

# Rahul Kumar

## List of Publications by Year in descending order

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29  
papers

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citations

840119

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h-index

940134

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30  
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docs citations

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times ranked

360  
citing authors

#	ARTICLE	IF	CITATIONS
1	High-resolution X-ray diffraction analysis of Al <sub>x</sub> Ga <sub>1-x</sub> N/In <sub>x</sub> Ga <sub>1-x</sub> N/GaN on sapphire multilayer structures: Theoretical, simulations, and experimental observations. <i>Journal of Applied Physics</i> , 2014, 115, 174507.	1.1	31
2	Comparison of different grading schemes in InGaAs metamorphic buffers on GaAs substrate: Tilt dependence on cross-hatch irregularities. <i>Applied Surface Science</i> , 2015, 357, 922-930.	3.1	27
3	Enhancement of two dimensional electron gas concentrations due to Si <sub>3</sub> N <sub>4</sub> passivation on Al <sub>0.3</sub> Ga <sub>0.7</sub> N/GaN heterostructure: strain and interface capacitance analysis. <i>AIP Advances</i> , 2015, 5, .	0.6	23
4	Thermodynamic analysis of acetone sensing in Pd/AlGa <sub>N</sub> /Ga <sub>N</sub> heterostructure Schottky diodes at low temperatures. <i>Scripta Materialia</i> , 2016, 113, 39-42.	2.6	19
5	2DEG modulation in double quantum well enhancement mode nitride HEMT. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2015, 74, 59-64.	1.3	17
6	Fast Response (7.6s) Acetone Sensing by InGa <sub>N</sub> /Ga <sub>N</sub> on Si (111) at 373 K. <i>IEEE Electron Device Letters</i> , 2017, 38, 383-386.	2.2	17
7	Crystalline GaAs Thin Film Growth on a c-Plane Sapphire Substrate. <i>Crystal Growth and Design</i> , 2019, 19, 5088-5096.	1.4	17
8	Comprehensive strain and band gap analysis of PA-MBE grown AlGa <sub>N</sub> /Ga <sub>N</sub> heterostructures on sapphire with ultra thin buffer. <i>AIP Advances</i> , 2014, 4, .	0.6	16
9	Highly Sensitive Acetone Sensor Based on Pd/AlGa <sub>N</sub> /Ga <sub>N</sub> Resistive Device Grown by Plasma-Assisted Molecular Beam Epitaxy. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 4650-4656.	1.6	16
10	Excitation intensity and thickness dependent emission mechanism from an ultrathin InAs layer in GaAs matrix. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	14
11	Comparison of different pathways in metamorphic graded buffers on GaAs substrate: Indium incorporation with surface roughness. <i>Applied Surface Science</i> , 2015, 324, 304-309.	3.1	12
12	Non-intrusive real-time monitoring of PV generation at inverters using Internet of photovoltaics. <i>Electronics Letters</i> , 2017, 53, 1137-1138.	0.5	10
13	Investigation of cross-hatch surface and study of anisotropic relaxation and dislocation on InGaAs on GaAs (001). <i>Electronic Materials Letters</i> , 2016, 12, 356-364.	1.0	9
14	Evolution of InAs quantum dots and wetting layer on GaAs (001): Peculiar photoluminescence near onset of quantum dot formation. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	9
15	Reverse bias leakage current mechanism of AlGa <sub>N</sub> /InGa <sub>N</sub> /Ga <sub>N</sub> heterostructure. <i>Electronic Materials Letters</i> , 2016, 12, 232-236.	1.0	8
16	Graded barrier AlGa <sub>N</sub> /AlN/GaN heterostructure for improved 2-dimensional electron gas carrier concentration and mobility. <i>Electronic Materials Letters</i> , 2014, 10, 1087-1092.	1.0	7
17	Evolution and analysis of nitride surface and interfaces by statistical techniques: A correlation with RHEED through kinetic roughening. <i>Electronic Materials Letters</i> , 2015, 11, 707-716.	1.0	7
18	A novel growth strategy and characterization of fully relaxed un-tilted FCC GaAs on Si(100). <i>Journal of Crystal Growth</i> , 2015, 418, 138-144.	0.7	7

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19	GaAs epitaxial growth on R-plane sapphire substrate. Journal of Crystal Growth, 2020, 548, 125848.	0.7	7
20	InAs nanostructures for solar cell: Improved efficiency by submonolayer quantum dot. Solar Energy Materials and Solar Cells, 2021, 224, 111026.	3.0	7
21	Evolution of lateral V-defects on InGaN/GaN on Si(111) during PAMBE: the role of strain on defect kinetics. CrystEngComm, 2018, 20, 4151-4163.	1.3	5
22	Indium segregation in ultra-thin In(Ga)As/GaAs single quantum wells revealed by photoluminescence spectroscopy. Applied Physics Letters, 2021, 118, .	1.5	5
23	High temperature capacitors using AlN grown by MBE as the dielectric. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2018, 36, 041202.	0.6	4
24	Single crystalline Ge thin film growth on <i>c</i> -plane sapphire substrates by molecular beam epitaxy (MBE). CrystEngComm, 2022, 24, 4372-4380.	1.3	4
25	Tilt investigation of In(Al,Ga)As metamorphic buffer layers on GaAs (001) substrate: A novel technique for tilt determination. Crystal Research and Technology, 2016, 51, 723-729.	0.6	3
26	Detecting Single Photons Using Capacitive Coupling of Single Quantum Dots. ACS Photonics, 2018, 5, 2008-2021.	3.2	3
27	GaAs layer on c-plane sapphire for light emitting sources. Applied Surface Science, 2021, 542, 148554.	3.1	3
28	Non-avalanche single photon detection without carrier transit-time delay through quantum capacitive coupling. Optics Express, 2017, 25, 26508.	1.7	2
29	A simple method to overcome the limitation of hybrid monochromator in the identification of peaks in the HRXRD pattern of Al <sub>0.4</sub> Ga <sub>0.6</sub> N/Al <sub>0.6</sub> Ga <sub>0.4</sub> N multi quantum wells. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2019, 240, 92-96.	1.7	0