

Krishna C Saraswat

List of Publications by Year in descending order

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papers

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259
all docs

259
docs citations

259
times ranked

10090
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanometre-scale germanium photodetector enhanced by a near-infrared dipole antenna. Nature Photonics, 2008, 2, 226-229.	31.4	606
2	Three-dimensional integration of nanotechnologies for computing and data storage on a single chip. Nature, 2017, 547, 74-78.	27.8	577
3	Germanium nanowire field-effect transistors with SiO ₂ and high- ϵ HfO ₂ gate dielectrics. Applied Physics Letters, 2003, 83, 2432-2434.	3.3	424
4	Improved Contacts to MoS ₂ Transistors by Ultra-High Vacuum Metal Deposition. Nano Letters, 2016, 16, 3824-3830.	9.1	394
5	Dopant segregation in polycrystalline silicon. Journal of Applied Physics, 1980, 51, 5755-5763.	2.5	354
6	Achieving direct band gap in germanium through integration of Sn alloying and external strain. Journal of Applied Physics, 2013, 113, .	2.5	351
7	On the Correct Extraction of Interface Trap Density of MOS Devices With High-Mobility Semiconductor Substrates. IEEE Transactions on Electron Devices, 2008, 55, 547-556.	3.0	339
8	Activation and diffusion studies of ion-implanted p and n dopants in germanium. Applied Physics Letters, 2003, 83, 3275-3277.	3.3	275
9	Effects of crystallization on the electrical properties of ultrathin HfO ₂ dielectrics grown by atomic layer deposition. Applied Physics Letters, 2003, 82, 106-108.	3.3	221
10	Electrical and materials properties of ZrO ₂ gate dielectrics grown by atomic layer chemical vapor deposition. Applied Physics Letters, 2001, 78, 2357-2359.	3.3	200
11	Engineering chemically abrupt high- k metal oxide-silicon interfaces using an oxygen-gettering metal overlayer. Journal of Applied Physics, 2004, 96, 3467-3472.	2.5	182
12	Ge-Interface Engineering With Ozone Oxidation for Low Interface-State Density. IEEE Electron Device Letters, 2008, 29, 328-330.	3.9	172
13	Border traps in Al ₂ O ₃ /In _{0.53} Ga _{0.47} As (100) gate stacks and their passivation by hydrogen anneals. Applied Physics Letters, 2010, 96, .	3.3	172
14	Germanium n-type shallow junction activation dependences. Applied Physics Letters, 2005, 87, 091909.	3.3	169
15	Fermi level depinning in metal/Ge Schottky junction for metal source/drain Ge metal-oxide-semiconductor field-effect-transistor application. Journal of Applied Physics, 2009, 105, .	2.5	165
16	Room temperature 16 μ m electroluminescence from Ge light emitting diode on Si substrate. Optics Express, 2009, 17, 10019.	3.4	165
17	Effects of hydrogen annealing on heteroepitaxial-Ge layers on Si: Surface roughness and electrical quality. Applied Physics Letters, 2004, 85, 2815-2817.	3.3	146
18	Direct bandgap germanium-on-silicon inferred from 57% ϵ ©100 ϵ uniaxial tensile strain [Invited]. Photonics Research, 2014, 2, A8.	7.0	139

