Rui Zhang

List of Publications by Year in Descending Order

81 papers	2,777 citations	24 h-index	52 g-index
90 ext. papers	3,138 ext. citations	3 avg, IF	5.02 L-index

#	Paper	IF	Citations
81	Growth of magnetic metals on carbon microspheres with synergetic dissipation abilities to broaden microwave absorption. *Journal of Materials Science and Technology*, **2022**, 107, 100-110	9.1	3
80	Impact of the Si Content on the Electrical Properties of NiSi x Ge1⊠ Source/Drain Contact Metal for Ge pMOSFETs. *IEEE Transactions on Electron Devices*, **2021**, 68, 5742-5746	2.9	
79	The past and future of multi-gate field-effect transistors: Process challenges and reliability issues. *Journal of Semiconductors*, **2021**, 42, 023102	2.3	7
78	Mobility enhancement techniques for Ge and GeSn MOSFETs. *Journal of Semiconductors*, **2021**, 42, 023101	2.3	2
77	Impact of Electrical Stress on Defect Generation in Thin GeO2/Ge Gate Stacks Fabricated by Thermal Oxidation. *IEEE Transactions on Electron Devices*, **2020**, 67, 2516-2521	2.9	3
76	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	2.3	2
75	Direct-Bandgap Electroluminescence From Germanium With Subband Engineering Utilizing a Metal-Oxide-Semiconductor Structure. *IEEE Transactions on Electron Devices*, **2020**, 67, 2016-2021	2.9	0
74	Promising TiCT MXene/Ni Chain Hybrid with Excellent Electromagnetic Wave Absorption and Shielding Capacity. *ACS Applied Materials & Interfaces*, **2019**, 11, 25399-25409	9.5	183
73	Hole mobility in the ultra-thin-body junctionless germanium-on-insulator p-channel metal-oxide-semiconductor field-effect transistors. *Applied Physics Letters*, **2019**, 114, 132101	3.4	5
72	Comparative investigation into the interface passivation of Ge n- and p-MOSFETs with various 2D materials. *Applied Physics Express*, **2019**, 12, 101001	2.4	
71	Thermal Stability Enhancement of NiGe Metal Source/Drain and Ge pMOSFETs by Dopant Segregation. *IEEE Transactions on Electron Devices*, **2019**, 66, 5284-5288	2.9	1
70	Synthesis and properties of Ag/ZnO/g-C3N4 ternary micro/nano composites by microwave-assisted method. *Materials Research Express*, **2018**, 5, 015021	1.7	14
69	Ge-Based Asymmetric RRAM Enable $8{F}^{2}$ Content Addressable Memory. *IEEE Electron Device Letters*, **2018**, 39, 1294-1297	4.4	13
68	Ge Complementary Tunneling Field-Effect Transistors Featuring Dopant Segregated NiGe Source/Drain. *Chinese Physics Letters*, **2018**, 35, 117201	1.8	1
67	Ge-based Non-Volatile Logic-Memory Hybrid Devices for NAND Memory Application **2018**,		1
66	Investigation of Self-Heating Effect on Ballistic Transport Characterization for Si FinFETs Featuring Ultrafast Pulsed IV Technique. *IEEE Transactions on Electron Devices*, **2017**, 64, 909-915	2.9	9
65	High performance Ge ultra-shallow junctions fabricated by a novel formation technique featuring spin-on dopant and laser annealing for sub-10 nm technology applications. *Microelectronic Engineering*, **2017**, 168, 1-4	2.5	7

