

Renxu Jia

List of Publications by Year in descending order

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67
papers

1,535
citations

394286

19
h-index

315616

38
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67
all docs

67
docs citations

67
times ranked

1487
citing authors

#	ARTICLE	IF	CITATIONS
1	Effects of oxygen vacancies on the structural and optical properties of $\hat{\Gamma}^2$ -Ga ₂ O ₃ . Scientific Reports, 2017, 7, 40160.	1.6	215
2	Self-powered photodetectors based on $\hat{\Gamma}^2$ -Ga ₂ O ₃ /4H $\hat{\Gamma}^2$ -SiC heterojunction with ultrahigh current on/off ratio and fast response. Journal of Alloys and Compounds, 2020, 821, 153532.	2.8	108
3	Progress of Ultra-Wide Bandgap Ga ₂ O ₃ Semiconductor Materials in Power MOSFETs. IEEE Transactions on Power Electronics, 2020, 35, 5157-5179.	5.4	106
4	Ab initio study of N-doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ with intrinsic defects: the structural, electronic and optical properties. Journal of Alloys and Compounds, 2017, 712, 379-385.	2.8	88
5	Influence of annealing temperature on structure and photoelectrical performance of $\hat{\Gamma}^2$ -Ga ₂ O ₃ /4H-SiC heterojunction photodetectors. Journal of Alloys and Compounds, 2019, 798, 458-466.	2.8	88
6	Self-powered MSM deep-ultraviolet $\hat{\Gamma}^2$ -Ga ₂ O ₃ photodetector realized by an asymmetrical pair of Schottky contacts. Optical Materials Express, 2019, 9, 1191.	1.6	79
7	Effects of post-annealing temperature and oxygen concentration during sputtering on the structural and optical properties of $\hat{\Gamma}^2$ -Ga ₂ O ₃ films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	78
8	First-principles calculations of electronic and optical properties of aluminum-doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ with intrinsic defects. Results in Physics, 2017, 7, 1582-1589.	2.0	76
9	Improved Photoresponse Performance of Self-Powered $\hat{\Gamma}^2$ -Ga ₂ O ₃ /NiO Heterojunction UV Photodetector by Surface Plasmonic Effect of Pt Nanoparticles. IEEE Transactions on Electron Devices, 2020, 67, 3199-3204.	1.6	74
10	Performance-enhanced solar-blind photodetector based on a CH ₃ NH ₃ PbI ₃ / $\hat{\Gamma}^2$ -Ga ₂ O ₃ hybrid structure. Journal of Materials Chemistry C, 2019, 7, 14205-14211.	2.7	45
11	Surface modification of $\hat{\Gamma}^2$ -Ga ₂ O ₃ layer using pt nanoparticles for improved deep UV photodetector performance. Journal of Alloys and Compounds, 2021, 872, 159508.	2.8	43
12	The further investigation of N-doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ thin films with native defects for Schottky-barrier diode. Journal of Alloys and Compounds, 2020, 812, 152026.	2.8	41
13	Elements (Si, Sn, and Mg) doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ : First-principles investigations and predictions. Computational Materials Science, 2019, 156, 273-279.	1.4	38
14	Inhibition of Zero Drift in Perovskite-Based Photodetector Devices via [6,6]-Phenyl-C61-butylric Acid Methyl Ester Doping. ACS Applied Materials & Interfaces, 2017, 9, 15638-15643.	4.0	34
15	High-performance photodetector based on sol-gel epitaxially grown $\hat{\Gamma}^2$ -Ga ₂ O ₃ thin films. Materials Today Communications, 2020, 25, 101532.	0.9	32
16	Self-powered behavior based on the light-induced self-poling effect in perovskite-based transport layer-free photodetectors. Journal of Materials Chemistry C, 2019, 7, 609-616.	2.7	29
17	Leakage current conduction mechanisms and electrical properties of atomic-layer-deposited HfO ₂ /Ga ₂ O ₃ MOS capacitors. Journal Physics D: Applied Physics, 2018, 51, 075104.	1.3	26
18	Analysis of the structural, anisotropic elastic and electronic properties of $\hat{\Gamma}^2$ -Ga ₂ O ₃ with various pressures. Journal of Crystal Growth, 2019, 505, 74-81.	0.7	26