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19	Interfacial characteristics of HfO ₂ grown on nitrided Ge (100) substrates by atomic-layer deposition. Applied Physics Letters, 2004, 85, 2902-2904.	3.3	131
20	Low-threshold optically pumped lasing in highly strained germanium nanowires. Nature Communications, 2017, 8, 1845.	12.8	131
21	Atomic layer deposition of ZrO ₂ on W for metal-insulator-metal capacitor application. Applied Physics Letters, 2003, 82, 2874-2876.	3.3	127
22	56 Gb/s Germanium Waveguide Electro-Absorption Modulator. Journal of Lightwave Technology, 2016, 34, 419-424.	4.6	127
23	Local epitaxial growth of ZrO ₂ on Ge (100) substrates by atomic layer epitaxy. Applied Physics Letters, 2003, 83, 2647-2649.	3.3	126
24	High performance germanium MOSFETs. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 135, 242-249.	3.5	126
25	Ge based high performance nanoscale MOSFETs. Microelectronic Engineering, 2005, 80, 15-21.	2.4	118
26	Strained germanium thin film membrane on silicon substrate for optoelectronics. Optics Express, 2011, 19, 25866.	3.4	114
27	Increase in current density for metal contacts to n-germanium by inserting TiO ₂ interfacial layer to reduce Schottky barrier height. Applied Physics Letters, 2011, 98, .	3.3	110
28	Strain-Induced Pseudoheterostructure Nanowires Confining Carriers at Room Temperature with Nanoscale-Tunable Band Profiles. Nano Letters, 2013, 13, 3118-3123.	9.1	107
29	Monolithic 3D integration of logic and memory: Carbon nanotube FETs, resistive RAM, and silicon FETs. , 2014, , .		105
30	Device and materials requirements for neuromorphic computing. Journal Physics D: Applied Physics, 2019, 52, 113001.	2.8	105
31	Ge (100) and (111) N- and P-FETs With High Mobility and Low- β Mobility Characterization. IEEE Transactions on Electron Devices, 2009, 56, 648-655.	3.0	98
32	Infrared Detectable MoS ₂ Phototransistor and Its Application to Artificial Multilevel Optic-Neural Synapse. ACS Nano, 2019, 13, 10294-10300.	14.6	96
33	Demonstration of a Ge/GeSn/Ge Quantum-Well Microdisk Resonator on Silicon: Enabling High-Quality Ge(Sn) Materials for Micro- and Nanophotonics. Nano Letters, 2014, 14, 37-43.	9.1	94
34	C-shaped nanoaperture-enhanced germanium photodetector. Optics Letters, 2006, 31, 1519.	3.3	90
35	Roadmap to an Efficient Germanium-on-Silicon Laser: Strain vs. n-Type Doping. IEEE Photonics Journal, 2012, 4, 2002-2009.	2.0	90
36	Optimization of the Al ₂ O ₃ /GaSb Interface and a High-Mobility GaSb pMOSFET. IEEE Transactions on Electron Devices, 2011, 58, 3407-3415.	3.0	89

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37	Deposition and Properties of Low-Pressure Chemical-Vapor Deposited Polycrystalline Silicon-Germanium Films. Journal of the Electrochemical Society, 1994, 141, 2235-2241.	2.9	86
38	Rapid thermal nitridation of SiO ₂ for nitroxide thin dielectrics. Applied Physics Letters, 1985, 47, 1113-1115.	3.3	85
39	GeSn technology: Extending the Ge electronics roadmap. , 2011, , .		84
40	High-specific-power flexible transition metal dichalcogenide solar cells. Nature Communications, 2021, 12, 7034.	12.8	84
41	Specific Contact Resistivity of Tunnel Barrier Contacts Used for Fermi Level Depinning. IEEE Electron Device Letters, 2010, 31, 1077-1079.	3.9	83
42	Highly Selective Dry Etching of Germanium over Germanium-Tin (Ge _{1-x} Sn _x): A Novel Route for Ge _{1-x} Sn _x Nanostructure Fabrication. Nano Letters, 2013, 13, 3783-3790.	9.1	83
43	Atomically abrupt and unpinned Al ₂ O ₃ /In _{0.53} Ga _{0.47} As interfaces: Experiment and simulation. Journal of Applied Physics, 2009, 106, .	2.5	81
44	Radical oxidation of germanium for interface gate dielectric GeO ₂ formation in metal-insulator-semiconductor gate stack. Journal of Applied Physics, 2009, 106, .	2.5	80
45	Electroluminescence from strained germanium membranes and implications for an efficient Si-compatible laser. Applied Physics Letters, 2012, 100, .	3.3	79
46	7-nm FinFET CMOS Design Enabled by Stress Engineering Using Si, Ge, and Sn. IEEE Transactions on Electron Devices, 2014, 61, 1222-1230.	3.0	79
47	Theoretical Analysis of GeSn Alloys as a Gain Medium for a Si-Compatible Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1502706-1502706.	2.9	77
48	Investigation of the Changes in Electronic Properties of Nickel Oxide (NiO) Due to UV/Ozone Treatment. ACS Applied Materials & Interfaces, 2017, 9, 17201-17207.	8.0	76
49	Crystallization kinetics and microstructure-dependent leakage current behavior of ultrathin HfO ₂ dielectrics: In situ annealing studies. Applied Physics Letters, 2004, 84, 2064-2066.	3.3	75
50	Performance Comparisons Between Carbon Nanotubes, Optical, and Cu for Future High-Performance On-Chip Interconnect Applications. IEEE Transactions on Electron Devices, 2007, 54, 3206-3215.	3.0	75
51	Metal/III-V Schottky barrier height tuning for the design of nonalloyed III-V field-effect transistor source/drain contacts. Journal of Applied Physics, 2010, 107, .	2.5	75
52	Insitu acoustic temperature tomography of semiconductor wafers. Applied Physics Letters, 1994, 64, 1338-1340.	3.3	74
53	Schottky barrier height reduction for holes by Fermi level depinning using metal/nickel oxide/silicon contacts. Applied Physics Letters, 2014, 105, .	3.3	74
54	Material characterization of high Sn-content, compressively-strained GeSn epitaxial films after rapid thermal processing. Journal of Crystal Growth, 2013, 365, 29-34.	1.5	72

