Elaheh Ahmadi

List of Publications by Year
in descending order

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61 papers	2,462 citations	279701 23 h-index	206029 48 g-index
61 all docs	61 docs citations	61 times ranked	1809 citing authors

#	Article	IF	Citations
1	Donors and deep acceptors in Î²-Ga2O3. Applied Physics Letters, 2018, 113, .	1.5	203
2	Ge doping of Î²-Ga₂O₃ films grown by plasma-assisted molecular beam epitaxy. Applied Physics Express, 2017, 10, 041102.	1.1	196
3	N-polar GaN epitaxy and high electron mobility transistors. Semiconductor Science and Technology, 2013, 28, 074009.	1.0	172
4	Ge-Doped ${eta }$ -Ga2O3 MOSFETs. IEEE Electron Device Letters, 2017, 38, 775-778.	2.2	165
5	Demonstration of Î²-(Al_xGa_{1â^'}_x)₂O₃/Î²-Ga₂O₃ doped field-effect transistors with Ge as dopant grown via plasma-assisted molecular beam epitaxy. Applied Physics Express, 2017, 10, 071101.	1.1	162
6	Materials issues and devices of Î±- and Î²-Ga2O3. Journal of Applied Physics, 2019, 126, .	1.1	158
7	Demonstration of Constant 8 W/mm Power Density at 10, 30, and 94 GHz in State-of-the-Art Millimeter-Wave N-Polar GaN MISHEMTs. IEEE Transactions on Electron Devices, 2018, 65, 45-50.	1.6	153
8	Composition determination of Î²-(Al_xGa_{1â^'}) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 472 Td (_x)<su Î²-Ga₂O₃ substrates by high-resolution X-ray diffraction. Applied Physics Express, 2016, 9, 061102.	1.1	90
9	Chlorine-based dry etching ofÎ²-Ga₂O₃. Semiconductor Science and Technology, 2016, 31, 065006.	1.0	75
10	N-Polar GaN Cap MISHEMT With Record Power Density Exceeding 6.5 W/mm at 94 GHz. IEEE Electron Device Letters, 2017, 38, 359-362.	2.2	74
11	W-Band Power Performance of SiN-Passivated N-Polar GaN Deep Recess HEMTs. IEEE Electron Device Letters, 2020, 41, 349-352.	2.2	74
12	n-type dopants in (001)Î²-Ga₂O₃grown on (001)Î²-Ga₂O₃substrates by plasma-assisted molecular beam epitaxy. Semiconductor Science and Technology, 2018, 33, 045001.	1.0	56
13	Schottky barrier height of Ni toÎ²-(Al_xGa_{1â^'x})₂O₃with different compositions grown by plasma-assisted molecular beam epitaxy. Semiconductor Science and Technology, 2017, 32, 035004.	1.0	49
14	Sn doping of (010) Î²-Ga2O3 films grown by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2020, 117, .	1.5	43
15	GaN-based high-electron-mobility transistor structures with homogeneous lattice-matched InAlN barriers grown by plasma-assisted molecular beam epitaxy. Semiconductor Science and Technology, 2014, 29, 045011.	1.0	42
16	Growth and etching characteristics of (001)Î²-Ga₂O₃by plasma-assisted molecular beam epitaxy. Semiconductor Science and Technology, 2018, 33, 015013.	1.0	42
17	Dispersion Free 450-V p GaN-Gated CAVETs With Mg-ion Implanted Blocking Layer. IEEE Electron Device Letters, 2017, 38, 933-936.	2.2	41
18	Temperature-dependent current-voltage characteristics of Î² -Ga2O3 trench Schottky barrier diodes. Applied Physics Letters, 2020, 116, .	1.5	41

