

Arnab Bhattacharya

List of Publications by Year in descending order

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86
papers

1,868
citations

331670

21
h-index

276875

41
g-index

89
all docs

89
docs citations

89
times ranked

3465
citing authors

#	ARTICLE	IF	CITATIONS
1	Gate Leakage Mechanisms in AlGaN/GaN and AlInN/GaN HEMTs: Comparison and Modeling. IEEE Transactions on Electron Devices, 2013, 60, 3157-3165.	3.0	194
2	Synthesis and Characterization of ReS ₂ and ReSe ₂ Layered Chalcogenide Single Crystals. Chemistry of Materials, 2016, 28, 3352-3359.	6.7	162
3	Highly Anisotropic in-Plane Excitons in Atomically Thin and Bulklike 1T'-ReSe ₂ . Nano Letters, 2017, 17, 3202-3207.	9.1	130
4	MOVPE growth of semipolar III-nitride semiconductors on CVD graphene. Journal of Crystal Growth, 2013, 372, 105-108.	1.5	76
5	A facile process for soak-and-peel delamination of CVD graphene from substrates using water. Scientific Reports, 2014, 4, 3882.	3.3	76
6	Layered transition metal dichalcogenides: promising near-lattice-matched substrates for GaN growth. Scientific Reports, 2016, 6, 23708.	3.3	76
7	Magnetotransport properties of individual InAs nanowires. Physical Review B, 2009, 79, .	3.2	75
8	Recharging and rejuvenation of decontaminated N95 masks. Physics of Fluids, 2020, 32, 093304.	4.0	75
9	Nanostructured MoS ₂ /BiVO ₄ Composites for Energy Storage Applications. Scientific Reports, 2016, 6, 36294.	3.3	54
10	Distorted wurtzite unit cells: Determination of lattice parameters of nonpolar a-plane AlGaIn and estimation of solid phase Al content. Journal of Applied Physics, 2011, 109, 013107.	2.5	47
11	Two Distinct Origins of Highly Localized Luminescent Centers within InGaIn/GaN Quantum-Well Light-Emitting Diodes. Advanced Functional Materials, 2011, 21, 3828-3835.	14.9	45
12	The Mechanism of Ni-Assisted GaN Nanowire Growth. Nano Letters, 2016, 16, 7632-7638.	9.1	42
13	Quantum-confined stark effect in localized luminescent centers within InGaIn/GaN quantum-well based light emitting diodes. Applied Physics Letters, 2012, 101, .	3.3	40
14	Inductively coupled plasma reactive-ion etching of Î ² -Ga ₂ O ₃ : Comprehensive investigation of plasma chemistry and temperature. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	2.1	40
15	Tuning mechanical modes and influence of charge screening in nanowire resonators. Physical Review B, 2010, 81, .	3.2	39
16	Determination of lattice parameters, strain state and composition in semipolar III-nitrides using high resolution X-ray diffraction. Journal of Applied Physics, 2013, 114, .	2.5	35
17	Enhanced Raman Scattering of Graphene using Arrays of Split Ring Resonators. Advanced Optical Materials, 2013, 1, 151-157.	7.3	34
18	Tunable thermal conductivity in defect engineered nanowires at low temperatures. Physical Review B, 2011, 84, .	3.2	31

