

Joseph Salzman

List of Publications by Year in descending order

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132
all docs

132
docs citations

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times ranked

3003
citing authors

#	ARTICLE	IF	CITATIONS
1	Gain mechanism in GaN Schottky ultraviolet detectors. Applied Physics Letters, 2001, 79, 1417-1419.	1.5	272
2	Ion-Beam-Assisted Lift-Off Technique for Three-Dimensional Micromachining of Freestanding Single-Crystal Diamond. Advanced Materials, 2005, 17, 2427-2430.	11.1	166
3	Yellow luminescence and related deep levels in unintentionally doped GaN films. Physical Review B, 1999, 59, 9748-9751.	1.1	138
4	Properties of carbon-doped GaN. Applied Physics Letters, 2001, 78, 757-759.	1.5	136
5	The anomalous bandgap bowing in GaAsN. Applied Physics Letters, 2002, 81, 463-465.	1.5	112
6	Dependence of the refractive index of Al _x Ga _{1-x} N on temperature and composition at elevated temperatures. Journal of Applied Physics, 2001, 89, 2676-2685.	1.1	107
7	Persistent photocurrent and surface trapping in GaN Schottky ultraviolet detectors. Applied Physics Letters, 2004, 84, 4092-4094.	1.5	106
8	Diamond based photonic crystal microcavities. Optics Express, 2006, 14, 3556.	1.7	102
9	Characterization of three-dimensional microstructures in single-crystal diamond. Diamond and Related Materials, 2006, 15, 1614-1621.	1.8	92
10	Surface states and surface oxide in GaN layers. Journal of Applied Physics, 2001, 89, 390-395.	1.1	83
11	Electron mobility in an AlGaIn/GaN two-dimensional electron gas I-carrier concentration dependent mobility. IEEE Transactions on Electron Devices, 2003, 50, 2002-2008.	1.6	78
12	Thermal microcrack distribution control in GaN layers on Si substrates by lateral confined epitaxy. Applied Physics Letters, 2001, 78, 288-290.	1.5	74
13	The effect of AlN buffer layer on GaN grown on (111)-oriented Si substrates by MOCVD. Journal of Crystal Growth, 2000, 218, 181-190.	0.7	63
14	Processing of photonic crystal nanocavity for quantum information in diamond. Diamond and Related Materials, 2011, 20, 937-943.	1.8	62
15	Grain-boundary-controlled transport in GaN layers. Physical Review B, 2000, 61, 15573-15576.	1.1	59
16	Triangular nanobeam photonic cavities in single-crystal diamond. New Journal of Physics, 2011, 13, 025018.	1.2	58
17	Interrupted synthetic aperture radar (SAR). IEEE Aerospace and Electronic Systems Magazine, 2002, 17, 33-39.	2.3	55
18	Effect of 1.5 MeV electron irradiation on ⁷² Ga ₂ O ₃ carrier lifetime and diffusion length. Applied Physics Letters, 2018, 112, .	1.5	55