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55	Direct Bandgap Light Emission from Strained Germanium Nanowires Coupled with High-Q Nanophotonic Cavities. Nano Letters, 2016, 16, 2168-2173.	9.1	72
56	Thin SiO ₂ insulators grown by rapid thermal oxidation of silicon. Applied Physics Letters, 1985, 47, 1353-1355.	3.3	68
57	Hole Mobility Enhancement in Compressively Strained $\text{{m Ge}}_{\text{{0.93}}}\text{{m Sn}}_{\text{{0.07}}$ pMOSFETs. IEEE Electron Device Letters, 2013, 34, 831-833.	3.9	68
58	Thermal stability of polycrystalline silicon electrodes on ZrO ₂ gate dielectrics. Applied Physics Letters, 2002, 81, 1417-1419.	3.3	67
59	High Mobility Materials and Novel Device Structures for High Performance Nanoscale MOSFETs. , 2006, , .		65
60	High-efficiency metal-semiconductor-metal photodetectors on heteroepitaxially grown Ge on Si. Optics Letters, 2006, 31, 2565.	3.3	64
61	A very low temperature single crystal germanium growth process on insulating substrate using Ni-induced lateral crystallization for three-dimensional integrated circuits. Applied Physics Letters, 2007, 91, 143107.	3.3	60
62	Modeling, Identification, and Control of Rapid Thermal Processing Systems. Journal of the Electrochemical Society, 1994, 141, 3200-3209.	2.9	57
63	The Effect of Donor/Acceptor Nature of Interface Traps on Ge MOSFET Characteristics. IEEE Transactions on Electron Devices, 2011, 58, 1015-1022.	3.0	57
64	Ge/SiGe Quantum-Well Waveguide Photodetectors on Silicon for the Near-Infrared. IEEE Photonics Technology Letters, 2007, 19, 1631-1633.	2.5	56
65	Impact of fixed charge on metal-insulator-semiconductor barrier height reduction. Applied Physics Letters, 2011, 99, .	3.3	54
66	Experimental characterization of single-walled carbon nanotube film-Si Schottky contacts using metal-semiconductor-metal structures. Applied Physics Letters, 2008, 92, 243116.	3.3	53
67	Characterization of border trap generation in rapid thermally annealed oxides deposited using silane chemistry. Journal of Applied Physics, 1998, 84, 2722-2726.	2.5	51
68	Reduction in Specific Contact Resistivity to $\text{{n}}^{\text{{+}}}$ Ge Using $\text{{TiO}}_{\text{{2}}}$ Interfacial Layer. IEEE Electron Device Letters, 2012, 33, 1541-1543.	3.9	51
69	p-Channel Ge MOSFET by Selectively Heteroepitaxially Grown Ge on Si. IEEE Electron Device Letters, 2009, 30, 675-677.	3.9	50
70	New materials for post-Si computing: Ge and GeSn devices. MRS Bulletin, 2014, 39, 678-686.	3.5	50
71	Chemical states and electronic structure of a HfO ₂ /Ge(001) interface. Applied Physics Letters, 2005, 87, 042902.	3.3	49
72	The influence of Fermi level pinning/depinning on the Schottky barrier height and contact resistance in Ge/CoFeB and Ge/MgO/CoFeB structures. Applied Physics Letters, 2010, 96, 052514.	3.3	49

