE Journal of the Electron Devices Society, 2021, 9, 187-194.	2.1	2
4	Fast and efficient germanium quantum dot photodetector with an ultrathin active layer. Applied Physics Letters, 2021, 119, .	3.3	11
5	A Review of Sharp-Switching Band-Modulation Devices. Micromachines, 2021, 12, 1540.	2.9	3
6	Photodiode with low dark current built in silicon-on-insulator using electrostatic doping. Solid-State Electronics, 2020, 168, 107733.	1.4	7
7	Fundamental Thermal Limits on Data Retention in Low-Voltage CMOS Latches and SRAM. IEEE Transactions on Device and Materials Reliability, 2020, 20, 488-497.	2.0	11
8	On the Coupling of Electron Transfer to Proton Transfer at Electrified Interfaces. Journal of the American Chemical Society, 2020, 142, 11829-11834.	13.7	29
9	Deep-Depletion Effect in SOI Substrates and its Application in Photodetectors With Tunable Responsivity and Detection Range. IEEE Transactions on Electron Devices, 2020, 67, 3256-3262.	3.0	9
10	High-performance germanium quantum dot photodetectors: Response to continuous wave and pulsed excitation. Applied Physics Letters, 2020, 117, .	3.3	7
11	Novel Semiconductor devices Based on SOL Substrate. , 2020, , .		0
12	Suppressing crosstalk in the photoelectron in-situ sensing device (PISD) by double SOI. , 2020, , .		0
13	Unijunction Transistor on Silicon-On-Insulator Substrate. , 2020, , .		0
14	Dynamic Coupling Effect in Z²-FET and Its Application for Photodetection. IEEE Journal of the Electron Devices Society, 2019, 7, 846-854.	2.1	10
15	Direct Characterization of Carrier Diffusion in Halide-Perovskite Thin Films Using Transient Photoluminescence Imaging. ACS Photonics, 2019, 6, 2375-2380.	6.6	19
16	Z2-FET: a multi-functional device used for photodetection. , 2019, , .		0
17	Preface to the FTM-2018 special issue. Solid-State Electronics, 2019, 155, 1-3.	1.4	0
18	Photodiode with Low Dark Current Built in Silicon-on-Insulator by Electrostatic Doping. , 2019, , .		0

#	Article	IF	Citations
19	High-performance germanium quantum dot photodetectors in the visible and near infrared. Materials Science in Semiconductor Processing, 2019, 92, 19-27.	4.0	23
20	Thermal Noise-Induced Error Simulation Framework for Subthreshold CMOS SRAM. , 2019, , .		0
21	Optimization of photoelectron in-situ sensing device in FD-SOI. , 2019, , .		0
22	Interface Coupled Photodetector (ICPD) With High Photoresponsivity Based on Silicon-on-Insulator Substrate (SOI). IEEE Journal of the Electron Devices Society, 2018, 6, 557-564.	2.1	29
23	A Sub-Threshold Noise Transient Simulator Based on Integrated Random Telegraph and Thermal Noise Modeling. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 643-656.	2.7	3
24	Lowâ€Temperature Operation of Highâ€Efficiency Germanium Quantum Dot Photodetectors in the Visible and Near Infrared. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700453.	1.8	6
25	A New Photodetector on SOI. , 2018, , .		3
26	A highly sensitive photodetector based on deepdepletion effects in SOI transistors. , 2018, , .		8
27	ICPD: an SOI-based photodetector with high responsivity and tunable response spectrum. , 2018, , .		1
28	Broadband visible-to-telecom wavelength germanium quantum dot photodetectors. Applied Physics Letters, 2018, 113, 181101.	3.3	13
29	Novel photodetector based on FD-SOI substrate with interface coupling effect. , 2018, , .		0
30	Electronic transport parameters of indium zinc oxide thin films after Al2O3/HfO2 top-dielectric formation annealing. Microelectronic Engineering, 2017, 178, 164-167.	2.4	3
31	Channel scaling and field-effect mobility extraction in amorphous InZnO thin film transistors. Solid-State Electronics, 2017, 135, 94-99.	1.4	21
32	Temporal and voltage stress stability of high performance indium-zinc-oxide thin film transistors. Solid-State Electronics, 2017, 136, 43-50.	1.4	15
33	A novel photodetector based on the interface coupling effect in silicon-on-insulator MOSFETs. , 2017, , .		3