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19	Energy-band alignment of $(\text{HfO}_2)_x(\text{Al}_2\text{O}_3)_{1-x}$ gate dielectrics deposited by atomic layer deposition on $\text{In}_2\text{Ga}_2\text{O}_3$ (-201). Applied Surface Science, 2018, 433, 530-534.	3.1	24
20	Stress-induced charge trapping and electrical properties of atomic-layer-deposited $\text{HfAlO}/\text{Ga}_2\text{O}_3$ metal-oxide-semiconductor capacitors. Journal Physics D: Applied Physics, 2019, 52, 215104.	1.3	16
21	Analysis of electronic structure and properties of $\text{Ga}_2\text{O}_3/\text{CuAlO}_2$ heterojunction. Applied Surface Science, 2021, 568, 150826.	3.1	16
22	Organolead halide perovskite-based metal-oxide-semiconductor structure photodetectors achieving ultrahigh detectivity. Solar Energy, 2019, 183, 226-233.	2.9	14
23	A state-of-art review on gallium oxide field-effect transistors. Journal Physics D: Applied Physics, 2022, 55, 383003.	1.3	14
24	Temperature-dependence studies of organolead halide perovskite-based metal/semiconductor/metal photodetectors. RSC Advances, 2017, 7, 20206-20211.	1.7	13
25	Hysteresis effects on carrier transport and photoresponse characteristics in hybrid perovskites. Journal of Materials Chemistry C, 2020, 8, 1962-1971.	2.7	13
26	Electric properties of $\text{La}_2\text{O}_3/\text{SiO}_2/4\text{H-SiC}$ MOS capacitors with different annealing temperatures. AIP Advances, 2015, 5, 087166.	0.6	11
27	Giant Zero-Drift Electronic Behaviors in Methylammonium Lead Halide Perovskite Diodes by Doping Iodine Ions. Materials, 2018, 11, 1606.	1.3	11
28	Concentration of point defects in 4H-SiC characterized by a magnetic measurement. AIP Advances, 2016, 6, 095201.	0.6	10
29	Influence of Metal Gate Electrodes on Electrical Properties of Atomic-Layer-Deposited Al-Rich $\text{HfAlO}/\text{Ga}_2\text{O}_3$ MOSCAPs. IEEE Transactions on Electron Devices, 2020, 67, 1730-1736.	1.6	10
30	Performance investigations of novel dual-material gate (DMG) MOSFET with dielectric pockets (DP). Science in China Series D: Earth Sciences, 2009, 52, 2400-2405.	0.9	9
31	A novel self-catalytic route to zinc stannate nanowires and cathodoluminescence and electrical transport properties of a single nanowire. Journal of Alloys and Compounds, 2016, 657, 394-399.	2.8	9
32	Ionic behavior of organic-inorganic metal halide perovskite based metal-oxide-semiconductor capacitors. Physical Chemistry Chemical Physics, 2017, 19, 13002-13009.	1.3	9
33	Study of a new type nominal "washboard-like" triangular defects in 4H-SiC 4° off-axis $(0^\circ \leq \theta \leq 1^\circ)$ Si-face homoepitaxial layers. Journal of Crystal Growth, 2019, 506, 14-18.	0.7	9
34	Analytical Model and Structure of the Multilayer Enhancement-Mode $\text{In}_2\text{Ga}_2\text{O}_3$ Planar MOSFETs. IEEE Transactions on Electron Devices, 2022, 69, 682-689.	1.6	9
35	Atomic layer deposited high-k $\text{Hf}_x\text{Al}(1-x)\text{O}$ as an alternative gate dielectric for 4H-SiC MIS based transistors. Science China Technological Sciences, 2012, 55, 606-609.	2.0	8
36	Soliton interactions in dispersion-decreasing fibers with the exponential dispersion profile. Journal of Modern Optics, 2013, 60, 1992-1996.	0.6	8

