

Sudhiranjan Tripathy

List of Publications by Year in descending order

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116
papers

3,819
citations

117571

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149623

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117
all docs

117
docs citations

117
times ranked

5070
citing authors

#	ARTICLE	IF	CITATIONS
1	Micro-Raman investigation of strain in GaN and Al _x Ga _{1-x} N/GaN heterostructures grown on Si(111). Journal of Applied Physics, 2002, 92, 3503-3510.	1.1	254
2	Field Effects in Plasmonic Photocatalyst by Precise SiO ₂ Thickness Control Using Atomic Layer Deposition. ACS Catalysis, 2011, 1, 300-308.	5.5	151
3	Lateral Epitaxial Overgrowth of ZnO in Water at 90°C. Advanced Functional Materials, 2006, 16, 799-804.	7.8	143
4	Mechanism of enhanced light output efficiency in InGaN-based microlight emitting diodes. Journal of Applied Physics, 2003, 93, 5978-5982.	1.1	118
5	Assignment of deep levels causing yellow luminescence in GaN. Journal of Applied Physics, 2004, 96, 1341-1347.	1.1	101
6	Photoluminescence and micro-Raman scattering in ZnO nanoparticles: The influence of acetate adsorption. Chemical Physics Letters, 2005, 411, 150-154.	1.2	98
7	Design and Synthesis of Polymer-Functionalized NIR Fluorescent Dyes-Magnetic Nanoparticles for Bioimaging. ACS Nano, 2013, 7, 6796-6805.	7.3	98
8	Photoluminescence and multiphonon resonant Raman scattering in low-temperature grown ZnO nanostructures. Applied Physics Letters, 2006, 89, 071922.	1.5	97
9	Investigation of optical properties of nanoporous GaN films. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 28, 141-149.	1.3	84
10	Lasing in GaN microdisks pivoted on Si. Applied Physics Letters, 2006, 89, 211101.	1.5	84
11	Identification of deep levels in GaN associated with dislocations. Journal of Physics Condensed Matter, 2004, 16, 6305-6315.	0.7	78
12	Damping of the Acoustic Vibrations of Individual Gold Nanoparticles. Nano Letters, 2011, 11, 3301-3306.	4.5	75
13	Optical properties of GaN layers grown on C-, A-, R-, and M-plane sapphire substrates by gas source molecular beam epitaxy. Journal of Applied Physics, 1999, 85, 8386-8399.	1.1	70
14	Raman spectroscopy of PbS nanocrystalline semiconductors. Physical Review B, 1998, 58, 15405-15407.	1.1	68
15	Fabrication and properties of nanoporous GaN films. Applied Physics Letters, 2004, 85, 816-818.	1.5	67
16	Impact of molybdenum out diffusion and interface quality on the performance of sputter grown CZTS based solar cells. Scientific Reports, 2017, 7, 1350.	1.6	60
17	Influence of Au catalyst on the growth of ZnS nanowires. Chemical Physics Letters, 2004, 400, 175-178.	1.2	59
18	Effect of self-heating on electrical characteristics of AlGaIn/ GaN HEMT on Si (111) substrate. AIP Advances, 2017, 7, .	0.6	59

