

Rui Zhang

List of Publications by Year in descending order

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90
papers

3,408
citations

218381

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143772

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90
docs citations

90
times ranked

4139
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced Photocatalysis of Electrospun Ag ⁺ /ZnO Heterostructured Nanofibers. <i>Chemistry of Materials</i> , 2009, 21, 3479-3484.	3.2	517
2	Promising Ti ₃ C ₂ T _x MXene/Ni Chain Hybrid with Excellent Electromagnetic Wave Absorption and Shielding Capacity. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 25399-25409.	4.0	337
3	Electrospinning of Fe, Co, and Ni Nanofibers: Synthesis, Assembly, and Magnetic Properties. <i>Chemistry of Materials</i> , 2007, 19, 3506-3511.	3.2	286
4	High-Mobility Ge p- and n-MOSFETs With 0.7-nm EOT Using $\text{HfO}_2/\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ Gate Stacks Fabricated by Plasma Postoxidation. <i>IEEE Transactions on Electron Devices</i> , 2013, 60, 927-934.	1.6	193
5	GaN Nanofibers based on Electrospinning: Facile Synthesis, Controlled Assembly, Precise Doping, and Application as High Performance UV Photodetector. <i>Advanced Materials</i> , 2009, 21, 227-231.	11.1	171
6	High-Mobility Ge pMOSFET With 1-nm EOT $\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ Gate Stack Fabricated by Plasma Post Oxidation. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 335-341.	1.6	168
7	Biomimetic nanofiber patterns with controlled wettability. <i>Soft Matter</i> , 2008, 4, 2429.	1.2	147
8	Al ₂ O ₃ /GeO _x /Ge gate stacks with low interface trap density fabricated by electron cyclotron resonance plasma postoxidation. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	143
9	ZnO Nanofiber Field-Effect Transistor Assembled by Electrospinning. <i>Journal of the American Ceramic Society</i> , 2008, 91, 656-659.	1.9	95
10	III ^V /Ge channel MOS device technologies in nano CMOS era. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 06FA01.	0.8	69
11	High mobility CMOS technologies using III ^V /Ge channels on Si platform. <i>Solid-State Electronics</i> , 2013, 88, 2-8.	0.8	64
12	Facile Synthesis of Heterostructured ZnO ⁺ ZnS Nanocables and Enhanced Photocatalytic Activity. <i>Journal of the American Ceramic Society</i> , 2010, 93, 3384-3389.	1.9	62
13	Growth of magnetic metals on carbon microspheres with synergetic dissipation abilities to broaden microwave absorption. <i>Journal of Materials Science and Technology</i> , 2022, 107, 100-110.	5.6	60
14	New materials for post-Si computing: Ge and GeSn devices. <i>MRS Bulletin</i> , 2014, 39, 678-686.	1.7	50
15	Aggressive EOT Scaling of Ge pMOSFETs With $\text{HfO}_2/\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ Gate Stacks Fabricated by Ozone Postoxidation. <i>IEEE Electron Device Letters</i> , 2016, 37, 831-834.		50
16	Preparation and electrical properties of electrospun tin-doped indium oxide nanowires. <i>Nanotechnology</i> , 2007, 18, 465301.	1.3	49
17	Impact of GeO _x interfacial layer thickness on Al ₂ O ₃ /Ge MOS interface properties. <i>Microelectronic Engineering</i> , 2011, 88, 1533-1536.	1.1	49
18	Facile Synthesis and Assembly of Ag/NiO Nanofibers with High Electrical Conductivity. <i>Chemistry of Materials</i> , 2007, 19, 1895-1897.	3.2	46