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19	Unstable resonator cavity semiconductor lasers. Applied Physics Letters, 1985, 46, 218-220.	1.5	54
20	Self-stabilized nonlinear lateral modes of broad area lasers. IEEE Journal of Quantum Electronics, 1987, 23, 1909-1920.	1.0	52
21	Anisotropy in detectivity of GaN Schottky ultraviolet detectors: Comparing lateral and vertical geometry. Applied Physics Letters, 2002, 80, 347-349.	1.5	52
22	Experimental evidence of Bragg confinement of carriers in a quantum barrier. Applied Physics Letters, 1992, 61, 949-951.	1.5	44
23	Electrical isolation of GaN by ion implantation damage: Experiment and model. Applied Physics Letters, 1999, 74, 2441-2443.	1.5	44
24	Kinetic model for gradual degradation in semiconductor lasers and light-emitting diodes. Applied Physics Letters, 1988, 53, 2135-2137.	1.5	40
25	Resistive Switching in HfO_2 Probed by a Metal-Insulator-Semiconductor Bipolar Transistor. IEEE Electron Device Letters, 2012, 33, 11-13.	2.2	37
26	Fabrication of triangular nanobeam waveguide networks in bulk diamond using single-crystal silicon hard masks. Applied Physics Letters, 2014, 105, .	1.5	37
27	Characteristics of In _x Al _{1-x} N/GaN High-Electron Mobility Field-Effect Transistor. IEEE Transactions on Electron Devices, 2005, 52, 146-150.	1.6	33
28	Lateral coherence properties of broad-area semiconductor quantum well lasers. Journal of Applied Physics, 1986, 60, 66-68.	1.1	32
29	High-speed dual-wavelength demultiplexing and detection in a monolithic superlattice waveguide detector array. Applied Physics Letters, 1986, 49, 233-235.	1.5	31
30	Lateral confined epitaxy of GaN layers on Si substrates. Journal of Crystal Growth, 2001, 230, 341-345.	0.7	31
31	A nonvolatile memory capacitor based on Au nanocrystals with HfO ₂ tunneling and blocking layers. Applied Physics Letters, 2009, 95, 023104.	1.5	30
32	Diamond processing by focused ion beam surface damage and recovery. Applied Physics Letters, 2011, 99, .	1.5	30
33	Bragg confinement of carriers in a quantum barrier. Applied Physics Letters, 1990, 56, 871-873.	1.5	29
34	Ultra high-Q photonic crystal nanocavity design: The effect of a low- $\hat{\mu}$ slab material. Optics Express, 2008, 16, 4972.	1.7	28
35	Nonvolatile low-voltage memory transistor based on SiO ₂ tunneling and HfO ₂ blocking layers with charge storage in Au nanocrystals. Applied Physics Letters, 2011, 98, .	1.5	28
36	III-V-N compounds for infrared applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1997, 50, 148-152.	1.7	27

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37	Low dose ⁶⁰ Co gamma-irradiation effects on electronic carrier transport and DC characteristics of AlGaIn/GaN high-electron-mobility transistors. Radiation Effects and Defects in Solids, 2017, 172, 250-256.	0.4	26
38	Yellow luminescence and Fermi level pinning in GaN layers. Applied Physics Letters, 2000, 77, 987.	1.5	25
39	Distributed feedback lasers with an S-bent waveguide for high-power single-mode operation. IEEE Journal of Selected Topics in Quantum Electronics, 1995, 1, 346-355.	1.9	24
40	GaN layer growth optimization for high power devices. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 302, 14-17.	2.6	24
41	InAlN/GaN heterostructure field-effect transistor DC and small-signal characteristics. Electronics Letters, 2004, 40, 1304.	0.5	23
42	Laterally coupled-cavity semiconductor lasers. IEEE Journal of Quantum Electronics, 1987, 23, 395-400.	1.0	22
43	Tilted-mirror semiconductor lasers. Applied Physics Letters, 1985, 47, 9-11.	1.5	20
44	Bragg reflection waveguide composite structures. IEEE Journal of Quantum Electronics, 1990, 26, 519-531.	1.0	20
45	Distributed Bragg reflector active optical filters. IEEE Journal of Quantum Electronics, 1991, 27, 2016-2024.	1.0	20
46	Reduction of cracks in GaN films grown on Si-on-insulator by lateral confined epitaxy. Journal of Crystal Growth, 2002, 243, 375-380.	0.7	20
47	Investigation of the band offsets caused by thin Al ₂ O ₃ layers in HfO ₂ based Si metal oxide semiconductor devices. Applied Physics Letters, 2012, 100, .	1.5	20
48	Thermally activated electrical conductivity in thin GaN epitaxial films. Applied Physics Letters, 2000, 76, 1431-1433.	1.5	19
49	Phase-locked controlled filament laser. Applied Physics Letters, 1986, 49, 611-613.	1.5	18
50	Determination of Band-Gap Bowing for Al _x Ga _{1-x} N Alloys. Physica Status Solidi A, 2001, 188, 789-792.	1.7	18
51	Exciton states in GaAs/AlGaAs Bragg confining structures studied by resonant Raman scattering. Physical Review Letters, 1993, 71, 420-423.	2.9	16
52	Confocal unstable-resonator semiconductor laser. Optics Letters, 1986, 11, 507.	1.7	15
53	Coherence and focusing properties of unstable resonator semiconductor lasers. Applied Physics Letters, 1985, 46, 923-925.	1.5	14
54	Modal properties of unstable resonator semiconductor lasers with a lateral waveguide. Applied Physics Letters, 1985, 47, 445-447.	1.5	14