64	Synthesis of core-shell fishbone-like Cu@Ni composites and their electromagnetic wave absorption properties. *Powder Technology*, **2017**, 319, 245-252	5.2	18
63	Electrical Properties of Ge pMOSFETs With Ultrathin EOT HfO2/AlOx/GeOx Gate-Stacks and NiGe Metal Source/Drain. *IEEE Transactions on Electron Devices*, **2017**, 64, 4831-4837	2.9	4
62	Strain Engineering for Germanium-on-Insulator Mobility Enhancement with Phase Change Liner Stressors. *Chinese Physics Letters*, **2017**, 34, 108101	1.8	
61	Aggressive EOT Scaling of Ge pMOSFETs With HfO2/AlOx/GeOx Gate-Stacks Fabricated by Ozone Postoxidation. *IEEE Electron Device Letters*, **2016**, 37, 831-834	4.4	37
60	Gate length dependence of bias temperature instability behavior in short channel SOI MOSFETs. *Microelectronics Reliability*, **2016**, 62, 79-81	1.2	1
59	High-Performance Germanium pMOSFETs With NiGe Metal Source/Drain Fabricated by Microwave Annealing. *IEEE Transactions on Electron Devices*, **2016**, 63, 2665-2670	2.9	13
58	Impact of Postdeposition Annealing Ambient on the Mobility of Ge nMOSFETs With 1-nm EOT Al2O3/GeOx/Ge Gate-Stacks. *IEEE Transactions on Electron Devices*, **2016**, 63, 558-564	2.9	10
57	Characterization of ultrathin-body Germanium-on-insulator (GeOI) structures and MOSFETs on flipped Smart-Cut GeOI substrates. *Solid-State Electronics*, **2016**, 115, 120-125	1.7	11
56	Low temperature formation of higher-k cubic phase HfO2 by atomic layer deposition on GeOx/Ge structures fabricated by in-situ thermal oxidation. *Applied Physics Letters*, **2016**, 108, 052903	3.4	5
55	Demonstration of ultra-thin buried oxide germanium-on-insulator MOSFETs by direct wafer bonding and polishing techniques. *Applied Physics Letters*, **2016**, 109, 023503	3.4	16
54	III-V/Ge MOS device technologies for low power integrated systems. *Solid-State Electronics*, **2016**, 125, 82-102	1.7	30
53	Reduction of Reactive-Ion Etching-Induced Ge Surface Roughness by SF 6 /CF 4 Cyclic Etching for Ge Fin Fabrication. *Chinese Physics Letters*, **2015**, 32, 045202	1.8	0
52	Impact of back interface passivation on electrical properties of ultrathin-body Germanium-on-insulator (GeOI) MOSFETs. *Microelectronic Engineering*, **2015**, 147, 196-200	2.5	13
51	Comparison of Different Scattering Mechanisms in the Ge (111), (110), and (100) Inversion Layers of nMOSFETs With Si nMOSFETs Under High Normal Electric Fields. *IEEE Transactions on Electron Devices*, **2015**, 62, 1136-1142	2.9	9
50	Suppression of dark current in GeOx-passivated germanium metal-semiconductor-metal photodetector by plasma post-oxidation. *Optics Express*, **2015**, 23, 16967-76	3.3	23
49	Fabrication and MOS interface properties of ALD AlYO3/GeOx/Ge gate stacks with plasma post oxidation. *Microelectronic Engineering*, **2015**, 147, 244-248	2.5	16
48	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. *Chinese Physics Letters*, **2015**, 32, 117302	1.8	1
47	Quantitative evaluation of slow traps near Ge MOS interfaces by using time response of MOS capacitance. *Japanese Journal of Applied Physics*, **2015**, 54, 04DA02	1.4	11