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19	High Optical Quality Nanoporous GaN Prepared by Photoelectrochemical Etching. <i>Electrochemical and Solid-State Letters</i> , 2005, 8, G85.	2.2	57
20	Effects of periodic delta-doping on the properties of GaN:Si films grown on Si (111) substrates. <i>Applied Physics Letters</i> , 2004, 85, 5881-5883.	1.5	53
21	Nanoair-bridged lateral overgrowth of GaN on ordered nanoporous GaN template. <i>Applied Physics Letters</i> , 2005, 87, 251915.	1.5	53
22	Photodegradation of 4-nitrophenol over B-doped TiO ₂ nanostructure: effect of dopant concentration, kinetics, and mechanism. <i>Environmental Science and Pollution Research</i> , 2020, 27, 10966-10980.	2.7	52
23	Acousto-Plasmonic and Surface-Enhanced Raman Scattering Properties of Coupled Gold Nanospheres/Nanodisk Trimers. <i>Nano Letters</i> , 2011, 11, 431-437.	4.5	47
24	Luminescence properties of ZnO layers grown on Si-on-insulator substrates. <i>Applied Physics Letters</i> , 2006, 89, 141901.	1.5	46
25	Gold nanoring trimers: a versatile structure for infrared sensing. <i>Optics Express</i> , 2010, 18, 22271.	1.7	44
26	Interface Engineering and Controlling the Friction and Wear of Ultrathin Carbon Films: High sp^3 Versus High sp^2 Carbons. <i>Advanced Functional Materials</i> , 2016, 26, 1526-1542.	7.8	44
27	Sputter grown sub-micrometer thick Cu ₂ ZnSnS ₄ thin film for photovoltaic device application. <i>Materials Letters</i> , 2015, 160, 45-50.	1.3	42
28	Interference lithographically defined and catalytically etched, large-area silicon nanocones from nanowires. <i>Nanotechnology</i> , 2010, 21, 205305.	1.3	41
29	Plasmonic properties of gold ring-disk nano-resonators: fine shape details matter. <i>Optics Express</i> , 2011, 19, 5587.	1.7	40
30	Real time detection of Hg ²⁺ ions using MoS ₂ functionalized AlGaIn/GaN high electron mobility transistor for water quality monitoring. <i>Sensors and Actuators B: Chemical</i> , 2020, 309, 127832.	4.0	40
31	High-Density Arrays of InGaIn Nanorings, Nanodots, and Nanoarrows Fabricated by a Template-Assisted Approach. <i>Journal of Physical Chemistry B</i> , 2006, 110, 11081-11087.	1.2	39
32	Micro-Raman spectroscopic investigation of NiSi films formed on BF ₂ ⁺ , B ⁺ and non-implanted (100)Si substrates. <i>Applied Physics A: Materials Science and Processing</i> , 2004, 79, 637-642.	1.1	38
33	Strain relaxation in graded InGaIn/GaN epilayers grown on sapphire. <i>Applied Physics Letters</i> , 2003, 83, 1545-1547.	1.5	37
34	Direct Current and Microwave Characteristics of Sub-micron AlGaIn/GaN High-Electron-Mobility Transistors on 8-Inch Si(111) Substrate. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 111001.	0.8	37
35	UV detector based on InAlIn/GaN-on-Si HEMT stack with photo-to-dark current ratio $\geq 10^7$. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	36
36	Nanoheteroepitaxial lateral overgrowth of GaN on nanoporous Si(111). <i>Applied Physics Letters</i> , 2006, 88, 141925.	1.5	35

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37	Fabrication Aspects of Germanium on Insulator from Sputtered Ge on Si-Substrates. <i>Electrochemical and Solid-State Letters</i> , 2006, 9, G158.	2.2	35
38	Structural and optical properties of ZnO nanorods grown by metal organic chemical vapor deposition. <i>Journal of Crystal Growth</i> , 2008, 310, 3208-3213.	0.7	35
39	In Ga N $\hat{\alpha}$ Ga N light emitting diodes on nanoscale silicon on insulator. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	34
40	Photoluminescence of hydrothermally epitaxied ZnO films. <i>Electrochimica Acta</i> , 2007, 52, 2933-2937.	2.6	34
41	Graphitically encapsulated cobalt nanocrystal assemblies. <i>Chemical Communications</i> , 2010, 46, 4749.	2.2	33
42	Ultrathin Carbon with Interspersed Graphene/Fullerene-like Nanostructures: A Durable Protective Overcoat for High Density Magnetic Storage. <i>Scientific Reports</i> , 2015, 5, 11607.	1.6	33
43	MPA-GSH Functionalized AlGaIn/GaN High-Electron Mobility Transistor-Based Sensor for Cadmium Ion Detection. <i>IEEE Sensors Journal</i> , 2019, 19, 2863-2870.	2.4	32
44	Electronic and vibronic properties of Mg-doped GaN: The influence of etching and annealing. <i>Journal of Applied Physics</i> , 2002, 91, 3398-3407.	1.1	31
45	Direct Current and Microwave Characteristics of Sub-micron AlGaIn/GaN High-Electron-Mobility Transistors on 8-Inch Si(111) Substrate. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 111001.	0.8	31
46	Comparative study of LiMn2O4 thin film cathode grown at high, medium and low temperatures by pulsed laser deposition. <i>Journal of Solid State Chemistry</i> , 2006, 179, 3831-3838.	1.4	30
47	Raman scattering probe of anharmonic effects due to temperature and compositional disorder in GaNxAs1-x. <i>Journal of Applied Physics</i> , 2006, 99, 103503.	1.1	30
48	Dual wavelength sensing based on interacting gold nanodisk trimers. <i>Nanotechnology</i> , 2010, 21, 305501.	1.3	30
49	Development of semiconductor based heavy metal ion sensors for water analysis: A review. <i>Sensors and Actuators A: Physical</i> , 2021, 330, 112879.	2.0	29
50	High-Frequency Microwave Noise Characteristics of InAlIn/GaN High-Electron Mobility Transistors on Si (111) Substrate. <i>IEEE Electron Device Letters</i> , 2014, 35, 992-994.	2.2	28
51	Morphological and micro-Raman investigations on Ar+-ion irradiated nanostructured GaAs surface. <i>Applied Surface Science</i> , 2007, 253, 4531-4536.	3.1	26
52	Direct Patterning of Zinc Sulfide on a Sub-10 Nanometer Scale <i>via</i> Electron Beam Lithography. <i>ACS Nano</i> , 2017, 11, 9920-9929.	7.3	26
53	Micro-Raman scattering in laterally epitaxial overgrown GaN. <i>Journal of Applied Physics</i> , 2002, 91, 5840-5852.	1.1	25
54	Influence of composition pulling effect on the two-dimensional electron gas formed at AlyInxGa1-x-yN-GaN interface. <i>Journal of Applied Physics</i> , 2005, 98, 103704.	1.1	25