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73	New test structure to identify step coverage mechanisms in chemical vapor deposition of silicon dioxide. Applied Physics Letters, 1991, 58, 2147-2149.	3.3	48
74	Effect of impurities on the fixed charge of nanoscale HfO ₂ films grown by atomic layer deposition. Applied Physics Letters, 2006, 89, 112903.	3.3	48
75	High-Efficiency p-i-n Photodetectors on Selective-Area-Grown Ge for Monolithic Integration. IEEE Electron Device Letters, 2009, 30, 1161-1163.	3.9	46
76	Resistivity of boron and phosphorus doped polycrystalline Si _{1-x} Ge _x films. Applied Physics Letters, 1995, 66, 195-197.	3.3	45
77	Device quality Sb-based compound semiconductor surface: A comparative study of chemical cleaning. Journal of Applied Physics, 2011, 109, .	2.5	45
78	A Nanoscale Vertical Double-Gate Single-Transistor Capacitorless DRAM. IEEE Electron Device Letters, 2008, 29, 615-617.	3.9	44
79	Chemical Bonding, Interfaces, and Defects in Hafnium Oxide•Germanium Oxynitride Gate Stacks on Ge(100). Journal of the Electrochemical Society, 2008, 155, G304.	2.9	44
80	Constant Current Stress Breakdown in Ultrathin SiO ₂ Films. Journal of the Electrochemical Society, 1993, 140, 770-773.	2.9	42
81	Germanium In Situ Doped Epitaxial Growth on Si for High-Performance n ⁺ /p ⁺ -Junction Diode. IEEE Electron Device Letters, 2009, 30, 1002-1004.	3.9	41
82	Fluorine passivation of vacancy defects in bulk germanium for Ge metal-oxide-semiconductor field-effect transistor application. Applied Physics Letters, 2012, 101, 072104.	3.3	41
83	Zirconia grown by ultraviolet ozone oxidation on germanium (100) substrates. Journal of Applied Physics, 2004, 96, 813-819.	2.5	40
84	Microstructural evolution of ZrO ₂ •HfO ₂ nanolaminate structures grown by atomic layer deposition. Journal of Materials Research, 2004, 19, 643-650.	2.6	40
85	Chemical states and electrical properties of a high-k metal oxide/silicon interface with oxygen-gettering titanium-metal-overlayer. Applied Physics Letters, 2006, 89, 142912.	3.3	40
86	Formation of an interfacial Zr-silicate layer between ZrO ₂ and Si through in situ vacuum annealing. Applied Physics Letters, 2005, 86, 082904.	3.3	38
87	Characteristics of surface states and charge neutrality level in Ge. Applied Physics Letters, 2009, 95, .	3.3	38
88	Compact Performance Models and Comparisons for Gigascale On-Chip Global Interconnect Technologies. IEEE Transactions on Electron Devices, 2009, 56, 1787-1798.	3.0	38
89	Metal-semiconductor-metal photodetectors based on single-walled carbon nanotube film•GaAs Schottky contacts. Journal of Applied Physics, 2008, 103, 114315.	2.5	37
90	In _x Ga _{1-x} Sb channel p-metal-oxide-semiconductor field effect transistors: Effect of strain and heterostructure design. Journal of Applied Physics, 2011, 110, 014503.	2.5	37