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19	Free-standing semipolar III-nitride quantum well structures grown on chemical vapor deposited graphene layers. Applied Physics Letters, 2013, 103, 181108.	3.3	25
20	The role of hydrostatic stress in determining the bandgap of InN epilayers. Applied Physics Letters, 2007, 91, 111913.	3.3	24
21	Growth and characterization of InN layers by metal-organic vapour phase epitaxy in a close-coupled showerhead reactor. Journal of Crystal Growth, 2007, 298, 403-408.	1.5	24
22	High-resolution X-ray diffraction investigations of the microstructure of MOVPE grown a-plane AlGaIn epilayers. Journal of Crystal Growth, 2011, 315, 208-210.	1.5	21
23	Structure of twins in GaAs nanowires grown by the vapour-liquid-solid process. Philosophical Magazine Letters, 2006, 86, 807-816.	1.2	20
24	Determination of InN-GaN heterostructure band offsets from internal photoemission measurements. Applied Physics Letters, 2007, 91, .	3.3	20
25	Anisotropic structural and optical properties of a-plane (112̂) AlInN nearly-lattice-matched to GaN. Applied Physics Letters, 2011, 98, .	3.3	20
26	Non-intrinsic superconductivity in InN epilayers: Role of Indium Oxide. Solid State Communications, 2008, 146, 361-364.	1.9	19
27	MOVPE growth and characterization of a -plane AlGaIn over the entire composition range. Physica Status Solidi - Rapid Research Letters, 2010, 4, 163-165.	2.4	18
28	Facile fabrication of lateral nanowire wrap-gate devices with improved performance. Applied Physics Letters, 2011, 99, . MOVPE growth of semipolar ($\langle \text{mml:math xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \text{Tj ETQq1 1 0 784314 rgBT /Overlock 1$)	3.3	18
29	$\langle \text{mml:math xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \text{altimg}=\text{"si0011.gif"} \text{overflow}=\text{"scroll"} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \text{Al} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 1 \langle \text{mml:mn} \rangle \langle \text{mml:mo} \rangle \hat{\sim} \langle \text{mml:mo} \rangle \langle \text{mml:math xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \text{altimg}=\text{"si0011.gif"} \text{overflow}=\text{"scroll"} \rangle$ Journal of Crystal Growth, 2015, 411, 106-109.	1.5	18
30	ReSe ₂ : a reassessment of crystal structure and thermal analysis. Journal Physics D: Applied Physics, 2017, 50, 044001.	2.8	18
31	Growth, structural and optical characterization of wurtzite GaP nanowires. Nanotechnology, 2019, 30, 254002.	2.6	18
32	Alloy disorder effects on the room temperature optical properties of Ga _{1-x} In _x NyAs _{1-y} quantum wells. Applied Physics Letters, 2006, 89, 032110.	3.3	17
33	InAs/InP quantum dots with bimodal size distribution: Two evolution pathways. Journal of Applied Physics, 2007, 101, 094303.	2.5	17
34	Wide Bandwidth Nanowire Electromechanics on Insulating Substrates at Room Temperature. Nano Letters, 2012, 12, 6432-6435.	9.1	16
35	ICP-RIE etching of polar, semi-polar and non-polar AlN: comparison of Cl ₂ /Ar and Cl ₂ /BCl ₃ /Ar plasma chemistry and surface pretreatment. Semiconductor Science and Technology, 2015, 30, 015021.	2.0	16
36	Direct MOVPE growth of semipolar $\langle \text{mml:math xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \text{altimg}=\text{"si0001.gif"} \text{overflow}=\text{"scroll"} \rangle \langle \text{mml:mo} \rangle \langle \text{mml:mn} \rangle 11 \langle \text{mml:mn} \rangle \langle \text{mml:mover} \rangle$ Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 Al Ga _{1-x} N across the alloy composition range. Journal of Crystal Growth, 2016, 437, 1-5.	2.5	14