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55	Formation of nanodots on oblique ion sputtered InP surfaces. <i>Applied Surface Science</i> , 2009, 256, 562-566.	3.1	25
56	The influence of nitrogen plasma treatment on the lattice vibrational properties of hydrothermally grown ZnO nanorods. <i>Applied Physics Letters</i> , 2008, 92, 141910.	1.5	24
57	Optical Properties of ZnO Nanorods and Hybrid Structures Grown on <i>ip/i</i> -type GaN/Sapphire and Silicon-on-Insulator Substrates. <i>Science of Advanced Materials</i> , 2010, 2, 64-68.	0.1	23
58	Thermally stable device isolation by inert gas heavy ion implantation in AlGaIn/GaN HEMTs on Si. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2016, 34, 042203.	0.6	22
59	Boosting contact sliding and wear protection via atomic intermixing and tailoring of nanoscale interfaces. <i>Science Advances</i> , 2019, 5, eaau7886.	4.7	22
60	Improvement of microstructural and optical properties of GaN layer on sapphire by nanoscale lateral epitaxial overgrowth. <i>Applied Physics Letters</i> , 2006, 88, 211908.	1.5	21
61	Hydrothermal epitaxy of ZnO:Co diluted magnetic semiconducting single crystalline films. <i>Applied Physics Letters</i> , 2008, 93, 102510.	1.5	21
62	Effect of TaN intermediate layer on the back contact reaction of sputter-deposited Cu poor Cu ₂ ZnSnS ₄ and Mo. <i>Applied Surface Science</i> , 2019, 471, 277-288.	3.1	21
63	Atomic Scale Interface Manipulation, Structural Engineering, and Their Impact on Ultrathin Carbon Films in Controlling Wear, Friction, and Corrosion. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 17606-17621.	4.0	20
64	Linear and Circular AlGaIn/AlIn/GaN MOS-HEMT-based pH Sensor on Si Substrate: A Comparative Analysis. , 2019, 3, 1-4.		20
65	Study of electromagnetic enhancement for surface enhanced Raman spectroscopy of SiC graphene. <i>Applied Physics Letters</i> , 2012, 100, 191601.	1.5	19
66	Record-low contact resistance for InAlN/AlN/GaN high electron mobility transistors on Si with non-gold metal. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 04DF12.	0.8	19
67	Direct observation of thickness and foreign interlayer driven abrupt structural transformation in ultrathin carbon and hybrid silicon nitride/carbon films. <i>Carbon</i> , 2017, 115, 701-719.	5.4	18
68	Slippery and Wear-Resistant Surfaces Enabled by Interface Engineered Graphene. <i>Nano Letters</i> , 2020, 20, 905-917.	4.5	18
69	Raman scattering probe of anharmonic effects in NiSi. <i>Journal of Raman Spectroscopy</i> , 2004, 35, 536-540.	1.2	17
70	Laterally-current-injected light-emitting diodes based on nanocrystalline-Si/SiO ₂ superlattice. <i>Optics Express</i> , 2011, 19, 2729.	1.7	17
71	Superior wear resistance and low friction in hybrid ultrathin silicon nitride/carbon films: synergy of the interfacial chemistry and carbon microstructure. <i>Nanoscale</i> , 2017, 9, 14937-14951.	2.8	17
72	Thermoelectric Properties of Substoichiometric Electron Beam Patterned Bismuth Sulfide. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 33647-33655.	4.0	17