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19	Preparation of Necklace-Structured TiO ₂ /SnO ₂ Hybrid Nanofibers and Their Photocatalytic Activity. Journal of the American Ceramic Society, 2009, 92, 2463-2466.	1.9	46
20	Photocatalytic and Magnetic Properties of the Fe-TiO ₂ /SnO ₂ Nanofiber Via Electrospinning. Journal of the American Ceramic Society, 2010, 93, 605-608.	1.9	41
21	1-nm-thick EOT high mobility Ge n- and p-MOSFETs with ultrathin GeO ₂ /Ge MOS interfaces fabricated by plasma post oxidation. , 2011, , .		41
22	III-V/Ge MOS device technologies for low power integrated systems. Solid-State Electronics, 2016, 125, 82-102.	0.8	41
23	Impact of Plasma Postoxidation Temperature on the Electrical Properties of $\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ pMOSFETs and nMOSFETs. IEEE Transactions on Electron Devices, 2014, 61, 416-422.	1.6	34
24	Suppression of ALD-Induced Degradation of Ge MOS Interface Properties by Low Power Plasma Nitridation of GeO ₂ . Journal of the Electrochemical Society, 2011, 158, G178.	1.3	30
25	Ge gate stacks based on Ge oxide interfacial layers and the impact on MOS device properties. Microelectronic Engineering, 2013, 109, 389-395.	1.1	30
26	Suppression of dark current in GeO _x -passivated germanium metal-semiconductor-metal photodetector by plasma post-oxidation. Optics Express, 2015, 23, 16967.	1.7	28
27	III-V/Ge High Mobility Channel Integration of InGaAs n-Channel and Ge p-Channel Metal-Oxide-Semiconductor Field-Effect Transistors with Self-Aligned Ni-Based Metal Source/Drain Using Direct Wafer Bonding. Applied Physics Express, 2012, 5, 076501.	1.1	26
28	Physical Origins of High Normal Field Mobility Degradation in Ge p- and n-MOSFETs With GeO ₂ /Ge MOS Interfaces Fabricated by Plasma Postoxidation. IEEE Transactions on Electron Devices, 2014, 61, 2316-2323.	1.6	25
29	Impact of Channel Orientation on Electrical Properties of Ge p- and n-MOSFETs With 1-nm EOT Al ₂ O ₃ /GeO _x /Ge Gate-Stacks Fabricated by Plasma Postoxidation. IEEE Transactions on Electron Devices, 2014, 61, 3668-3675.	1.6	24
30	Atomic layer-by-layer oxidation of Ge (100) and (111) surfaces by plasma post oxidation of Al ₂ O ₃ /Ge structures. Applied Physics Letters, 2013, 102, .	1.5	22
31	Synthesis of core-shell fishbone-like Cu@Ni composites and their electromagnetic wave absorption properties. Powder Technology, 2017, 319, 245-252.	2.1	22
32	Ge-Based Asymmetric RRAM Enable 8F^2 Content Addressable Memory. IEEE Electron Device Letters, 2018, 39, 1294-1297.	2.2	21
33	Reduction in Interface Trap Density of Al ₂ O ₃ /SiGe Gate Stack by Electron Cyclotron Resonance Plasma Post-nitridation. Applied Physics Express, 2013, 6, 051302.	1.1	20
34	Demonstration of ultra-thin buried oxide germanium-on-insulator MOSFETs by direct wafer bonding and polishing techniques. Applied Physics Letters, 2016, 109, .	1.5	20
35	The past and future of multi-gate field-effect transistors: Process challenges and reliability issues. Journal of Semiconductors, 2021, 42, 023102.	2.0	20
36	Oriented Nanofibers by a Newly Modified Electrospinning Method. Journal of the American Ceramic Society, 2007, 90, 632-634.	1.9	19