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37	Photoluminescence from localized states in disordered indium nitride. Applied Physics Letters, 2008, 93, 021113.	3.3	13
38	Optoelectronic behaviors and carrier dynamics of individual localized luminescent centers in InGaN quantum-well light emitting diodes. Applied Physics Letters, 2011, 99, .	3.3	13
39	Inductively coupled plasmaâ€“reactive ion etching of c- and a-plane AlGaIn over the entire Al composition range: Effect of BCl ₃ pretreatment in Cl ₂ /Ar plasma chemistry. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	2.1	13
40	Synthesis and characterization of Cu ₃ SbS ₄ thin films grown by co-sputtering metal precursors and subsequent sulfurization. Materials Advances, 2020, 1, 3333-3338.	5.4	13
41	Growth kinetics effects on self-assembled InAs ⁺ InP quantum dots. Applied Physics Letters, 2005, 87, 203104.	3.3	12
42	Influence of growth parameters on the sub-bandgap absorption of MOVPE-grown GaN measured using photothermal deflection spectroscopy. Journal of Crystal Growth, 2008, 310, 4747-4750.	1.5	11
43	Optimization of Gas Ambient for High Quality ² Ga ₂ O ₃ Single Crystals Grown by the Optical Floating Zone Technique. ECS Journal of Solid State Science and Technology, 2019, 8, Q3144-Q3148.	1.8	11
44	Charge deep level transient spectroscopy of electron traps in MOVPE grown n-GaN on sapphire. Physica Status Solidi (B): Basic Research, 2008, 245, 2567-2571.	1.5	10
45	Influence of buffer layers on the microstructure of MOVPE grown a-plane InN. Journal of Crystal Growth, 2011, 315, 233-237.	1.5	9
46	High Q electromechanics with InAs nanowire quantum dots. Applied Physics Letters, 2011, 99, .	3.3	9
47	Fabrication and characterization of GaN nanowire doubly clamped resonators. Journal of Applied Physics, 2015, 118, .	2.5	9
48	Facile synthesis of WS ₂ nanotubes by sulfurization of tungsten thin films: formation mechanism, and structural and optical properties. Nanoscale, 2018, 10, 16683-16691.	5.6	9
49	Microstructure of InN epilayers deposited in a close-coupled showerhead reactor. Journal of Crystal Growth, 2008, 310, 4942-4946.	1.5	8
50	Laser induced structural phase transitions in Cu ₃ SbS ₄ thin films. Semiconductor Science and Technology, 2019, 34, 105026.	2.0	8
51	Comprehensive characterization of MOVPE-grown AlGaAs/AlAs distributed Bragg reflector structures by optical reflectance, X-ray diffraction and atomic force microscopy. Journal of Crystal Growth, 2005, 274, 331-338.	1.5	7
52	Highly oriented, free-standing, superconducting NbN films growth on chemical vapor deposited graphene. APL Materials, 2014, 2, 056103.	5.1	7
53	Self-Assembly in Semiconductor Epitaxy. , 2015, , 1057-1099.		7
54	Comparison of GaN nanowires grown on c-, r- and m-plane sapphire substrates. Journal of Crystal Growth, 2016, 439, 47-53.	1.5	7

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55	Temperature-dependence of Cl ₂ /Ar ICP-RIE of polar, semipolar, and nonpolar GaN and AlN following BCl ₃ /Ar breakthrough plasma. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 013001.	2.1	7
56	Epitaxy of High-Power Diode Laser Structures. , 2000, , 83-120.		6
57	Probing in-plane anisotropy in few-layer ReS ₂ using low frequency noise measurement. Nanotechnology, 2018, 29, 145706.	2.6	6
58	Synthesis of AlGaAs-based strained separately confined heterostructure laser diodes by low temperature liquid-phase epitaxy. Journal of Crystal Growth, 2004, 260, 348-359.	1.5	5
59	Tuning and understanding the emission characteristics of MOVPE-grown self-assembled InAs/InP quantum dots. Journal of Crystal Growth, 2007, 298, 586-590.	1.5	5
60	Evaluation of the effects of repeated disinfection on medical exam gloves: Part 1. Changes in physical integrity. Journal of Occupational and Environmental Hygiene, 2022, 19, 102-110.	1.0	5
61	ReS ₂ vs MoS ₂ : Viable electrodes for batteries and capacitors. Electrochemistry Communications, 2022, 139, 107313.	4.7	5
62	Optimization of a-plane InN grown via MOVPE on a-plane GaN buffer layers on r-plane sapphire. Journal of Crystal Growth, 2010, 312, 2033-2037.	1.5	4
63	Doping controlled Fano resonance in bilayer 1Tâ€²-ReS ₂ : Raman experiments and first-principles theoretical analysis. Nanoscale, 2021, 13, 1248-1256.	5.6	4
64	MOVPE growth and characterization of InN/GaN single and multi-quantum well structures. Journal of Crystal Growth, 2008, 311, 95-98.	1.5	3
65	Growth of high-quality GaN on (1â€²0â€²0) Ga ₂ O ₃ substrates by facet-controlled MOVPE. Journal of Crystal Growth, 2019, 524, 125165.	1.5	3
66	Large-area, thermally-sulfurized WS ₂ thin films: control of growth direction and use as a substrate for GaN epitaxy. Semiconductor Science and Technology, 2020, 35, 035011.	2.0	3
67	Synthesis of Cu ₃ SbS ₄ , Cu ₃ SbSe ₄ and CuSbTe ₂ thin films via chalcogenation of sputtered Cu-Sb metal precursors. Thin Solid Films, 2022, 754, 139315.	1.8	3
68	Raman and photoluminescence characterisation of In _x Ga _{1â€²-x} P self-assembled quantum dots on GaP(100) substrate. Materials Science and Engineering C, 2003, 23, 1115-1121.	7.3	2
69	Abrasive Free Chemical Mechanical Planarization of Semi-Polar (11â€²2) GaN: Effect on Structural and Surface Properties and Subsequent Homoepitaxial Growth. ECS Journal of Solid State Science and Technology, 2018, 7, P152-P157.	1.8	2
70	Understanding the effect of nanowire orientation on time evolution of Raman spectra from laser irradiated InAs nanowire surface. Nanotechnology, 2018, 29, 425709.	2.6	2
71	Terahertz optical properties and birefringence in single crystal vanadium doped (100) Î²-Ga ₂ O ₃ . Optical Materials Express, 2022, 12, 2870.	3.0	2
72	Root-like structure at the nanowire/substrate interface in GaAs nanowires. Applied Physics Letters, 2006, 88, 031919.	3.3	1