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73	Temperature rise in InGaN/GaN vertical light emitting diode on copper transferred from silicon probed by Raman scattering. Journal of Applied Physics, 2010, 108, .	1.1	16
74	Sensitive and Selective Detection of Pb ²⁺ Ions Using 2,5-Dimercapto-1,3,4-Thiadiazole Functionalized AlGaIn/GaN High Electron Mobility Transistor. IEEE Electron Device Letters, 2019, 40, 1976-1979.	2.2	16
75	Nanoengineered Advanced Materials for Enabling Hydrogen Economy: Functionalized Graphene-Incorporated Cupric Oxide Catalyst for Efficient Solar Hydrogen Production. Global Challenges, 2020, 4, 1900087.	1.8	16
76	Micro-Raman spectroscopy of Si-, C-, Mg- and Be-implanted GaN layers. Journal of Raman Spectroscopy, 2004, 35, 73-77.	1.2	15
77	Strained SiGeSn formed by Sn implant into SiGe and pulsed laser annealing. Applied Physics Letters, 2007, 91, 202105.	1.5	15
78	Thin-film InGaIn-GaN Vertical Light Emitting Diodes Using GaN on Silicon-On-Insulator Substrates. Electrochemical and Solid-State Letters, 2011, 14, H460.	2.2	15
79	Plasphonics : local hybridization of plasmons and phonons. Optics Express, 2013, 21, 4551.	1.7	15
80	Comparison of the Al _x Ga _{1-x} N/GaN Heterostructures Grown on Silicon-on-Insulator and Bulk-Silicon Substrates. IEEE Transactions on Electron Devices, 2016, 63, 345-352.	1.6	15
81	Investigation of Ta ₂ O ₅ as an Alternative High- ϵ_r Dielectric for InAlN/GaN MOS-HEMT on Si. IEEE Transactions on Electron Devices, 2019, 66, 1230-1235.	1.6	15
82	Effects of indium surfactant on the crystalline and optical properties of GaN during initial growth stage. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 1814-1819.	0.9	14
83	Comparative luminescence properties of ZnO nanorods grown on various substrates by low-temperature metalorganic chemical vapour deposition. Journal of Crystal Growth, 2008, 310, 5312-5316.	0.7	14
84	Omega-Gate p-MOSFET With Nanowirelike SiGe/Si Core/Shell Channel. IEEE Electron Device Letters, 2009, 30, 392-394.	2.2	14
85	Impact of Al Passivation and Cosputter on the Structural Property of $\hat{\Gamma}^2$ -FeSi ₂ for Al-Doped $\hat{\Gamma}^2$ -FeSi ₂ /n-Si(100) Based Solar Cells Application. ACS Applied Materials & Interfaces, 2013, 5, 5455-5460.	4.0	14
86	In _x Al _{1-x} N/AlN/GaN High Electron Mobility Transistor Structures on 200 mm Diameter Si(111) Substrates with Au-Free Device Processing. ECS Journal of Solid State Science and Technology, 2014, 3, Q84-Q88.	0.9	14
87	Structural and optical properties of Al _x Ga _{1-x} N/GaN high electron mobility transistor structures grown on 200 mm diameter Si(111) substrates. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2014, 32, 021206.	0.6	13
88	MoS ₂ functionalized AlGaIn/GaN transistor based room temperature NO ₂ gas sensor. Sensors and Actuators A: Physical, 2022, 342, 113647.	2.0	13
89	The influence of V defects on luminescence properties of AlInGaIn quaternary alloys. Journal of Physics Condensed Matter, 2005, 17, 729-736.	0.7	12
90	Optical properties of nano-silicon. Bulletin of Materials Science, 2001, 24, 285-289.	0.8	10