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55	The Bragg reflection waveguide directional coupler. IEEE Photonics Technology Letters, 1989, 1, 319-322.	1.3	14
56	Phase-locked arrays of unstable resonator semiconductor lasers. Applied Physics Letters, 1986, 49, 440-442.	1.5	13
57	Kinetics of pressure-dependent gradual degradation of semiconductor lasers and light-emitting diodes. Applied Physics Letters, 1989, 55, 1170-1172.	1.5	13
58	Enhanced electro-optic effect in amorphous hydrogenated silicon based waveguides. Applied Physics Letters, 1992, 61, 1664-1666.	1.5	13
59	Acoustic field study in layered structures by means of x-ray diffraction. Journal of Applied Physics, 1992, 71, 3134-3137.	1.1	13
60	Atmospheric and low pressure shadow masked MOVPE growth of InGaAs(P)/InP and (In)GaAs/(Al)GaAs heterostructures and quantum wells. Journal of Electronic Materials, 1994, 23, 225-232.	1.0	13
61	Selective area growth of GaP on Si by MOCVD. Journal of Crystal Growth, 1997, 172, 53-57.	0.7	13
62	Enhanced photoluminescence from GaN grown by lateral confined epitaxy. Journal of Applied Physics, 2002, 91, 1191-1197.	1.1	13
63	Double heterostructure lasers with facets formed by a hybrid wet and reactive-ion etching technique. Journal of Applied Physics, 1985, 57, 2948-2950.	1.1	12
64	Eigenmodes of multiwaveguide structures. Journal of Lightwave Technology, 1990, 8, 1803-1809.	2.7	12
65	Polarization discrimination properties of Bragg-reflection waveguides. Optics Letters, 1990, 15, 1288.	1.7	12
66	X-ray diffraction study of surface acoustic wave device under acoustic excitation. Journal of Applied Physics, 1993, 73, 8647-8649.	1.1	12
67	A Nonvolatile Memory Capacitor Based on a Double Gold Nanocrystal Storing Layer and High-k Dielectric Tunneling and Control Layers. Journal of the Electrochemical Society, 2010, 157, H463.	1.3	12
68	Optical Signature of the Electron Injection in Ga ₂ O ₃ . ECS Journal of Solid State Science and Technology, 2017, 6, Q3049-Q3051.	0.9	12
69	The tilted waveguide semiconductor laser amplifier. Journal of Applied Physics, 1988, 64, 2240-2242.	1.1	11
70	Bragg confinement of carriers in a shallow quantum well. Applied Physics Letters, 1991, 59, 1858-1860.	1.5	11
71	Exciton dimensionality and confinement studied by resonant Raman scattering in GaAs/Al _x Ga _{1-x} As Bragg-confining structures and superlattices. Physical Review B, 1994, 50, 5305-5315.	1.1	11
72	The effect of mass transfer on the photoelectrochemical etching of GaN. Semiconductor Science and Technology, 2002, 17, 510-514.	1.0	11

