Takashi Egawa

List of Publications by Year
in descending order

41 papers	1,938 citations	471509 17 h-index	302126 39 g-index
41 all docs	41 docs citations	41 times ranked	1953 citing authors

#	Article	IF	Citations
1	The 2018 GaN power electronics roadmap. Journal Physics D: Applied Physics, 2018, 51, 163001.	2.8	843
2	Thermal stability of GaN on (111) Si substrate. Journal of Crystal Growth, 1998, 189-190, 178-182.	1.5	167
3	Enhancement of breakdown voltage by AlN buffer layer thickness in AlGaNâˆ•GaN high-electron-mobility transistors on 4in. diameter silicon. Applied Physics Letters, 2005, 86, 123503.	3.3	108
4	High-electron-mobility AlGaNâˆ•AlNâˆ•GaN heterostructures grown on 100-mm-diam epitaxial AlN/sapphire templates by metalorganic vapor phase epitaxy. Applied Physics Letters, 2004, 85, 1710-1712.	3.3	89
5	Uniform Growth of AlGaN/GaN High Electron Mobility Transistors on 200 mm Silicon (111) Substrate. Applied Physics Express, 2013, 6, 026501.	2.4	89
6	1.4-kV Breakdown Voltage for AlGaN/GaN High-Electron-Mobility Transistors on Silicon Substrate. IEEE Electron Device Letters, 2012, 33, 1375-1377.	3.9	88
7	Improved dc characteristics of AlGaN/GaN high-electron-mobility transistors on AlN/sapphire templates. Applied Physics Letters, 2002, 81, 1131-1133.	3.3	65
8	Metalorganic Chemical Vapor Deposition and Material Characterization of Lattice-Matched InAlN/GaN Two-Dimensional Electron Gas Heterostructures. Applied Physics Express, 0, 1, 081102.	2.4	43
9	Influence of AlN nucleation layer on vertical breakdown characteristics for GaNâ€onâ€Si. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 424-428.	1.8	39
10	Microstructure variation in thick AlInN films grown on c-plane GaN on sapphire by metalorganic chemical vapor deposition. Journal of Crystal Growth, 2019, 506, 40-44.	1.5	33
11	Novel fully vertical GaN pâ€“n diode on Si substrate grown by metalorganic chemical vapor deposition. Applied Physics Express, 2016, 9, 111005.	2.4	31
12	DC Characteristics in High-Quality AlGaN/AlN/GaN High-Electron-Mobility Transistors Grown on AlN/Sapphire Templates. Japanese Journal of Applied Physics, 2005, 44, 6490-6494.	1.5	29
13	Influence of deep-pits on the device characteristics of metal-organic chemical vapor deposition grown AlGaN/GaN high-electron mobility transistors on silicon substrate. Applied Physics Letters, 2011, 98, 252105.	3.3	29
14	Effect of Drift Layer on the Breakdown Voltage of Fully-Vertical GaN-on-Si p-n Diodes. IEEE Electron Device Letters, 2017, 38, 1720-1723.	3.9	26
15	Epitaxial growth and characterization of approximately 300-nm-thick AlInN films nearly lattice-matched toc-plane GaN grown on sapphire. Applied Physics Express, 2018, 11, 051001.	2.4	26
16	Valence-Band Discontinuity at the AlN/Si Interface. Japanese Journal of Applied Physics, 2003, 42, 6413-6414.	1.5	23
17	A 300 nm thick epitaxial AlInN film with a highly flat surface grown almost perfectly lattice-matched to c-plane free-standing GaN substrate. Japanese Journal of Applied Physics, 2019, 58, SC1006.	1.5	19
18	Modeling of the wafer bow in GaN-on-Si epiwafers employing GaN/AlN multilayer buffer structures. Semiconductor Science and Technology, 2016, 31, 105016.	2.0	18