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91	Dielectric Engineering of HfO ₂ Gate-Stacks for Normally-ON GaN HEMTs on 200-mm Silicon Substrates. IEEE Transactions on Electron Devices, 2018, 65, 3711-3718.	1.6	10
92	Room-Temperature Patterning of Nanoscale MoS ₂ under an Electron Beam. ACS Applied Materials & Interfaces, 2020, 12, 16772-16781.	4.0	10
93	Crystallization of Sputter-Deposited Amorphous (FeSi ₂) _{1-x} Al _x Thin Films. Crystal Growth and Design, 2015, 15, 1692-1696.	1.4	9
94	Palladium-Induced Lateral Crystallization of Amorphous-Germanium Thin Film on Insulating Substrate. Electrochemical and Solid-State Letters, 2009, 12, H266.	2.2	8
95	Influence of PECVD deposited Si _x passivation layer thickness on In _{0.18} Al _{0.82} N/GaN/Si HEMT. Journal Physics D: Applied Physics, 2015, 48, 365104.	1.3	8
96	Absorption and Raman Study for POSS-Oligophenylene Nanohybrid Molecules. Journal of Nanoscience and Nanotechnology, 2006, 6, 3882-3887.	0.9	7
97	Gold-free contacts on Al _x Ga _{1-x} N/GaN high electron mobility transistor structure grown on a 200-mm diameter Si(111) substrate. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2016, 34, 041217.	0.6	7
98	Optically Coupled Electrically Isolated, Monolithically Integrated Switch Using Al _x Ga _{1-x} N/GaN High Electron Mobility Transistor Structures on Si (111). ACS Applied Electronic Materials, 2019, 1, 340-345.	2.0	7
99	Low Temperature Metal Induced Lateral Crystallization of Ge Using Germanide Forming Metals. Journal of the Electrochemical Society, 2010, 157, H208.	1.3	6
100	Al _x Ga _{1-x} N/GaN heterostructures on a thin silicon-on-insulator substrate for metal-semiconductor-metal photodetectors. Journal Physics D: Applied Physics, 2011, 44, 365102.	1.3	6
101	Thermally robust RuO _x Schottky diodes and HEMTs on III-nitrides. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 883-886.	0.8	5
102	Fabrication and Modeling-Based Performance Analysis of Circular GaN MOSHEMT-Based Electrochemical Sensors. IEEE Sensors Journal, 2021, 21, 4216-4224.	2.4	5
103	Angstrom-Scale Transparent Overcoats: Interfacial Nitrogen-Driven Atomic Intermingling Promotes Lubricity and Surface Protection of Ultrathin Carbon. Nano Letters, 2021, 21, 8960-8969.	4.5	5
104	1T and 2H heterophase MoS ₂ for enhanced sensitivity of GaN transistor-based mercury ions sensor. Nanotechnology, 2022, 33, 265501.	1.3	4
105	Defect Analysis And Performance Evaluation Of P-Type Epitaxial GaAs Layer On Ge Substrate For GaAs/Ge Based Advanced Device. Advanced Materials Letters, 2016, 7, 517-524.	0.3	3
106	Origin and Quenching of Novel ultraviolet and blue emission in NdGaO ₃ : Concept of Super-Hydrogenic Dopants. Scientific Reports, 2016, 6, 36352.	1.6	2
107	Ultrasmall Designed Plasmon Resonators by Fused Colloidal Nanopatterning. ACS Applied Materials & Interfaces, 2019, 11, 45207-45213.	4.0	2
108	Near-field scanning photoluminescence microscopy of InGaN/GaN quantum structures. , 2004, , .		1

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109	Low Temperature Metal-Induced Lateral Crystallization of Si _{1-x} Ge _x Using Silicide/Germanide-Forming-Metals. Japanese Journal of Applied Physics, 2010, 49, 04DH10.	0.8	1
110	Reduced Contact Resistance and Improved Surface Morphology of Ohmic Contacts on GaN Employing KrF Laser Irradiation. Japanese Journal of Applied Physics, 2011, 50, 04DF06.	0.8	1
111	Local surface conductivity mapping of single-layer graphene subject to low energy argon bombardment: Energy loss mechanism and defect induction efficiency. Materials Letters, 2019, 256, 126638.	1.3	1
112	Deep Submicron Normally Off AlGa _N /Ga _N MOSFET on Silicon with V _{TH} > 5V and On-Current > 0.5 A/mm ² . Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900709.	0.8	1
113	Low temperature poly-germanium growth process on insulating substrate using palladium-induced lateral crystallization. , 2008, , .		0
114	Channel temperature measurements of In _x Al _{1-x} N/GaN high electron mobility transistors on Si(111) using optical spectroscopy. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2015, 33, 051203.	0.6	0
115	Annealing Pressure and Ambient Dependent RuO _x Schottky Contacts on InAlN/AlN/GaN-on-Si(111) Heterostructure. ECS Journal of Solid State Science and Technology, 2016, 5, Q17-Q23.	0.9	0
116	Meandering Gate Edges for Breakdown Voltage Enhancement in AlGa _N /Ga _N High Electron Mobility Transistors. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900766.	0.8	0