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91	Enhancing hole mobility in III-V semiconductors. Journal of Applied Physics, 2012, 111, .	2.5	37
92	Low temperature (≤ 380°C) and high performance Ge CMOS technology with novel source/drain by metal-induced dopants activation and high-k/metal gate stack for monolithic 3D integration. , 2008, , .		36
93	Metal/III-V effective barrier height tuning using atomic layer deposition of high- ϵ /high- κ bilayer interfaces. Applied Physics Letters, 2011, 99, 092107.	3.3	36
94	Silicon Germanium CMOS Optoelectronic Switching Device: Bringing Light to Latch. IEEE Transactions on Electron Devices, 2007, 54, 3252-3259.	3.0	35
95	Atomic Layer Deposition of Hafnium Oxide on Ge and GaAs Substrates: Precursors and Surface Preparation. Journal of the Electrochemical Society, 2008, 155, H937.	2.9	35
96	High-Performance p-n Junction Transition Metal Dichalcogenide Photovoltaic Cells Enabled by MoO ₃ Doping and Passivation. Nano Letters, 2021, 21, 3443-3450.	9.1	35
97	Zirconia-germanium interface photoemission spectroscopy using synchrotron radiation. Journal of Applied Physics, 2005, 97, 113518.	2.5	34
98	Schottky barrier height reduction for metal/n-GaSb contact by inserting TiO ₂ interfacial layer with low tunneling resistance. Applied Physics Letters, 2011, 98, .	3.3	34
99	Specific Contact Resistivity Reduction Through Ar Plasma-Treated TiO ₂ Interfacial Layer to Metal/Ge Contact. IEEE Electron Device Letters, 2014, 35, 1076-1078.	3.9	34
100	Observation of improved minority carrier lifetimes in high-quality Ge-on-insulator using time-resolved photoluminescence. Optics Letters, 2014, 39, 6205.	3.3	34
101	Thermal Oxidation of Heavily Phosphorus-Doped Thin Films of Polycrystalline Silicon. Journal of the Electrochemical Society, 1982, 129, 2321-2326.	2.9	33
102	In situ thin film thickness measurement with acoustic Lamb waves. Applied Physics Letters, 1995, 66, 2177-2179.	3.3	32
103	Comparative Study on Electrical and Microstructural Characteristics of ZrO ₂ and HfO ₂ Grown by Atomic Layer Deposition. Journal of Materials Research, 2005, 20, 3125-3132.	2.6	32
104	Thermionic Field Emission Explanation for Nonlinear Richardson Plots. IEEE Transactions on Electron Devices, 2011, 58, 2423-2429.	3.0	32
105	Determination of the densities of gap states in hydrogenated polycrystalline Si and Si _{0.8} Ge _{0.2} films. Applied Physics Letters, 1992, 61, 672-674.	3.3	31
106	Study of Carrier Statistics in Uniaxially Strained Ge for a Low-Threshold Ge Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 16-22.	2.9	31
107	Free-standing 2.7 μ m thick ultrathin crystalline silicon solar cell with efficiency above 12.0%. Nano Energy, 2020, 70, 104466.	16.0	31
108	High temperature phase transformation of tantalum nitride films deposited by plasma enhanced atomic layer deposition for gate electrode applications. Applied Physics Letters, 2007, 90, 102101.	3.3	30

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109	Monolithic integration of germanium-on-insulator p-i-n photodetector on silicon. Optics Express, 2015, 23, 15816.	3.4	30
110	Fermi-level depinning in metal/Ge Schottky junction and its application to metal source/drain Ge NMOSFET. , 2008, , .		29
111	High performance germanium N+â•P and P+â•N junction diodes formed at low Temperature (â©½380Â°C) using metal-induced dopant activation. Applied Physics Letters, 2008, 93, .	3.3	29
112	Self-nucleation free and dimension dependent metal-induced lateral crystallization of amorphous germanium for single crystalline germanium growth on insulating substrate. Journal of Applied Physics, 2008, 104, 064501.	2.5	29
113	Uniaxial Stress Engineering for High-Performance Ge NMOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 1037-1046.	3.0	29
114	Antimonide-Based Heterostructure p-Channel MOSFETs With Ni-Alloy Source/Drain. IEEE Electron Device Letters, 2013, 34, 1367-1369.	3.9	29
115	Si Heterojunction Solar Cells: A Simulation Study of the Design Issues. IEEE Transactions on Electron Devices, 2016, 63, 4788-4795.	3.0	29
116	Low Pressure Chemical Vapor Deposition of Si1â€‰%â•â€‰x Ge x Films on SiO2 : Characterization and Modeling. Journal of the Electrochemical Society, 1995, 142, 1566-1572.	2.9	28
117	Performance Comparisons Between Cu/Low- κ , Carbon-Nanotube, and Optics for Future On-Chip Interconnects. IEEE Electron Device Letters, 2008, 29, 122-124.	3.9	28
118	Bandgap-customizable germanium using lithographically determined biaxial tensile strain for silicon-compatible optoelectronics. Optics Express, 2015, 23, 16740.	3.4	28
119	Thermal oxidation of tantalum silicide in O2and H2O. Applied Physics Letters, 1982, 41, 1127-1129.	3.3	27
120	Cavity-enhanced direct band electroluminescence near 1550 nm from germanium microdisk resonator diode on silicon. Applied Physics Letters, 2011, 98, 211101.	3.3	26
121	SiGe optoelectronic metal-oxide semiconductor field-effect transistor. Optics Letters, 2007, 32, 2022.	3.3	25
122	High quality single-crystal germanium-on-insulator on bulk Si substrates based on multistep lateral over-growth with hydrogen annealing. Applied Physics Letters, 2010, 97, .	3.3	25
123	Metal/insulator/semiconductor carrier selective contacts for photovoltaic cells. , 2014, , .		25
124	Contact Selectivity Engineering in a 2 Î¼m Thick Ultrathin c-Si Solar Cell Using Transition-Metal Oxides Achieving an Efficiency of 10.8%. ACS Applied Materials & Interfaces, 2017, 9, 41863-41870.	8.0	25
125	Germanium Surface Cleaning with Hydrochloric Acid. ECS Transactions, 2006, 3, 1191-1196.	0.5	24
126	Interface studies of ALD-grown metal oxide insulators on Ge and IIIâ€‰V semiconductors (Invited Paper). Microelectronic Engineering, 2009, 86, 1536-1539.	2.4	24