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73	Characteristics of high responsivity 8.5 μ m InGaAs/InP QWIPs grown by metalorganic vapour phase epitaxy. Infrared Physics and Technology, 2007, 50, 206-210.	2.9	1
74	The role of InGaN interlayers on the microstructure of InN epilayers grown via metal organic vapour phase epitaxy. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1070-1073.	1.8	1
75	Polarization sensitive solar-blind detector based on a-plane AlGaIn. , 2011, , .		1
76	Split Ring Resonators: Enhanced Raman Scattering of Graphene using Arrays of Split Ring Resonators (Advanced Optical Materials 2/2013). Advanced Optical Materials, 2013, 1, 150-150.	7.3	1
77	Large exciton g-factors in anisotropically strained A-plane GaN film measured using magneto-optical Kerr effect spectroscopy. Applied Physics Letters, 2013, 103, 052109.	3.3	1
78	Study of InAs nanowire structure using spatially resolved Raman spectroscopy. AIP Conference Proceedings, 2017, , .	0.4	1
79	Influence of Nucleation Layers on MOVPE Growth of Semipolar ($11\bar{2}0$) GaN on m-Plane Sapphire. Journal of Electronic Materials, 2021, 50, 4533-4539.	2.2	1
80	Evaluation of the effects of repeated disinfection on medical exam gloves: Part 2. Changes in mechanical properties. Journal of Occupational and Environmental Hygiene, 2022, 19, 111-121.	1.0	1
81	Reflectance spectroscopy study of epitaxial GaN films at room temperature. , 2007, , .		0
82	Study of the microstructure in MOVPE grown InN epitaxial layers by high resolution x-ray diffraction. , 2007, , .		0
83	I-V-T, C-V and photoelectric characteristics of Ni-GaN Schottky and n^+ -InN-GaN Heterostructure Interface. , 2007, , .		0
84	Light-Emitting Diodes: Two Distinct Origins of Highly Localized Luminescent Centers within InGaN/GaN Quantum-Well Light-Emitting Diodes (Adv. Funct. Mater. 20/2011). Advanced Functional Materials, 2011, 21, 3827-3827.	14.9	0
85	2D layered materials: novel substrates for III-nitride growth. , 2014, , .		0
86	Reduction in Gate Leakage Current of AlGaIn/GaN HEMT by Rapid Thermal Oxidation. Materials Research Society Symposia Proceedings, 2014, 1635, 3-8.	0.1	0