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73	Propagation loss in GaN-based ridge waveguides. Applied Physics Letters, 2004, 84, 3801-3803.	1.5	11
74	Non-volatile memory transistor based on Pt nanocrystals with negative differential resistance. Journal of Applied Physics, 2012, 112, 024319.	1.1	11
75	The electrostatics of Ta2O5 in Si-based metal oxide semiconductor devices. Journal of Applied Physics, 2013, 113, .	1.1	11
76	Modal analysis of semiconductor lasers with nonplanar mirrors. IEEE Journal of Quantum Electronics, 1986, 22, 463-470.	1.0	10
77	Modal coupling in tilted-mirror waveguide lasers and amplifiers. Optics Letters, 1988, 13, 455.	1.7	10
78	Single-mode stability of DFB lasers with longitudinal Bragg detuning. IEEE Photonics Technology Letters, 1995, 7, 461-463.	1.3	10
79	Optically sensitive devices based on Pt nano particles fabricated by atomic layer deposition and embedded in a dielectric stack. Journal of Applied Physics, 2015, 118, .	1.1	10
80	Selective growth of GaAs/InGaP heterostructures by photo-enhanced organometallic chemical vapor deposition. Journal of Crystal Growth, 1994, 135, 23-30.	0.7	9
81	The Effect of Grain Boundaries on Electrical Conductivity in Thin GaN Layers. Physica Status Solidi A, 1999, 176, 683-687.	1.7	9
82	Cathodoluminescence study of micro-crack-induced stress relief for AlN films on Si(111). Journal of Electronic Materials, 2006, 35, L15-L19.	1.0	9
83	Cross coupled cavity semiconductor laser. Applied Physics Letters, 1988, 52, 767-769.	1.5	8
84	Stranski-Krastanov growth of GaN quantum dots on AlN template by metalorganic chemical vapor deposition. Journal of Applied Physics, 2008, 104, 044307.	1.1	8
85	Optical properties of nonvolatile memory capacitors based on gold nanoparticles and SiO2/HfO2 sublayers. Applied Physics Letters, 2011, 98, .	1.5	8
86	Ultraviolet to near infrared response of optically sensitive nonvolatile memories based on platinum nano-particles and high-k dielectrics on a silicon on insulator substrate. Journal of Applied Physics, 2013, 113, 074503.	1.1	8
87	Effects of Gamma Irradiation on AlGaIn-Based High Electron Mobility Transistors. ECS Journal of Solid State Science and Technology, 2017, 6, S3063-S3066.	0.9	8
88	Efficiency of unstable resonator semiconductor lasers. Electronics Letters, 1985, 21, 821.	0.5	7
89	Lateral coupled cavity semiconductor laser. Applied Physics Letters, 1985, 47, 195-197.	1.5	7
90	Plane-wave spectrum approach for tilted waveguides. Optics Letters, 1988, 13, 1135.	1.7	7

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91	The anomalous composition dependence of the bandgap of GaAsN. <i>Physica Status Solidi A</i> , 2003, 195, 528-531.	1.7	7
92	Multiparameter Statistical Design of Experiments for GaN Growth Optimization. <i>Physica Status Solidi A</i> , 1999, 176, 313-317.	1.7	6
93	Impact of native oxides beneath the gate contact of AlGaIn/GaN HFET devices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 2627-2630.	0.8	6
94	Simulation of x-ray diffraction profiles in imperfect multilayers by direct wave summation. <i>Journal Physics D: Applied Physics</i> , 2005, 38, A239-A244.	1.3	6
95	Dual bipolar resistive switching in the sub-forming regime of HfO ₂ resistive switching devices. <i>Solid-State Electronics</i> , 2015, 111, 238-242.	0.8	6
96	Threshold and saturation effects for photosignals in an amorphous silicon waveguide structure. <i>Applied Physics Letters</i> , 1991, 59, 2660-2662.	1.5	5
97	Low-frequency 1/f noise and persistent transients in AlGaIn-GaN HFETs. <i>IEEE Electron Device Letters</i> , 2005, 26, 345-347.	2.2	5
98	Engineering and impact of surface states on AlGaIn/GaN-based hetero field effect transistors. <i>Semiconductor Science and Technology</i> , 2005, 20, 972-978.	1.0	5
99	Optical and electron beam studies of gamma-irradiated AlGaIn/GaN high-electron-mobility transistors. <i>Radiation Effects and Defects in Solids</i> , 2016, 171, 223-230.	0.4	5
100	Frequency selectivity in laterally coupled semiconductor laser arrays. <i>Optics Letters</i> , 1985, 10, 387.	1.7	4
101	Landau levels of bragg confined electrons and holes. <i>Solid-State Electronics</i> , 1994, 37, 1195-1197.	0.8	4
102	Surface states and persistent photocurrent in a GaN heterostructure field effect transistor. <i>Semiconductor Science and Technology</i> , 2006, 21, 933-937.	1.0	4
103	Tunneling Emitter Bipolar Transistor as a Characterization Tool for Dielectrics and their Interfaces. <i>ECS Transactions</i> , 2011, 41, 325-334.	0.3	4
104	Transmission through abrupt heterojunction potential barriers. <i>IEEE Journal of Quantum Electronics</i> , 1994, 30, 1995-2000.	1.0	3
105	The role of the substrate in photoenhanced metalorganic chemical vapor deposition. <i>Applied Physics Letters</i> , 1995, 66, 296-298.	1.5	3
106	Ordering dependence of pyroelectricity in Ga _x In _{1-x} P. <i>Journal of Applied Physics</i> , 1997, 81, 3729-3731.	1.1	3
107	Vertical versus Lateral GaN Schottky Ultraviolet Detectors and Their Gain Mechanism. <i>Physica Status Solidi A</i> , 2001, 188, 345-349.	1.7	3
108	Microstructure of GaN deposited by lateral confined epitaxy on patterned Si (111). <i>Journal of Electronic Materials</i> , 2002, 31, 88-93.	1.0	3