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19	An Epitaxial Ferroelectric ScAlN/GaN Heterostructure Memory. Advanced Electronic Materials, 2022, 8, .	2.6	37
20	N-Polar GaN MIS-HEMTs on Sapphire With High Combination of Power Gain Cutoff Frequency and Three-Terminal Breakdown Voltage. IEEE Electron Device Letters, 2016, 37, 77-80.	2.2	33
21	Model to explain the behavior of 2DEG mobility with respect to charge density in N-polar and Ga-polar AlGaN-GaN heterostructures. Journal of Applied Physics, 2016, 120, .	1.1	31
22	N-polar ScAlN and HEMTs grown by molecular beam epitaxy. Applied Physics Letters, 2021, 119, .	1.5	27
23	N-polar GaN/InAlN MIS-HEMT with 400-GHz ƒ<inf>max</inf>. , 2012, , .		26
24	N-Polar Deep Recess MISHEMTs With Record 2.9 W/mm at 94 GHz. IEEE Electron Device Letters, 2016, 37, 713-716.	2.2	25
25	Observation of Hot Electron and Impact Ionization in N-Polar GaN MIS-HEMTs. IEEE Electron Device Letters, 2018, 39, 1007-1010.	2.2	23
26	N-face GaN/AlN/GaN/InAlN and GaN/AlN/AlGaN/GaN/InAlN high-electron-mobility transistor structures grown by plasma-assisted molecular beam epitaxy on vicinal substrates. Semiconductor Science and Technology, 2015, 30, 055012.	1.0	22
27	W-band N-polar GaN MISHEMTs with high power and record 27.8% efficiency at 94 GHz. , 2016, , .		22
28	Elimination of columnar microstructure in N-face InAlN, lattice-matched to GaN, grown by plasma-assisted molecular beam epitaxy in the N-rich regime. Applied Physics Letters, 2014, 104, .	1.5	21
29	Record high electron mobility and low sheet resistance on scaled-channel N-polar GaN/AlN heterostructures grown on on-axis N-polar GaN substrates by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2020, 117, .	1.5	20
30	Record 34.2% efficient mmâ€wave Nâ€polar AlGaN/GaN MISHEMT at 87ÂGHz. Electronics Letters, 2016, 52, 1813-1814.	0.5	19
31	High frequency N-polar GaN planar MIS-HEMTs on sapphire with high breakdown and low dispersion. , 2016, , .		19
32	Controlling Defect Formation of Nanoscale AlN: Toward Efficient Current Conduction of Ultrawideâ€Bandgap Semiconductors. Advanced Electronic Materials, 2020, 6, 2000337.	2.6	19
33	N-polar GaN/InAlN/AlGaN MIS-HEMTs with 1.89 S/mm extrinsic transconductance, 4 A/mm drain current, 204 GHz f<inf>T</inf> and 405 GHz f<inf>max</inf>. , 2013, , .		17
34	Analysis of MOCVD SiNx Passivated N-Polar GaN MIS-HEMTs on Sapphire With High $f_{max}cdot V_{DS,Q}$. IEEE Electron Device Letters, 2018, 39, 409-412.	2.2	17
35	First demonstration of RF N-polar GaN MIS-HEMTs grown on bulk GaN using PAMBE. Semiconductor Science and Technology, 2019, 34, 045009.	1.0	16
36	Bias-Dependent Electron Velocity Extracted From N-Polar GaN Deep Recess HEMTs. IEEE Transactions on Electron Devices, 2020, 67, 1542-1546.	1.6	16