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37	Impact of plasma post-nitridation on HfO ₂ /Al ₂ O ₃ /SiGe gate stacks toward EOT scaling. <i>Microelectronic Engineering</i> , 2013, 109, 266-269.	1.1	19
38	Preparation of ZnS Nanofibers Via Electrospinning. <i>Journal of the American Ceramic Society</i> , 2007, 90, 3664-3666.	1.9	18
39	Fabrication and MOS interface properties of ALD Al ₂ O ₃ /GeO ₂ /Ge gate stacks with plasma post oxidation. <i>Microelectronic Engineering</i> , 2015, 147, 244-248.	1.1	18
40	Synthesis and properties of Ag/ZnO/g-C ₃ N ₄ ternary micro/nano composites by microwave-assisted method. <i>Materials Research Express</i> , 2018, 5, 015021.	0.8	18
41	Impact of plasma post oxidation temperature on interface trap density and roughness at GeO _x /Ge interfaces. <i>Microelectronic Engineering</i> , 2013, 109, 97-100.	1.1	17
42	Impact of back interface passivation on electrical properties of ultrathin-body Germanium-on-insulator (GeOI) MOSFETs. <i>Microelectronic Engineering</i> , 2015, 147, 196-200.	1.1	16
43	High-Performance Germanium pMOSFETs With NiGe Metal Source/Drain Fabricated by Microwave Annealing. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 2665-2670.	1.6	16
44	Characterization of ultrathin-body Germanium-on-insulator (GeOI) structures and MOSFETs on flipped Smart-Cut [®] GeOI substrates. <i>Solid-State Electronics</i> , 2016, 115, 120-125.	0.8	15
45	One-dimensional electrospun ceramic nanomaterials and their sensing applications. <i>Journal of the American Ceramic Society</i> , 2022, 105, 765-785.	1.9	15
46	(Invited) MOS Interface Control Technologies for III-V/Ge Channel MOSFETs. <i>ECS Transactions</i> , 2011, 41, 3-20.	0.3	14
47	High-quality germanium dioxide thin films with low interface state density using a direct neutral beam oxidation process. <i>Applied Physics Letters</i> , 2012, 100, 213108.	1.5	14
48	Investigation of Self-Heating Effect on Ballistic Transport Characterization for Si FinFETs Featuring Ultrafast Pulsed IV Technique. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 909-915.	1.6	14
49	Formation of Thin Germanium Dioxide Film with a High-Quality Interface Using a Direct Neutral Beam Oxidation Process. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 125603.	0.8	13
50	Quantitative evaluation of slow traps near Ge MOS interfaces by using time response of MOS capacitance. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 04DA02.	0.8	12
51	Impact of Postdeposition Annealing Ambient on the Mobility of Ge nMOSFETs With 1-nm EOT Al ₂ O ₃ /GeO ₂ /Ge Gate-Stacks. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 558-564.	1.6	11
52	Physical mechanism determining Ge p- and n-MOSFETs mobility in high N _s region and mobility improvement by atomically flat GeO _x /Ge interfaces. , 2012, , .		9
53	(Invited) III-V/Ge CMOS Device Technologies for High Performance Logic Applications. <i>ECS Transactions</i> , 2013, 53, 85-96.	0.3	9
54	Comparison of Different Scattering Mechanisms in the Ge (111), (110), and (100) Inversion Layers of nMOSFETs With Si nMOSFETs Under High Normal Electric Fields. <i>IEEE Transactions on Electron Devices</i> , 2015, 62, 1136-1142.	1.6	9

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55	High performance Ge ultra-shallow junctions fabricated by a novel formation technique featuring spin-on dopant and laser annealing for sub-10nm technology applications. <i>Microelectronic Engineering</i> , 2017, 168, 1-4.	1.1	9
56	Hole mobility in the ultra-thin-body junctionless germanium-on-insulator p-channel metal-oxide-semiconductor field-effect transistors. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	8
57	Ultrathin Body Germanium-on-Insulator (GeOI) Pseudo-MOSFETs Fabricated by Transfer of Epitaxial Ge Films on III-V Substrates. <i>ECS Solid State Letters</i> , 2014, 4, P15-P18.	1.4	6
58	Low temperature formation of higher- <i>k</i> cubic phase HfO ₂ by atomic layer deposition on GeO _x /Ge structures fabricated by <i>in-situ</i> thermal oxidation. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	5
59	Gate length dependence of bias temperature instability behavior in short channel SOI MOSFETs. <i>Microelectronics Reliability</i> , 2016, 62, 79-81.	0.9	5
60	Electrical Properties of Ge pMOSFETs With Ultrathin EOT HfO ₂ /AlO _x /GeO _x Gate-Stacks and NiGe Metal Source/Drain. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 4831-4837.		5
61	Mobility enhancement techniques for Ge and GeSn MOSFETs. <i>Journal of Semiconductors</i> , 2021, 42, 023101.	2.0	5
62	Formation of Thin Germanium Dioxide Film with a High-Quality Interface Using a Direct Neutral Beam Oxidation Process. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 125603.	0.8	4
63	Limiting Factors of Channel Mobility in III-V/Ge MOSFETs. <i>ECS Transactions</i> , 2013, 53, 107-122.	0.3	4
64	Impact of Electrical Stress on Defect Generation in Thin GeO ₂ /Ge Gate Stacks Fabricated by Thermal Oxidation. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 2516-2521.	1.6	4
65	Gate length dependence of hot carrier injection degradation in short channel silicon on insulator planar MOSFET. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2015, 64, 167305.	0.2	3
66	Evidence of Layer-by-Layer Oxidation of Ge Surfaces by Plasma Oxidation Through Al ₂ O ₃ . <i>ECS Transactions</i> , 2013, 50, 699-706.	0.3	2
67	Formation of 1.7-nm-thick-EOT Germanium Dioxide Film with a High-Quality Interface Using a Direct Neutral Beam Oxidation Process. <i>ECS Transactions</i> , 2013, 50, 1085-1090.	0.3	2
68	Reduction of RIE Induced Ge Surface Roughness by SF ₆ -CF ₄ Cyclic Etching Method. <i>ECS Transactions</i> , 2014, 64, 231-237.	0.3	2
69	Positive Bias Temperature Instability and Hot Carrier Injection of Back Gate Ultra-thin-body In _{0.53} Ga _{0.47} As-on-Insulator n-Channel Metal-Oxide-Semiconductor Field-Effect Transistor. <i>Chinese Physics Letters</i> , 2015, 32, 117302.	1.3	2
70	Reduction of Reactive-Ion Etching-Induced Ge Surface Roughness by SF ₆ /CF ₄ Cyclic Etching for Ge Fin Fabrication. <i>Chinese Physics Letters</i> , 2015, 32, 045202.	1.3	2
71	Ge-based Non-Volatile Logic-Memory Hybrid Devices for NAND Memory Application. , 2018, , .		2
72	Ge CMOS technology with advanced interface and junction engineering. , 2018, , .		2

