

# David Arto Laleyan

## List of Publications by Citations

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45  
papers

1,178  
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18  
h-index

33  
g-index

50  
ext. papers

1,455  
ext. citations

6.8  
avg, IF

4.86  
L-index

#	Paper	IF	Citations
45	III-Nitride nanowire optoelectronics. <i>Progress in Quantum Electronics</i> , <b>2015</b> , 44, 14-68	9.1	152
44	A photochemical diode artificial photosynthesis system for unassisted high efficiency overall pure water splitting. <i>Nature Communications</i> , <b>2018</b> , 9, 1707	17.4	92
43	Enhancing the light extraction efficiency of AlGaIn deep ultraviolet light emitting diodes by using nanowire structures. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 051102	3.4	91
42	Atomic-Scale Origin of Long-Term Stability and High Performance of p-GaN Nanowire Arrays for Photocatalytic Overall Pure Water Splitting. <i>Advanced Materials</i> , <b>2016</b> , 28, 8388-8397	24	83
41	High-Performance Quantum Dot Lasers and Integrated Optoelectronics on Si. <i>Proceedings of the IEEE</i> , <b>2009</b> , 97, 1239-1249	14.3	80
40	On the mechanism of highly efficient p-type conduction of Mg-doped ultra-wide-bandgap AlN nanostructures. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 032102	3.4	59
39	AlN/h-BN Heterostructures for Mg Dopant-Free Deep Ultraviolet Photonics. <i>Nano Letters</i> , <b>2017</b> , 17, 3738-3743	13.59	
38	Gallium nitride nanowire as a linker of molybdenum sulfides and silicon for photoelectrocatalytic water splitting. <i>Nature Communications</i> , <b>2018</b> , 9, 3856	17.4	54
37	Optical and electrical properties of Mg-doped AlN nanowires grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 213105	3.4	43
36	A GaN:Sn nanoarchitecture integrated on a silicon platform for converting CO <sub>2</sub> to HCOOH by photoelectrocatalysis. <i>Energy and Environmental Science</i> , <b>2019</b> , 12, 2842-2848	35.4	38
35	Selective area epitaxy of AlGaIn nanowire arrays across nearly the entire compositional range for deep ultraviolet photonics. <i>Optics Express</i> , <b>2017</b> , 25, 30494-30502	3.3	35
34	Wafer-scale synthesis of monolayer WSe <sub>2</sub> : A multi-functional photocatalyst for efficient overall pure water splitting. <i>Nano Energy</i> , <b>2018</b> , 51, 54-60	17.1	30
33	Molecular beam epitaxy and characterization of wurtzite Sc <sub>x</sub> Al <sub>1-x</sub> N. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 151903	3.4	24
32	Fully epitaxial ferroelectric ScAlN grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2021</b> , 118, 223504	3.4	23
31	A quadruple-band metal nitride nanowire artificial photosynthesis system for high efficiency photocatalytic overall solar water splitting. <i>Materials Horizons</i> , <b>2019</b> , 6, 1454-1462	14.4	22
30	Deep Ultraviolet Luminescence Due to Extreme Confinement in Monolayer GaN/Al(Ga)N Nanowire and Planar Heterostructures. <i>Nano Letters</i> , <b>2019</b> , 19, 7852-7858	11.5	20
29	Molecular beam epitaxy and characterization of AlGaIn nanowire ultraviolet light emitting diodes on Al coated Si (0 0 1) substrate. <i>Journal of Crystal Growth</i> , <b>2019</b> , 507, 65-69	1.6	20