34	Noise performance of high-efficiency germanium quantum dot photodetectors. Applied Physics Letters, 2016, 109, .	3.3	13
35	Optical bandgap of single- and multi-layered amorphous germanium ultra-thin films. Journal of Applied Physics, 2016, 119, .	2.5	30
36	High performance top-gated indiumâ€“zincâ€“oxide thin film transistors with in-situ formed HfO2 gate insulator. Thin Solid Films, 2016, 614, 52-55.	1.8	3

#	Article	IF	Citations
37	Design of Error-Resilient Logic Gates with Reinforcement Using Implications. , 2016, , .		4
38	A fast simulator for the analysis of sub-threshold thermal noise transients. , 2016, , .		2
39	A Review of Sharp-Switching Devices for Ultra-Low Power Applications. IEEE Journal of the Electron Devices Society, 2016, 4, 215-226.	2.1	113
40	Dense nanoimprinted silicon nanowire arrays with passivated axial p-i-n junctions for photovoltaic applications. Journal of Applied Physics, 2015, 117, .	2.5	11
41	(Invited) Special Memory Mechanisms in SOI Devices. ECS Transactions, 2015, 66, 201-210.	0.5	0
42	CMOS-compatible FDSOI bipolar-enhanced tunneling FET. , 2015, , .		6
43	Comment on â€œInvestigation of tunnel field-effect transistors as a capacitor-less memory cellâ€•[Appl. Phys. Lett. 104, 092108 (2014)]. Applied Physics Letters, 2015, 106, .	3.3	4
44	A Simulation Framework for Analyzing Transient Effects Due to Thermal Noise in Sub-Threshold Circuits. , 2015, , .		3
45	Beyond TFET: Alternative mechanisms for CMOS-compatible sharp-switching devices. , 2014, , .		0
46	Contact resistance improvement using interfacial silver nanoparticles in amorphous indium-zinc-oxide thin film transistors. Applied Physics Letters, 2014, 105, .	3.3	12
47	Strong room-temperature negative transconductance in an axial Si/Ge hetero-nanowire tunneling field-effect transistor. Applied Physics Letters, 2014, 105, .	3.3	13
48	Top-Gated Indiumâ€“Zincâ€“Oxide Thin-Film Transistors With In Situ Al₂O₃/HfO₂ Gate Oxide. IEEE Electron Device Letters, 2014, 35, 1251-1253.	3.9	20
49	Electron-Hole Bilayer TFET: Experiments and Comments. IEEE Transactions on Electron Devices, 2014, 61, 2674-2681.	3.0	40
50	Z2-FET: A promising FDSOI device for ESD protection. Solid-State Electronics, 2014, 97, 23-29.	1.4	37
51	Role of Ge nanoclusters in the performance of photodetectors compatible with Si technology. Thin Solid Films, 2013, 548, 551-555.	1.8	11
52	Progress in Z2-FET 1T-DRAM: Retention time, writing modes, selective array operation, and dual bit storage. Solid-State Electronics, 2013, 84, 147-154.	1.4	60
53	A systematic study of the sharp-switching Z2-FET device: From mechanism to modeling and compact memory applications. Solid-State Electronics, 2013, 90, 2-11.	1.4	56
54	Novel Bipolar-Enhanced Tunneling FET With Simulated High On-Current. IEEE Electron Device Letters, 2013, 34, 24-26.	3.9	23

#	Article	IF	Citations
55	Sharp Switching SOI Devices. ECS Transactions, 2013, 53, 3-13.	0.5	1
56	(Invited) Innovative Sharp Switching Devices. ECS Transactions, 2013, 54, 65-75.	0.5	3
57	Sharp-Switching High-Current Tunneling Devices. ECS Transactions, 2013, 53, 63-74.	0.5	2
58	A Compact Capacitor-Less High-Speed DRAM Using Field Effect-Controlled Charge Regeneration. IEEE Electron Device Letters, 2012, 33, 179-181.	3.9	103
59	Z²-FET used as 1-transistor high-speed DRAM. , 2012, , .		11
60	A feedback silicon-on-insulator steep switching device with gate-controlled carrier injection. Solid-State Electronics, 2012, 76, 109-111.	1.4	65
61	Innovative capacitorless SOI DRAMs. , 2012, , .		1
62	A noise-immune sub-threshold circuit design based on selective use of Schmitt-trigger logic. , 2012, , .		10
63	Z²-FET: A zero-slope switching device with gate-controlled hysteresis. , 2012, , .		11
64	Transient photoresponse and incident power dependence of high-efficiency germanium quantum dot photodetectors. Journal of Applied Physics, 2012, 112, .	2.5	39