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109	Incorporation of dielectric layers into the processing of III-nitride-based heterostructure field-effect transistors. Journal of Electronic Materials, 2003, 32, 355-363.	1.0	3
110	The Effect of HfO2 Overlayer on the Thermal Stability of SiGe Substrate. ECS Solid State Letters, 2012, 1, N7-N9.	1.4	3
111	Wavelength dependence of photoenhanced organometallic chemical vapor deposition. Thin Solid Films, 1993, 225, 91-95.	0.8	2
112	Direct measurement of the local intensity modulation response of distributed feedback lasers. IEEE Photonics Technology Letters, 1995, 7, 260-262.	1.3	2
113	The effects of sulfur concentration on the growth rate of selective MOCVD grown InP [for BH LD]. , 0, , .		2
114	Photonic crystal heterostructure waveguides. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 1531-1536.	0.8	2
115	Non-volatile resonance modes of a photonic cavity in diamond produced by fine-tuning. Journal of Applied Physics, 2016, 120, 163107.	1.1	2
116	Saturable nonlinear dielectric waveguide with applications to broad-area semiconductor lasers. Optics Letters, 1987, 12, 953.	1.7	1
117	Eigenvalues of unstable resonator semiconductor lasers. Optics Communications, 1987, 61, 332-336.	1.0	1
118	A kinetic model for photoenhanced organometallic chemical vapour deposition. Semiconductor Science and Technology, 1993, 8, 1094-1100.	1.0	1
119	Quantitative analysis of small amounts of cubic GaN phase in GaN films grown on sapphire. Journal of Electronic Materials, 2000, 29, 457-462.	1.0	1
120	Microstructure of GaN grown by lateral confined epitaxy 2. GaN on patterned sapphire. Journal of Electronic Materials, 2003, 32, 23-28.	1.0	1
121	Reduction of oxygen contamination in AlN. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2541-2544.	0.8	1
122	Photonic crystals (PC) in diamond: Cavity Q - Mode volume influence on the design. , 2007, , .		1
123	Effect of dielectric constant tuning on a photonic cavity frequency and Q-factor. Optics Express, 2010, 18, 15907.	1.7	1
124	Chirped optical heterodyne: A method for real time Fourier processing by coherent detection. Journal of Applied Physics, 1982, 53, 48-50.	1.1	0
125	GaAsN, a novel material for optoelectronics on silicon. , 0, , .		0
126	Surface morphology of MOCVD-grown GaN on sapphire. , 0, , .		0

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127	Lateral and longitudinal coupled waveguides in semiconductor lasers. Optics Letters, 2003, 28, 1939.	1.7	0
128	The atypical temperature evolution of the phonon modes of GaAsN. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 1554-1559.	0.8	0
129	Polarization engineering of InAlN/GaN HFET and the effect on DC and RF performance. , 0, , .		0
130	Ultraviolet to near infrared response of optically triggered nonvolatile memories based on platinum nano-particles and high-k dielectrics on a SOI substrate. , 2012, , .		0
131	Multi-functional optically sensitive metal-insulator-semiconductor devices based on Pt nanoparticles fabricated in-situ with a dielectric stack using atomic layer deposition. , 2015, , .		0