46	IIIV/Ge channel MOS device technologies in nano CMOS era. *Japanese Journal of Applied Physics*, **2015**, 54, 06FA01	1.4	47
45	Si- and Ge-Based Electronic Devices. *Advances in Condensed Matter Physics*, **2015**, 2015, 1-1	1	1
44	Gate length dependence of hot carrier injection degradation in short channel silicon on insulator planar MOSFET. *Wuli Xuebao/Acta Physica Sinica*, **2015**, 64, 167305	0.6	2
43	. *IEEE Transactions on Electron Devices*, **2014**, 61, 2316-2323	2.9	21
42	Impact of Channel Orientation on Electrical Properties of Ge p- and n-MOSFETs With 1-nm EOT Al2O3/GeOx/Ge Gate-Stacks Fabricated by Plasma Postoxidation. *IEEE Transactions on Electron Devices*, **2014**, 61, 3668-3675	2.9	15
41	Impact of Plasma Postoxidation Temperature on the Electrical Properties of ${rm Al}_{2}{rm O}_{3}/{rm GeO}_{x}/{rm Ge}$ pMOSFETs and nMOSFETs. *IEEE Transactions on Electron Devices*, **2014**, 61, 416-422	2.9	29
40	Reduction of RIE Induced Ge Surface Roughness by SF6-CF4 Cyclic Etching Method. *ECS Transactions*, **2014**, 64, 231-237	1	1
39	New materials for post-Si computing: Ge and GeSn devices. *MRS Bulletin*, **2014**, 39, 678-686	3.2	42
38	Ultrathin Body Germanium-on-Insulator (GeOI) Pseudo-MOSFETs Fabricated by Transfer of Epitaxial Ge Films on III-V Substrates. *ECS Solid State Letters*, **2014**, 4, P15-P18		6
37	High mobility CMOS technologies using IIIV/Ge channels on Si platform. *Solid-State Electronics*, **2013**, 88, 2-8	1.7	51
36	High-Mobility Ge p- and n-MOSFETs With 0.7-nm EOT Using $hbox{HfO}_{2}hbox{Al}_{2}hbox{O}_{3}/hbox{GeO}_{x}/hbox{Ge}$ Gate Stacks Fabricated by Plasma Postoxidation. *IEEE Transactions on Electron Devices*, **2013**, 60, 927-934	2.9	164
35	Impact of plasma post-nitridation on HfO2/Al2O3/SiGe gate stacks toward EOT scaling. *Microelectronic Engineering*, **2013**, 109, 266-269	2.5	16
34	Impact of plasma post oxidation temperature on interface trap density and roughness at GeOx/Ge interfaces. *Microelectronic Engineering*, **2013**, 109, 97-100	2.5	17
33	Ge gate stacks based on Ge oxide interfacial layers and the impact on MOS device properties. *Microelectronic Engineering*, **2013**, 109, 389-395	2.5	26
32	(Invited) III-V/Ge CMOS Device Technologies for High Performance Logic Applications. *ECS Transactions*, **2013**, 53, 85-96	1	9
31	Evidence of Layer-by-Layer Oxidation of Ge Surfaces by Plasma Oxidation Through Al2O3. *ECS Transactions*, **2013**, 50, 699-706	1	2
30	Reduction in Interface Trap Density of Al2O3/SiGe Gate Stack by Electron Cyclotron Resonance Plasma Post-nitridation. *Applied Physics Express*, **2013**, 6, 051302	2.4	17
29	Limiting Factors of Channel Mobility in III-V/Ge MOSFETs. *ECS Transactions*, **2013**, 53, 107-122	1	2