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73	Thermal Stability Enhancement of NiGe Metal Source/Drain and Ge pMOSFETs by Dopant Segregation. IEEE Transactions on Electron Devices, 2019, 66, 5284-5288.	1.6	2
74	Traps Around Ge Schottky Junction Interface: Quantitative Characterization and Impact on the Electrical Properties of Ge MOS Devices. IEEE Journal of the Electron Devices Society, 2020, 8, 350-357.	1.2	2
75	THIS ARTICLE HAS BEEN RETRACTED—Effect of Silica Sol on the Properties of Alumina-Based Duplex Ceramic Cores. International Journal of Applied Ceramic Technology, 2008, 5, 105-109.	1.1	1
76	MOS interface engineering for high-mobility Ge CMOS. , 2013, , .		1
77	(Invited) Performance Enhancement Technologies in III-V/Ge MOSFETs. ECS Transactions, 2013, 58, 137-148.	0.3	1
78	Si- and Ge-Based Electronic Devices. Advances in Condensed Matter Physics, 2015, 2015, 1-1.	0.4	1
79	PBTI and HCI degradations of ultrathin body InGaAs-On-Insulator nMOSFETs fabricated by wafer bonding. , 2015, , .		1
80	Reduction of junction leakage current in Sub-10 nm ultra-shallow NiGe/n-Ge Schottky junctions by dopant segregation. , 2016, , .		1
81	Ge Complementary Tunneling Field-Effect Transistors Featuring Dopant Segregated NiGe Source/Drain. Chinese Physics Letters, 2018, 35, 117201.	1.3	1
82	Direct-Bandgap Electroluminescence From Germanium With Subband Engineering Utilizing a Metal-Oxide-Semiconductor Structure. IEEE Transactions on Electron Devices, 2020, 67, 2016-2021.	1.6	1
83	Impact of the Si Content on the Electrical Properties of NiSi ₂ /Ge _{1-x} Si _x Source/Drain Contact Metal for Ge pMOSFETs. IEEE Transactions on Electron Devices, 2021, 68, 5742-5746.	1.6	1
84	Fabrication of Mn ₂ O ₃ Nanowire with Ultra Fine Morphology via an Electrospinning Technology. Key Engineering Materials, 2008, 368-372, 532-534.	0.4	0
85	Properties of <i>In Situ</i> Synthesized Alumina Ceramic Core Composites. Key Engineering Materials, 0, 368-372, 724-725.	0.4	0
86	(Invited) Device and Integration Technologies of III-V/Ge Channel CMOS. ECS Transactions, 2011, 41, 203-218.	0.3	0
87	(Invited) MOS Interface Control of High Mobility Channel Materials for Realizing Ultrathin EOT Gate Stacks. ECS Transactions, 2013, 50, 107-122.	0.3	0
88	A systematic study on dry etching process of germanium for Ge 3D-FETs applications. , 2016, , .		0
89	Strain Engineering for Germanium-on-Insulator Mobility Enhancement with Phase Change Liner Stressors. Chinese Physics Letters, 2017, 34, 108101.	1.3	0
90	Comparative investigation into the interface passivation of Ge n- and p-MOSFETs with various 2D materials. Applied Physics Express, 2019, 12, 101001.	1.1	0