

# Michael A Mastro

## List of Publications by Citations

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40  
papers

2,086  
citations

15  
h-index

42  
g-index

42  
ext. papers

2,568  
ext. citations

3.9  
avg, IF

5.22  
L-index

#	Paper	IF	Citations
40	A review of Ga <sub>2</sub> O <sub>3</sub> materials, processing, and devices. <i>Applied Physics Reviews</i> , <b>2018</b> , 5, 011301	17.3	1114
39	Perspective Opportunities and Future Directions for Ga <sub>2</sub> O <sub>3</sub> . <i>ECS Journal of Solid State Science and Technology</i> , <b>2017</b> , 6, P356-P359	2	261
38	Exfoliated $\epsilon$ -Ga <sub>2</sub> O <sub>3</sub> nano-belt field-effect transistors for air-stable high power and high temperature electronics. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 15760-4	3.6	111
37	Effect of front and back gates on $\epsilon$ -Ga <sub>2</sub> O <sub>3</sub> nano-belt field-effect transistors. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 062102	3.4	79
36	Quasi-Two-Dimensional h-BN/ $\epsilon$ -GaO Heterostructure Metal-Insulator-Semiconductor Field-Effect Transistor. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 21322-21327	9.5	71
35	Substrate-Dependent Effects on the Response of AlGa <sub>N</sub> /Ga <sub>N</sub> HEMTs to 2-MeV Proton Irradiation. <i>IEEE Electron Device Letters</i> , <b>2014</b> , 35, 826-828	4.4	65
34	Heterostructure WSe-GaO Junction Field-Effect Transistor for Low-Dimensional High-Power Electronics. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 29724-29729	9.5	60
33	Perspectives on future directions in III-N semiconductor research. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2013</b> , 31, 058501	2.9	33
32	Design of Gallium Nitride Resonant Cavity Light-Emitting Diodes on Si Substrates. <i>Advanced Materials</i> , <b>2008</b> , 20, 115-118	24	25
31	Thermal atomic layer etching of crystalline Ga <sub>N</sub> using sequential exposures of XeF <sub>2</sub> and BCl <sub>3</sub> . <i>Applied Physics Letters</i> , <b>2019</b> , 114, 243103	3.4	23
30	Effect of Ga <sub>N</sub> surface treatment on Al <sub>2</sub> O <sub>3</sub> /n-Ga <sub>N</sub> MOS capacitors. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2015</b> , 33, 061201	1.3	22
29	Polarization fields in III-nitride nanowire devices. <i>Nanotechnology</i> , <b>2010</b> , 21, 145205	3.4	22
28	Selective chemical etch of gallium nitride by phosphoric acid. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2012</b> , 30, 040602	2.9	20
27	Initiating polarity inversion in Ga <sub>N</sub> growth using an Al <sub>N</sub> interlayer. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2011</b> , 208, 1504-1506	1.6	18
26	Impact of surface treatments on high- $\epsilon$ dielectric integration with Ga-polar and N-polar Ga <sub>N</sub> . <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2014</b> , 32, 03D106	1.3	17
25	Optical and electrical characterization of AlGa <sub>N</sub> /Ga <sub>N</sub> high electron mobility transistors irradiated with 5MeV protons. <i>Journal of Crystal Growth</i> , <b>2011</b> , 326, 62-64	1.6	14
24	Controlling the threshold voltage of $\epsilon$ -Ga <sub>2</sub> O <sub>3</sub> field-effect transistors via remote fluorine plasma treatment. <i>Journal of Materials Chemistry C</i> , <b>2019</b> , 7, 8855-8860	7.1	13

23	Plasmonically enhanced emission from a group-III nitride nanowire emitter. <i>Nanotechnology</i> , <b>2007</b> , 18, 265401	3.4	13
22	Array of Two UV-Wavelength Detector Types. <i>IEEE Transactions on Electron Devices</i> , <b>2010</b> , 57, 1224-1229.	2.9	11
21	Valence and Conduction Band Offsets for InN and III-Nitride Ternary Alloys on (001) Bulk Ga <sub>2</sub> O <sub>3</sub> . <i>ECS Journal of Solid State Science and Technology</i> , <b>2019</b> , 8, Q3154-Q3158	2	9
20	Non-toxic inhibition of HIV-1 replication with silver-copper nanoparticles. <i>Medicinal Chemistry Research</i> , <b>2010</b> , 19, 1074-1081	2.2	9
19	Group-III Nitride P-Type Nanowire Heterostructure Field Effect Transistors. <i>ECS Transactions</i> , <b>2008</b> , 13, 21-27	1	9
18	Experimental study of plasmonically enhanced GaN nanowire light emitters. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2008</b> , 205, 378-382	1.6	9
17	Determination of GaN polarity on periodically oriented surfaces. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2015</b> , 33, 011206	1.3	7
16	Violet electroluminescence from p-GaN thin film/n-GaN nanowire homojunction. <i>Applied Physics Letters</i> , <b>2010</b> , 96, 132105	3.4	7
15	Degradation mechanisms of AlGaIn/GaN HEMTs on sapphire, Si, and SiC substrates under proton irradiation <b>2014</b> ,		6
14	Towards a polariton-based light emitter based on non-polar GaN quantum wells. <i>Solid State Communications</i> , <b>2009</b> , 149, 2039-2042	1.6	6
13	Recent Results From Epitaxial Growth on Step Free 4H-SiC Mesas. <i>Materials Research Society Symposia Proceedings</i> , <b>2006</b> , 911, 3		4
12	Effect of GaN Substrate Properties on Vertical GaN PiN Diode Electrical Performance. <i>Journal of Electronic Materials</i> , <b>2021</b> , 50, 3013-3021	1.9	4
11	Site control of quantum emitters in gallium nitride by polarity. <i>Applied Physics Letters</i> , <b>2021</b> , 118, 021103.	3.4	4
10	Design of Ga <sub>2</sub> O <sub>3</sub> modulation doped field effect transistors. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2021</b> , 39, 023412	2.9	4
9	Homoepitaxial GaN micropillar array by plasma-free photo-enhanced metal-assisted chemical etching. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2021</b> , 39, 053212	2.9	4
8	Emission enhancement from nonpolar a-plane III-nitride nanopillar. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2011</b> , 29, 021004	1.3	3
7	(Invited) GaN Homoepitaxial Growth and Substrate-Dependent Effects for Vertical Power Devices. <i>ECS Transactions</i> , <b>2020</b> , 98, 63-67	1	3
6	Delta-doped Al <sub>x</sub> Ga <sub>1-x</sub> O <sub>3</sub> /Ga <sub>2</sub> O <sub>3</sub> heterostructure field-effect transistors by ozone molecular beam epitaxy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2021</b> , 39, 033402.	2.9	2

- 5 Assessment of the (010)  $\text{Ga}_2\text{O}_3$  surface and substrate specification. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 013408 2.9 2
- 4 Band offset determination for amorphous  $\text{Al}_2\text{O}_3$  deposited on bulk AlN and atomic-layer epitaxial AlN on sapphire. *Applied Physics Letters*, **2020**, 117, 182103 3-4 1
- 3 III-nitride nanowire based light emitting diodes on carbon paper. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2014**, 11, 442-445 1
- 2 All-epitaxial fabrication of a nanowire plasmon laser structure. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2014**, 11, 754-757
- 1 Nickel Foam as a Substrate for III-nitride Nanowire Growth. *Materials Research Society Symposia Proceedings*, **2013**, 1538, 311-316