28	Atomic layer-by-layer oxidation of Ge (100) and (111) surfaces by plasma post oxidation of Al2O3/Ge structures. *Applied Physics Letters*, **2013**, 102, 081603	3.4	20
27	Formation of 1.7-nm-thick-EOT Germanium Dioxide Film with a High-Quality Interface Using a Direct Neutral Beam Oxidation Process. *ECS Transactions*, **2013**, 50, 1085-1090	1	2
26	High-Mobility Ge pMOSFET With 1-nm EOT $hbox{Al}_{2} hbox{O}_{3}/hbox{GeO}_{x}/hbox{Ge}$ Gate Stack Fabricated by Plasma Post Oxidation. *IEEE Transactions on Electron Devices*, **2012**, 59, 335-341	2.9	150
25	Physical mechanism determining Ge p- and n-MOSFETs mobility in high Ns region and mobility improvement by atomically flat GeOx/Ge interfaces **2012**,		7
24	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	2.4	23
23	High-quality germanium dioxide thin films with low interface state density using a direct neutral beam oxidation process. *Applied Physics Letters*, **2012**, 100, 213108	3.4	12
22	Formation of Thin Germanium Dioxide Film with a High-Quality Interface Using a Direct Neutral Beam Oxidation Process. *Japanese Journal of Applied Physics*, **2012**, 51, 125603	1.4	12
21	Impact of GeOx interfacial layer thickness on Al2O3/Ge MOS interface properties. *Microelectronic Engineering*, **2011**, 88, 1533-1536	2.5	44
20	Suppression of ALD-Induced Degradation of Ge MOS Interface Properties by Low Power Plasma Nitridation of GeO2. *Journal of the Electrochemical Society*, **2011**, 158, G178	3.9	26
19	1-nm-thick EOT high mobility Ge n- and p-MOSFETs with ultrathin GeOx/Ge MOS interfaces fabricated by plasma post oxidation **2011**,		27
18	(Invited) MOS Interface Control Technologies for III-V/Ge Channel MOSFETs. *ECS Transactions*, **2011**, 41, 3-20	1	7
17	Al2O3/GeOx/Ge gate stacks with low interface trap density fabricated by electron cyclotron resonance plasma postoxidation. *Applied Physics Letters*, **2011**, 98, 112902	3.4	125
16	Photocatalytic and Magnetic Properties of the Fe-TiO2/SnO2 Nanofiber Via Electrospinning. *Journal of the American Ceramic Society*, **2010**, 93, 605-608	3.8	37
15	Facile Synthesis of Heterostructured ZnO–ZnS Nanocables and Enhanced Photocatalytic Activity. *Journal of the American Ceramic Society*, **2010**, 93, 3384-3389	3.8	54
14	GaN Nanofibers based on Electrospinning: Facile Synthesis, Controlled Assembly, Precise Doping, and Application as High Performance UV Photodetector. *Advanced Materials*, **2009**, 21, 227-231	24	154
13	Preparation of Necklace-Structured TiO2/SnO2 Hybrid Nanofibers and Their Photocatalytic Activity. *Journal of the American Ceramic Society*, **2009**, 92, 2463-2466	3.8	41
12	Enhanced Photocatalysis of Electrospun Ag–ZnO Heterostructured Nanofibers. *Chemistry of Materials*, **2009**, 21, 3479-3484	9.6	478
11	Biomimetic nanofiber patterns with controlled wettability. *Soft Matter*, **2008**, 4, 2429	3.6	133

10	Fabrication of Mn2O3 Nanowire with Ultra Fine Morphology via an Electrospinning Technology. *Key Engineering Materials*, **2008**, 368-372, 532-534	0.4	
9	Properties of In Situ Synthesized Alumina Ceramic Core Composites. *Key Engineering Materials*, **2008**, 368-372, 724-725	0.4	
8	THIS ARTICLE HAS BEEN RETRACTEDEffect of Silica Sol on the Properties of Alumina-Based Duplex Ceramic Cores. *International Journal of Applied Ceramic Technology*, **2008**, 5, 105-109	2	1
7	ZnO Nanofiber Field-Effect Transistor Assembled by Electrospinning. *Journal of the American Ceramic Society*, **2008**, 91, 656-659	3.8	89
6	Preparation and electrical properties of electrospun tin-doped indium oxide nanowires. *Nanotechnology*, **2007**, 18, 465301	3.4	48
5	Electrospinning of Fe, Co, and Ni Nanofibers: Synthesis, Assembly, and Magnetic Properties. *Chemistry of Materials*, **2007**, 19, 3506-3511	9.6	266
4	Oriented Nanofibers by a Newly Modified Electrospinning Method. *Journal of the American Ceramic Society*, **2007**, 90, 632-634	3.8	18
3	Preparation of ZnS Nanofibers Via Electrospinning. *Journal of the American Ceramic Society*, **2007**, 90, 3664-3666	3.8	16
2	Facile Synthesis and Assembly of Ag/NiO Nanofibers with High Electrical Conductivity. *Chemistry of Materials*, **2007**, 19, 1895-1897	9.6	44
1	One-dimensional electrospun ceramic nanomaterials and their sensing applications. *Journal of the American Ceramic Society*,	3.8	2