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19	Al₂O₃/AlGaN Channel Normally-Off MOSFET on Silicon With High Breakdown Voltage. IEEE Electron Device Letters, 2017, 38, 497-500.	3.9	16
20	Effect of well layer thickness on quantum and energy conversion efficiencies for InGaN/GaN multiple quantum well solar cells. Solid-State Electronics, 2017, 129, 29-34.	1.4	16
21	Enhanced two dimensional electron gas transport characteristics in Al2O3/AlInN/GaN metal-oxide-semiconductor high-electron-mobility transistors on Si substrate. Applied Physics Letters, 2015, 107, .	3.3	14
22	Device characteristics and performance estimation of nearly lattice-matched InAlN/AlGaN heterostructure field-effect transistors. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, 050602.	1.2	13
23	Correlation between structural properties and nonradiative recombination behaviors of threading dislocations in freestanding GaN substrates grown by hydride vapor phase epitaxy. CrystEngComm, 2020, 22, 8299-8312.	2.6	13
24	Investigation of AlGaN/GaN high electron mobility transistors on Silicon (111) substrates employing multi-stacked strained layer superlattice structures. Superlattices and Microstructures, 2020, 147, 106709.	3.1	13
25	Impact of the AlN nucleation layer on the variation of the vertical-direction breakdown voltage of AlGaN/GaN high-electron-mobility transistor structures on a Si substrate. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600843.	1.8	11
26	Effect of threading dislocation in an AlN nucleation layer and vertical leakage current in an AlGaN/GaN high-electron mobility transistor structure on a silicon substrate. Semiconductor Science and Technology, 2019, 34, 035015.	2.0	9
27	Growth of rough-surface p-GaN layers on InGaN/GaN multiple-quantum-well structures by metalorganic chemical vapor deposition and their application to GaN-based solar cells. Materials Research Express, 2017, 4, 085904.	1.6	8
28	Analysis of reaction between c+a and -c+a dislocations in GaN layer grown on 4-inch Si(111) substrate with AlGaN/AlN strained layer superlattice by transmission electron microscopy. AIP Advances, 2016, 6, .	1.3	7
29	A Comparative Study of InGaN/GaN Multipleâ€Quantumâ€Well Solar Cells Grown on Sapphire and AlN Template by Metalorganic Chemical Vapor Deposition. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700323.	1.8	6
30	Analysis of carrier trapping and emission in AlGaN/GaN HEMT with biasâ€controllable field plate. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600840.	1.8	5
31	Enhancement of breakdown voltage for fully-vertical GaN-on-Si p-n diode by using strained layer superlattice as drift layer. Semiconductor Science and Technology, 2018, 33, 065017.	2.0	5
32	Reduced nonradiative recombination rates in c-plane Al0.83In0.17N films grown on a nearly lattice-matched GaN substrate by metalorganic vapor phase epitaxy. Applied Physics Letters, 2021, 119, .	3.3	5
33	Mass production-ready characteristics of AlGaN/AlN/GaN high-electron-mobility transistor structures grown on 200 mm diameter silicon substrates using metal-organic chemical vapor deposition. Semiconductor Science and Technology, 2021, 36, 014004.	2.0	5
34	The role of p-GaN layer thickness for the evaluation of high-performance and ultrafast GaInN/GaN multiple quantum wells UV photodetectors. Optical Materials, 2022, 127, 112284.	3.6	5
35	Effect of the formation temperature of the AlN/Si interface on the vertical-direction breakdown voltages of AlGaN/GaN HEMTs on Si substrates. MRS Advances, 2016, 1, 3415-3420.	0.9	4
36	Metalorganic Chemical Vapor Deposition of over 150â€nmâ€Thick Quaternary AlGaInN Epitaxial Films near Alloy Composition Latticeâ€Matching to GaN on Sapphire and Their Structural and Optical Characterization. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900597.	1.8	4

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37	Improved epilayer qualities and electrical characteristics for GaInN multiple-quantum-well photovoltaic cells and their operation under artificial sunlight and monochromatic light illuminations. AIP Advances, 2021, 11, .	1.3	4
38	Improved performance of InGaN/GaN multilayer solar cells with an atomicâ€layerâ€deposited Al ₂ O ₃ passivation film. Electronics Letters, 2016, 52, 1246-1248.	1.0	3
39	Dynamic variation of carrier transport properties of recessed Au-free ohmic contacts to InAlN/AlN/GaN on Si-wafer. Japanese Journal of Applied Physics, 2018, 57, 110302.	1.5	3
40	Epitaxial regrowth and characterizations of vertical GaN transistors on silicon. Semiconductor Science and Technology, 2019, 34, 095013.	2.0	2
41	Simulation Study on Novel GaNâ€Based nâ^'pâ^'n Heterojunction Bipolar Transistors with a Quaternary AlGaInN Emitter and a Twoâ€Dimensionally Conductive Base. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100397.	1.8	2