28	Enhanced doping efficiency of ultrawide band gap semiconductors by metal-semiconductor junction assisted epitaxy. <i>Physical Review Materials</i> , <b>2019</b> , 3,	3.2	19
27	Monolayer GaN excitonic deep ultraviolet light emitting diodes. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 013103	3.4	17
26	Improving the Efficiency of Transverse Magnetic Polarized Emission from AlGa <sub>N</sub> Based LEDs by Using Nanowire Photonic Crystal. <i>IEEE Photonics Journal</i> , <b>2018</b> , 10, 1-11	1.8	17
25	Graphene-assisted molecular beam epitaxy of AlN for AlGa <sub>N</sub> deep-ultraviolet light-emitting diodes. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 171905	3.4	16
24	Effect of growth temperature on the structural and optical properties of few-layer hexagonal boron nitride by molecular beam epitaxy. <i>Optics Express</i> , <b>2018</b> , 26, 23031-23039	3.3	14
23	Oxygen defect dominated photoluminescence emission of Sc <sub>x</sub> Al <sub>1-x</sub> N grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2021</b> , 118, 032102	3.4	14
22	Ultrahigh Q microring resonators using a single-crystal aluminum-nitride-on-sapphire platform. <i>Optics Letters</i> , <b>2019</b> , 44, 5679-5682	3	13
21	Charge carrier transport properties of Mg-doped Al <sub>0.6</sub> Ga <sub>0.4</sub> N grown by molecular beam epitaxy. <i>Semiconductor Science and Technology</i> , <b>2018</b> , 33, 085005	1.8	12
20	N-polar ScAlN and HEMTs grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2021</b> , 119, 082101	3.4	12
19	Micrometer scale InGa <sub>N</sub> green light emitting diodes with ultra-stable operation. <i>Applied Physics Letters</i> , <b>2020</b> , 117, 011104	3.4	11
18	Molecular beam epitaxial growth and characterization of AlN nanowall deep UV light emitting diodes. <i>Applied Physics Letters</i> , <b>2017</b> , 111, 101103	3.4	10
17	An Epitaxial Ferroelectric ScAlN/GaN Heterostructure Memory. <i>Advanced Electronic Materials</i> , <b>2020</b> , 9, 2200005	6.4	10
16	Deep ultraviolet monolayer GaN/AlN disk-in-nanowire array photodiode on silicon. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 061104	3.4	9
15	AlGa <sub>N</sub> nanocrystals: building blocks for efficient ultraviolet optoelectronics. <i>Photonics Research</i> , <b>2019</b> , 7, B12	6	9
14	Fully epitaxial ferroelectric ScGa <sub>N</sub> grown on Ga <sub>N</sub> by molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2021</b> , 119, 111902	3.4	8
13	Controlling Defect Formation of Nanoscale AlN: Toward Efficient Current Conduction of Ultrawide-Bandgap Semiconductors. <i>Advanced Electronic Materials</i> , <b>2020</b> , 6, 2000337	6.4	7
12	Strain-free ultrathin AlN epilayers grown directly on sapphire by high-temperature molecular beam epitaxy. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 152102	3.4	6
11	Emerging Applications of III-Nitride Nanocrystals. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2020</b> , 217, 1900885	1.6	6

10	Molecular beam epitaxy and characterization of Al <sub>0.6</sub> Ga <sub>0.4</sub> N epilayers. <i>Journal of Crystal Growth</i> , <b>2019</b> , 507, 87-92	1.6	6
9	Quaternary alloy ScAlGaN: A promising strategy to improve the quality of ScAlN. <i>Applied Physics Letters</i> , <b>2022</b> , 120, 012104	3.4	5
8	Optical and interface characteristics of Al <sub>0.56</sub> Ga <sub>0.44</sub> N/Al <sub>0.62</sub> Ga <sub>0.38</sub> N multiquantum wells with ~280 nm emission grown by plasma-assisted molecular beam epitaxy. <i>Journal of Crystal Growth</i> , <b>2019</b> , 508, 66-71	1.6	5
7	Scalable Synthesis of Monolayer Hexagonal Boron Nitride on Graphene with Giant Bandgap Renormalization.. <i>Advanced Materials</i> , <b>2022</b> , e2201387	24	5
6	Hyperspectral absorption of semiconductor monolayer crystals. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 1811034	3.4	2
5	High-Order Sezawa Mode Alscn/Gan/Sapphire Surface Acoustic Wave Resonators <b>2022</b> ,		2
4	Nanoscale and quantum engineering of III-nitride heterostructures for high efficiency UV-C and far UV-C optoelectronics. <i>Japanese Journal of Applied Physics</i> ,	1.4	2
3	Impact of nanowire geometry on the carrier transport in GaN/InGaN axial nanowire light-emitting diodes. <i>Journal of Engineering</i> , <b>2015</b> , 2015, 299-301	0.7	1
2	Demonstration of green and UV wavelength high Q aluminum nitride on sapphire microring resonators integrated with microheaters. <i>Applied Physics Letters</i> , <b>2021</b> , 118, 211103	3.4	1
1	GaN-Based Deep-Nano Structures: Break the Efficiency Bottleneck of Conventional Nanoscale Optoelectronics. <i>Advanced Optical Materials</i> ,2102263	8.1	