65	Axial SiGe Heteronanowire Tunneling Field-Effect Transistors. Nano Letters, 2012, 12, 5850-5855.	9.1	40
66	Fast, high-efficiency Germanium quantum dot photodetectors. , 2012, , .		1
67	Shot-Noise-Induced Failure in Nanoscale Flip-Flopsâ€”Part I: Numerical Framework. IEEE Transactions on Electron Devices, 2012, 59, 800-806.	3.0	3
68	Shot-Noise-Induced Failure in Nanoscale Flip-Flops Part II: Failure Rates in 10-nm Ultimate CMOS. IEEE Transactions on Electron Devices, 2012, 59, 807-812.	3.0	7
69	High-efficiency silicon-compatible photodetectors based on Ge quantum dots. Applied Physics Letters, 2011, 98, .	3.3	58
70	A tunneling field effect transistor model combining interband tunneling with channel transport. Journal of Applied Physics, 2011, 110, .	2.5	91
71	Full Two-Dimensional Markov Chain Analysis of Thermal Soft Errors in Subthreshold Nanoscale CMOS Devices. IEEE Transactions on Device and Materials Reliability, 2011, 11, 50-59.	2.0	6
72	Tunneling FETs on SOI: Suppression of ambipolar leakage, low-frequency noise behavior, and modeling. Solid-State Electronics, 2011, 65-66, 226-233.	1.4	103

#	Article	IF	Citations
73	Gate-induced drain leakage in FD-SOI devices: What the TFET teaches us about the MOSFET. Microelectronic Engineering, 2011, 88, 1301-1304.	2.4	9
74	A Selection of SOI Puzzles and Tentative Answers. Engineering Materials, 2011, , 425-441.	0.6	1
75	Growth, electrical rectification, and gate control in axial in situ doped p-n junction germanium nanowires. Applied Physics Letters, 2010, 96, .	3.3	21
76	SOI TFETs: Suppression of ambipolar leakage and low-frequency noise behavior. , 2010, , .		28
77	Numerical queue solution of thermal noise-induced soft errors in subthreshold CMOS devices. , 2010, , .		2
78	Low-frequency noise behavior of tunneling field effect transistors. Applied Physics Letters, 2010, 97, .	3.3	33
79	Semiconductor nanotechnology: novel materials and devices for electronics, photonics and renewable energy applications. Nanotechnology, 2010, 21, 130201.	2.6	9
80	Two-Dimensional Markov Chain Analysis of Radiation-Induced Soft Errors in Subthreshold Nanoscale CMOS Devices. IEEE Transactions on Nuclear Science, 2010, , .	2.0	4
81	Substrate Fermi level effects in photocatalysis on oxides: Properties of ultrathin TiO2/Si films. Applied Physics Letters, 2009, 95, 064103.	3.3	8
82	Tunneling field-effect transistor with epitaxial junction in thin germanium-on-insulator. Applied Physics Letters, 2009, 94, .	3.3	81
83	Markov Chain Analysis of Thermally Induced Soft Errors in Subthreshold Nanoscale CMOS Circuits. IEEE Transactions on Device and Materials Reliability, 2009, 9, 494-504.	2.0	10
84	Electron tunneling spectroscopy of a quantum antidot in the integer quantum Hall regime. Physical Review B, 2008, 77, .	3.2	25
85	Designing Nanoscale Logic Circuits Based on Principles of Markov Random Fields. Frontiers in Electronic Testing, 2008, , 315-338.	0.3	1
86	Negative differential resistance in ultrathin Ge-on-insulator FETs. Semiconductor Science and Technology, 2007, 22, S1-S4.	2.0	12
87	Negative transconductance in double-gate germanium-on-insulator field effect transistors. Applied Physics Letters, 2007, 91, 183511.	3.3	7
88	Techniques for Designing Noise-Tolerant Multi-Level Combinational Circuits. , 2007, , .		8
89	Thermally-induced soft errors in nanoscale CMOS circuits. , 2007, , .		16
90	Hopping conduction in disordered carbon nanotubes. Solid State Communications, 2007, 142, 287-291.	1.9	38

#	Article	IF	Citations
91	Designing Nanoscale Logic Circuits Based on Markov Random Fields. Journal of Electronic Testing: Theory and Applications (JETTA), 2007, 23, 255-266.	1.2	27
92	Nonclassical devices in SOI: Genuine or copyright from IIIâ€“V. Solid-State Electronics, 2007, 51, 212-218.	1.4	7
93	Negative Differential Resistance in Ultra-Thin Ge-On-Insulator FETs. , 2006, , .		0