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37	Investigation of Leakage Current Mechanisms in La ₂ O ₃ /SiO ₂ /4H-SiC MOS Capacitors with Varied SiO ₂ Thickness. <i>Journal of Electronic Materials</i> , 2016, 45, 5600-5605.	1.0	8
38	Ferromagnetism observed in silicon-carbide-derived carbon. <i>Physical Review B</i> , 2018, 97, .	1.1	8
39	The influence of temperature on the silicon droplet evolution in the homoepitaxial growth of 4H-SiC. <i>Journal of Crystal Growth</i> , 2018, 504, 37-40.	0.7	8
40	Effect of re-oxidation annealing process on the SiO ₂ /SiC interface characteristics. <i>Journal of Semiconductors</i> , 2014, 35, 066001.	2.0	7
41	Novel radial vanadium pentoxide nanobelt clusters for Li-ion batteries. <i>Journal of Alloys and Compounds</i> , 2015, 633, 353-358.	2.8	7
42	Effect of Low Pressure on Surface Roughness and Morphological Defects of 4H-SiC Epitaxial Layers. <i>Materials</i> , 2016, 9, 743.	1.3	7
43	Observation of room temperature ferromagnetism and exchange bias in a 55Mn ⁺ ion-implanted unintentionally doped ¹² -Ga ₂ O ₃ single crystal. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 506, 166687.	1.0	7
44	Inverse photoconductivity effect in triple cation organic-inorganic hybrid perovskite memristors with various iodine concentrations, electrodes, and modified layers. <i>Journal of Materials Chemistry C</i> , 2022, 10, 1414-1420.	2.7	7
45	The effect of ions on the magnetic moment of vacancy for ion-implanted 4H-SiC. <i>Journal of Applied Physics</i> , 2017, 121, .	1.1	5
46	Interfacial characteristics and leakage current transfer mechanisms in organometal trihalide perovskite gate-controlled devices via doping of PCBM. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 475101.	1.3	4
47	Characterization of the heteroepitaxial growth of 3C-SiC on Si during low pressure chemical vapor deposition. <i>Science Bulletin</i> , 2010, 55, 3102-3106.	1.7	3
48	Fabrication of a monolithic 4H-SiC junction barrier schottky diode with the capability of high current. <i>Science China Technological Sciences</i> , 2015, 58, 1369-1374.	2.0	3
49	Origination of Anomalous Current Fluctuation in Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2019, 2, 8138-8144.	2.5	3
50	Uncertainty analysis of sensitivity of MEMS microphone based on artificial neural network. <i>IEICE Electronics Express</i> , 2019, 16, 20190623-20190623.	0.3	3
51	Study on a novel Vertical Enhancement-mode Ga ₂ O ₃ MOSFET with FINFET structure. <i>Chinese Physics B</i> , 0, , .	0.7	3
52	Breathers and solitons in nonlinear optical materials. <i>Journal of Electromagnetic Waves and Applications</i> , 2014, 28, 873-879.	1.0	2
53	Influence of [6,6]-Phenyl-C61-butyric Acid Methyl Ester doping on Au/CH ₃ NH ₃ PbI ₃ /Au metal-semiconductor-metal (MSM) photoelectric detectors. <i>Materials Letters</i> , 2018, 217, 139-142.	1.3	2
54	SiC epitaxial layers grown by chemical vapor deposition. , 2008, , .		1

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55	Simulation of SiC deposition in a hot wall CVD reactor. Proceedings of SPIE, 2008, , .	0.8	1
56	Reduction of deep level defects in unintentionally doped 4H-SiC homo-epilayers by ion implantation. Journal Wuhan University of Technology, Materials Science Edition, 2012, 27, 415-417.	0.4	1
57	Fabrication of 3.1kV/10A 4H-SiC Junction Barrier Schottky Diodes. , 2015, , .		1
58	Prefaceâ€”JSS Focus Issue on Gallium Oxide Based Materials and Devices. ECS Journal of Solid State Science and Technology, 2019, 8, Y3-Y3.	0.9	1
59	Reliability hazard characterization of wafer-level spatial metrology parameters based on LOF-KNN method. , 2019, , .		1
60	Effect of growth rate on morphology evolution of 4H-SiC thick homoepitaxial layers. Journal of Crystal Growth, 2019, 507, 143-145.	0.7	1
61	The relationship between the doping concentration and d0 ferromagnetism in n-type 4H-SiC. Journal of Applied Physics, 2020, 128, 193901.	1.1	1
62	é“ξ³ç±³éç—ç²’âçžâ¼°æ°šâçE—é•“æ—ÿç²â...%oç”µæžçæµçâ™™æ€šèf½ç”ç©¶. Scientia Sinica: Physica, Mechanica Et Astronomica, 2019, 42, 127-132.		0
63	Nitrogen incorporation characteristics of 4H-SiC epitaxial layer. , 2008, , .		0
64	Analysis and simulation of inverter employing SiC Schottky diode. , 2011, , .		0
65	Effect of annealing temperature on the characteristics of Pt/CH3NH3PbI3 contact. Journal of Crystal Growth, 2019, 505, 10-14.	0.7	0
66	Effect of iodine doping on photoelectric properties of perovskite-based MOS devices. Materials Letters, 2020, 261, 127040.	1.3	0
67	The Research on Screening Method to Reduce Chip Test Escapes by Using Multi-Correlation Analysis of Parameters. IEEE Transactions on Semiconductor Manufacturing, 2022, 35, 266-271.	1.4	0