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127	Complex Band Structures: From Parabolic to Elliptic Approximation. IEEE Electron Device Letters, 2011, 32, 1296-1298.	3.9	24
128	Passivation of multiple-quantum-well Ge _{0.97} Sn _{0.03} /Ge p-i-n photodetectors. Applied Physics Letters, 2017, 110, .	3.3	24
129	Surface Passivation of Germanium Using SF ₆ Plasma to Reduce Source/Drain Contact Resistance in Germanium n-FET. IEEE Electron Device Letters, 2015, 36, 745-747.	3.9	23
130	Impact of minority carrier lifetime on the performance of strained germanium light sources. Optics Communications, 2016, 364, 233-237.	2.1	23
131	A Highly Scalable Capacitorless Double Gate Quantum Well Single Transistor DRAM: 1T-QW DRAM. IEEE Electron Device Letters, 2008, 29, 1405-1407.	3.9	22
132	N-Channel Germanium MOSFET Fabricated Below 360 °C by Cobalt-Induced Dopant Activation for Monolithic Three-Dimensional-ICs. IEEE Electron Device Letters, 2011, 32, 234-236.	3.9	22
133	Analytical Study of Interfacial Layer Doping Effect on Contact Resistivity in Metal-Interfacial Layer-Ge Structure. IEEE Electron Device Letters, 2014, 35, 705-707.	3.9	22
134	High-Efficiency WSe ₂ Photovoltaic Devices with Electron-Selective Contacts. ACS Nano, 2022, 16, 8827-8836.	14.6	22
135	Optical interconnects for future high performance integrated circuits. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 620-627.	2.7	21
136	A model for crystal growth during metal induced lateral crystallization of amorphous silicon. Journal of Applied Physics, 2003, 93, 175-181.	2.5	21
137	Toward Low-Temperature Solid-Source Synthesis of Monolayer MoS ₂ . ACS Applied Materials & Interfaces, 2021, 13, 41866-41874.	8.0	21
138	Leakage suppression by asymmetric area electrodes in metal-semiconductor-metal photodetectors. Applied Physics Letters, 2006, 88, 063506.	3.3	20
139	Room temperature lasing unraveled by a strong resonance between gain and parasitic absorption in uniaxially strained germanium. Physical Review B, 2018, 97, .	3.2	20
140	Carrier-selective interlayer materials for silicon solar cell contacts. Journal of Applied Physics, 2018, 123, .	2.5	20
141	Direct measurement of nanoscale filamentary hot spots in resistive memory devices. Science Advances, 2022, 8, eabk1514.	10.3	20
142	Breakdown walkout in planar p-n junctions. Solid-State Electronics, 1978, 21, 813-819.	1.4	19
143	Low Temperature Germanium Growth on Silicon Oxide Using Boron Seed Layer and In Situ Dopant Activation. Journal of the Electrochemical Society, 2010, 157, H371.	2.9	19
144	Atomic layer deposition of Al ₂ O ₃ on germanium-tin (GeSn) and impact of wet chemical surface pre-treatment. Applied Physics Letters, 2013, 103, .	3.3	19