94	MRF Reinforcer: A Probabilistic Element for Space Redundancy in Nanoscale Circuits. IEEE Micro, 2006, 26, 19-27.	1.8	10
95	P-71: Robust-Stretchable Interconnects for Flexible Display Applications. Digest of Technical Papers SID International Symposium, 2006, 37, 466.	0.3	0
96	Designing MRF based Error Correcting Circuits for Memory Elements. , 2006, , .		12
97	Quantum confinement induced by strain relaxation in an elliptical double-barrierSiâˆ•SixGe1âˆ’xresonant tunneling quantum dot. Physical Review B, 2006, 73, .	3.2	3
98	Correct biasing rules for virtual DG mode operation in SOI-MOSFETs. IEEE Transactions on Electron Devices, 2005, 52, 124-125.	3.0	23
99	Designing logic circuits for probabilistic computation in the presence of noise. , 2005, , .		52
100	Carbon nanotube gated lateral resonant tunneling field-effect transistors. Applied Physics Letters, 2005, 87, 152102.	3.3	13
101	Electrical resistance of island-containing thin metal interconnects on polymer substrates under high strain. Journal of Applied Physics, 2005, 98, 086107.	2.5	16
102	Differential current amplification in three-terminal Y-junction carbon nanotube devices. Applied Physics Letters, 2005, 87, 123504.	3.3	14
103	Ultrathin epitaxial germanium on crystalline oxide metal-oxide-semiconductor-field-effect transistors. Applied Physics Letters, 2005, 86, 223504.	3.3	25
104	Fractional statistics of Laughlin quasiparticles in quantum antidots. Physical Review B, 2005, 71, .	3.2	30
105	Designing logic circuits for probabilistic computation in the presence of noise. , 2005, , .		21
106	Lateral interband tunneling transistor in silicon-on-insulator. Applied Physics Letters, 2004, 84, 1780-1782.	3.3	130
107	Blue sky in SOI: new opportunities for quantum and hot-electron devices. Solid-State Electronics, 2004, 48, 877-885.	1.4	6
108	Ultrathin silicon-on-insulator vertical tunneling transistor. Applied Physics Letters, 2003, 83, 1653-1655.	3.3	28

#	Article	IF	Citations
109	Strain-Induced Quantum Ring Hole States in a Gated Vertical Quantum Dot. Physical Review Letters, 2002, 89, 096804.	7.8	7
110	Single-hole tunneling into a strain-induced SiGe quantum ring. Physical Review B, 2002, 66, .	3.2	4
111	Reduction of reflection losses in ZnGeP2 using motheye antireflection surface relief structures. Applied Physics Letters, 2002, 80, 2242-2244.	3.3	70
112	From SOI materials to innovative devices. Solid-State Electronics, 2001, 45, 559-566.	1.4	25
113	Double-Gate MOSFETs: Is Gate Alignment Mandatory?. , 2001, , .		15
114	Invariance of charge of Laughlin quasiparticles. Physical Review B, 2001, 64, .	3.2	36
115	Cascaded resonant tunneling diode quantizer for analog-to-digital flash conversion. Applied Physics Letters, 2001, 79, 129-131.	3.3	6
116	Absence of Compressible Edge Channel Rings in Quantum Antidots. Physical Review Letters, 2001, 87, 146801.	7.8	43
117	A NEW MULTIPEAK RESONANT TUNNELING DIODE FOR SIGNAL PROCESSING APPLICATION. , 2001, , .		0
118	VLSI-COMPATIBLE PROCESSING AND LOW-VOLTAGE OPERATION OF MULTIEMITTER Si/SiGe HETEROJUNCTION BIPOLAR TRANSISTORS. International Journal of High Speed Electronics and Systems, 2000, 10, 75-81.	0.7	1
119	Magnetotunneling spectroscopic probe of quantization due to inhomogeneous strain in a Si/SiGe vertical quantum dot. Physical Review B, 2000, 62, R7731-R7734.	3.2	5
120	Current oscillations in semiconductor-insulator multiple quantum wells. Physical Review B, 1999, 60, 15975-15979.	3.2	7
121	Inhomogeneous strain relaxation in triple-barrierpâ^'Si/SiGenanostructures. Physical Review B, 1999, 60, 16597-16602.	3.2	6
122	Stress and pressure effects on a Si/SiGe double-barrier structure studied by magnetotunnelling spectroscopy. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 758-762.	2.7	2
123	Finite element analysis of strain effects on electronic and transport properties in quantum dots and wires. Journal of Applied Physics, 1998, 84, 3714-3725.	2.5	64