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37	Chlorine-based inductive coupled plasma etching ofÎ±-Ga₂O₃. Semiconductor Science and Technology, 2019, 34, 035006.	1.0	15
38	Observation of I_D-V_D Kink in N-Polar GaN MIS-HEMTs at Cryogenic Temperatures. IEEE Electron Device Letters, 2020, 41, 345-348.	2.2	15
39	Evaluation of linearity at 30 GHz for N-polar GaN deep recess transistors with 10.3 W/mm of output power and 47.4% PAE. Applied Physics Letters, 2021, 119, .	1.5	15
40	Demonstration of 30 GHz OIP3/PDC > 10 dB by mm-wave N-polar Deep Recess MISHEMTs. , 2019, , .		14
41	Deep UV-assisted capacitanceâ€“voltage characterization of post-deposition annealed Al2O3/ Î² -Ga2O3 (001) MOSCAPs. Applied Physics Letters, 2020, 116, .	1.5	14
42	Ultra-high silicon doped N-polar GaN contact layers grown by metal-organic chemical vapor deposition. Semiconductor Science and Technology, 2020, 35, 095002.	1.0	12
43	Switching Performance Analysis of 3.5 kV Ga₂O₃ Power FinFETs. IEEE Transactions on Electron Devices, 2021, 68, 672-678.	1.6	12
44	Common Emitter Current Gain >1 in III-N Hot Electron Transistors With 7-nm GaN/InGaN Base. IEEE Electron Device Letters, 2015, 36, 439-441.	2.2	11
45	Electron transport in N-polar GaN-based heterostructures. Applied Physics Letters, 2019, 114, 162102.	1.5	11
46	Characterization of MOCVD-grown AlSiO gate dielectric on Î²-Ga2O3 (001). Applied Physics Letters, 2021, 118, .	1.5	10
47	Infrared dielectric functions and Brillouin zone center phonons of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mtext>-</mml:mtext><mml:msub><mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> compared to <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î±</mml:mi></mml:math> - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Physical Review Materials,	0.9	10
48	Î²-(Al,Ga)₂O₃ for High Power Applications â€" A Review on Material Growth and Device Fabrication. International Journal of High Speed Electronics and Systems, 2019, 28, 1940006.	0.3	9
49	Growth of high-quality N-polar GaN on bulk GaN by plasma-assisted molecular beam epitaxy. Solid State Communications, 2020, 305, 113763.	0.9	9
50	Investigation and optimization of HfO2 gate dielectric on N-polar GaN: Impact of surface treatments, deposition, and annealing conditions. Applied Physics Letters, 2021, 119, .	1.5	9
51	Enhanced mobility in vertically scaled N-polar high-electron-mobility transistors using GaN/InGaN composite channels. Applied Physics Letters, 2018, 112, .	1.5	7
52	Establishment of design space for high current gain in III-N hot electron transistors. Semiconductor Science and Technology, 2018, 33, 015018.	1.0	7
53	Demonstration of device-quality 60% relaxed In0.2Ga0.8N on porous GaN pseudo-substrates grown by PAMBE. Journal of Applied Physics, 2022, 131, .	1.1	7
54	Design of ultra-scaled-channel N-polar GaN HEMTs with high charge density: A systematic study of hole traps and their impact on charge density in the channel. Journal of Applied Physics, 2020, 128, .	1.1	5

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55	Growth of high quality (In,Ga)N films on O-face ZnO substrates by plasma-assisted molecular beam epitaxy. AIP Advances, 2020, 10, .	0.6	4
56	HfO₂ as gate insulator on N-polar GaN-AlGaN heterostructures. Semiconductor Science and Technology, 0, , .	1.0	4
57	Observation of self-assembled InGaN/GaN superlattice structure grown on N-polar GaN by plasma-assisted molecular beam epitaxy. APL Materials, 2021, 9, .	2.2	4
58	Strain-induced formation of self-assembled InGaN/GaN superlattices in nominal InGaN films grown by plasma-assisted molecular beam epitaxy. Physical Review Materials, 2021, 5, .	0.9	4
59	High performance N-polar GaN HEMTs with OIP3/P_{dc} â^¼12dB at 10GHz. , 2017, , .		3
60	Improved operational reliability of MOCVD-grown AlSiO gate dielectric on Î²-Ga₂O₃ (001) by post-metallization annealing. Semiconductor Science and Technology, 2021, 36, 09LT03.	1.0	3
61	Demonstration of atmospheric plasma activated direct bonding of N-polar GaN and Î²-Ga2O3 (001) substrates. Applied Physics Letters, 2022, 120, .	1.5	2