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145	The Efficacy of Metal-Interfacial Layer-Semiconductor Source/Drain Structure on Sub-10-nm n-Type Ge FinFET Performances. IEEE Electron Device Letters, 2014, 35, 1185-1187.	3.9	19
146	Band to Band Tunneling Study in High Mobility Materials : III-V, Si, Ge and strained SiGe. , 2007, , .		18
147	Metal-induced dopant (boron and phosphorus) activation process in amorphous germanium for monolithic three-dimensional integration. Journal of Applied Physics, 2009, 106, .	2.5	18
148	Selective-Area High-Quality Germanium Growth for Monolithic Integrated Optoelectronics. IEEE Electron Device Letters, 2012, 33, 579-581.	3.9	18
149	Lateral overgrowth of germanium for monolithic integration of germanium-on-insulator on silicon. Journal of Crystal Growth, 2015, 416, 21-27.	1.5	18
150	Theoretical Modeling for the Interaction of Tin Alloying With N-Type Doping and Tensile Strain for GeSn Lasers. IEEE Electron Device Letters, 2016, 37, 1307-1310.	3.9	18
151	Study of piezoresistance under uniaxial stress for technologically relevant III-V semiconductors using wafer bending experiments. Applied Physics Letters, 2010, 96, 242110.	3.3	17
152	Cubic-phase zirconia nano-island growth using atomic layer deposition and application in low-power charge-trapping nonvolatile-memory devices. Nanotechnology, 2017, 28, 445201.	2.6	17
153	Investigation of ballistic current in scaled Floating-gate NAND FLASH and a solution. , 2009, , .		16
154	Physical vs. Virtual Express Topologies with Low-Swing Links for Future Many-Core NoCs. , 2010, , .		16
155	Low-Contact-Resistivity Nickel Germanide Contacts on n+Ge with Phosphorus/Antimony Co-Doping and Schottky Barrier Height Lowering. , 2012, , .		16
156	Performance Improvement of One-Transistor DRAM by Band Engineering. IEEE Electron Device Letters, 2012, 33, 29-31.	3.9	16
157	The Delay, Energy, and Bandwidth Comparisons between Copper, Carbon Nanotube, and Optical Interconnects for Local and Global Wiring Application. , 2007, , .		15
158	A Low-Power, Highly Scalable, Vertical Double-Gate MOSFET Using Novel Processes. IEEE Transactions on Electron Devices, 2008, 55, 632-639.	3.0	15
159	Analysis of Atomistic Dopant Variation and Fermi Level Depinning in Nanoscale Contacts. IEEE Transactions on Electron Devices, 2017, 64, 3768-3774.	3.0	15
160	Low Thermal Budget Polycrystalline Silicon-Germanium Thin-Film Transistors Fabricated by Rapid Thermal Annealing. Japanese Journal of Applied Physics, 1994, 33, L1139-L1141.	1.5	14
161	Operational Voltage Reduction of Flash Memory Using High- κ Composite Tunnel Barriers. IEEE Electron Device Letters, 2008, 29, 252-254.	3.9	14
162	Conductivity mismatch and voltage dependence of magnetoresistance in a semiconductor spin injection device. Journal of Applied Physics, 2010, 107, .	2.5	14

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163	Effect of uniaxial-strain on Ge p-i-n photodiodes integrated on Si. Applied Physics Letters, 2009, 95, .	3.3	13
164	Investigation of Capacitorless Double-Gate Single-Transistor DRAM: With and Without Quantum Well. IEEE Transactions on Electron Devices, 2010, 57, 608-613.	3.0	13
165	Experimental demonstration of In _{0.53} Ga _{0.47} As field effect transistors with scalable nonalloyed source/drain contacts. Applied Physics Letters, 2011, 98, .	3.3	13
166	High Performance Submicrometer CMOS with Metal Induced Lateral Crystallization of Amorphous Silicon. Journal of the Electrochemical Society, 2003, 150, G443.	2.9	12
167	Hole Mobility and Its Enhancement with Strain for Technologically Relevant III-V Semiconductors. , 2009, , .		12
168	Novel Germanium n-MOSFETs With Raised Source/Drain on Selectively Grown Ge on Si for Monolithic Integration. IEEE Electron Device Letters, 2011, 32, 446-448.	3.9	12
169	A group IV solution for 7 nm FinFET CMOS: Stress engineering using Si, Ge and Sn. , 2013, , .		12
170	Ge microdisk with lithographically-tunable strain using CMOS-compatible process. Optics Express, 2015, 23, 33249.	3.4	12
171	Investigation of the Performance Limits of III-V Double-Gate n-MOSFETs. , 2006, , .		11
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