124	Inhomogeneous strain in individual quantum dots probed by transport measurements. Applied Physics Letters, 1998, 72, 1739-1741.	3.3	13
125	Multi-emitter Si/GexSi/sub 1-x/ heterojunction bipolar transistor with no base contact and enhanced logic functionality. IEEE Electron Device Letters, 1997, 18, 453-455.	3.9	6
126	Uniaxial stress effects on a Si/Si1â^'xGex double-barrier resonant tunnelling structure studied by magnetotunnelling spectroscopy. Applied Surface Science, 1996, 102, 242-246.	6.1	1

#	Article	IF	Citations
127	Photonic band gap quantum well and quantum box structures: A highâ€Q resonant cavity. Applied Physics Letters, 1996, 68, 3233-3235.	3.3	68
128	Resonant-tunneling spectroscopy of coupled hole subbands in strained Si/SiGe triple-barrier structures. Physical Review B, 1996, 53, 994-997.	3.2	6
129	Increased-Functionality VLSI-Compatible Devices Based on Backward-Diode Floating-Base Si/SiGe Heterojunction Bipolar Transistors. , 1996, , 365-370.		2
130	SiGe/Si quantum wells with abrupt interfaces grown by atmospheric pressure chemical vapor deposition. Vacuum, 1995, 46, 947-950.	3.5	5
131	High field transport in an edge overgrown lateral superlattice. Applied Physics Letters, 1995, 66, 323-325.	3.3	10
132	Strain relaxation in siliconâ€germanium microstructures observed by resonant tunneling spectroscopy. Applied Physics Letters, 1995, 67, 3921-3923.	3.3	17
133	Fabrication of threeâ€terminal resonant tunneling devices in siliconâ€based material. Applied Physics Letters, 1994, 64, 1699-1701.	3.3	7
134	Valence band Landau level mixing and anisotropy in Si1â^'xGex investigated by resonant magnetotunneling. Surface Science, 1994, 305, 307-311.	1.9	0
135	Growth of SiGe/Si quantum well structures by atmospheric pressure chemical vapor deposition. Journal of Electronic Materials, 1993, 22, 303-308.	2.2	4
136	Preparation of (In,Mn)As/(Ga,Al)Sb magnetic semiconductor heterostructures and their ferromagnetic characteristics. Applied Physics Letters, 1993, 63, 2929-2931.	3.3	166
137	Observation of valence-band Landau-level mixing by resonant magnetotunneling. Physical Review B, 1993, 47, 16036-16039.	3.2	19
138	Effect of nonequilibrium deep donors in heterostructure modeling. Physical Review B, 1993, 48, 4899-4902.	3.2	4
139	In-plane valence-band nonparabolicity and anisotropy in strained Si-Ge quantum wells. Physical Review B, 1993, 48, 15112-15115.	3.2	15
140	Subband dispersion of holes in AlAs/In0.10Ga0.90As/AlAs strainedâ€layer quantum wells measured by resonant magnetotunneling. Applied Physics Letters, 1992, 60, 601-603.	3.3	20
141	Selective growth of Si/SiGe resonant tunneling diodes by atmospheric pressure chemical vapor deposition. Applied Physics Letters, 1992, 61, 2872-2874.	3.3	19
142	Resonant tunneling of twoâ€dimensional electrons into oneâ€dimensional subbands of a quantum wire. Applied Physics Letters, 1991, 58, 1440-1442.	3.3	26
143	Transport in transverse magnetic fields in resonant tunneling structures. Physical Review B, 1990, 42, 1374-1380.	3.2	40
144	Liquid phase epitaxy regrowth of twoâ€dimensional electron gas on GaAs patterned byinsitumeltback. Applied Physics Letters, 1990, 57, 2455-2457.	3.3	0

#	Article	IF	Citations
145	Noise characteristics of double-barrier resonant-tunneling structures below 10 kHz. Physical Review B, 1990, 41, 8388-8391.	3.2	129
146	Magnetotunneling in double-barrier heterostructures. Physical Review B, 1989, 40, 9829-9833.	3.2	36
147	Resonant tunneling and intrinsic bistability in asymmetric doubleâ€barrier heterostructures. Applied Physics Letters, 1988, 53, 1408-1410.	3.3	142
148	Double-gate MOSFETs: performance and technology options. , 0, , .		8
149	Negative Differential Resistance in Ultra-Thin Ge-On-Insulator FETs. , 0, , .		0
150	Negative Differential Resistance in Ultra-Thin Ge-On-Insulator FETs. , 0, , .		0