

John F Muth

List of Publications by Year in descending order

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115
papers

6,042
citations

109264

35
h-index

71651

76
g-index

118
all docs

118
docs citations

118
times ranked

7459
citing authors

#	ARTICLE	IF	CITATIONS
1	3D Printing of Free Standing Liquid Metal Microstructures. <i>Advanced Materials</i> , 2013, 25, 5081-5085.	11.1	749
2	Absorption coefficient, energy gap, exciton binding energy, and recombination lifetime of GaN obtained from transmission measurements. <i>Applied Physics Letters</i> , 1997, 71, 2572-2574.	1.5	654
3	Optical and structural properties of epitaxial Mg _x Zn _{1-x} O alloys. <i>Applied Physics Letters</i> , 1999, 75, 3327-3329.	1.5	378
4	Excitonic structure and absorption coefficient measurements of ZnO single crystal epitaxial films deposited by pulsed laser deposition. <i>Journal of Applied Physics</i> , 1999, 85, 7884-7887.	1.1	337
5	Structural, optical and magnetic properties of diluted magnetic semiconducting Zn _{1-x} Mn _x O films. <i>Solid State Communications</i> , 2002, 121, 371-374.	0.9	216
6	Dominance of tunneling current and band filling in InGaN/AlGaIn double heterostructure blue light-emitting diodes. <i>Applied Physics Letters</i> , 1996, 68, 2867-2869.	1.5	209
7	Refractive indices and absorption coefficients of Mg _x Zn _{1-x} O alloys. <i>Applied Physics Letters</i> , 2000, 76, 979-981.	1.5	191
8	A Wearable Hydration Sensor with Conformal Nanowire Electrodes. <i>Advanced Healthcare Materials</i> , 2017, 6, 1601159.	3.9	167
9	Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing. <i>Proceedings of the IEEE</i> , 2015, 103, 665-681.	16.4	166
10	Low-Power Wearable Systems for Continuous Monitoring of Environment and Health for Chronic Respiratory Disease. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2016, 20, 1251-1264.	3.9	159
11	Room temperature pulsed laser deposited indium gallium zinc oxide channel based transparent thin film transistors. <i>Applied Physics Letters</i> , 2007, 90, 123512.	1.5	146
12	Visible-blind GaN Schottky barrier detectors grown on Si(111). <i>Applied Physics Letters</i> , 1998, 72, 551-553.	1.5	123
13	Shallow acceptor complexes in p-type ZnO. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	116
14	Transparent, high mobility InGaZnO thin films deposited by PLD. <i>Thin Solid Films</i> , 2008, 516, 1326-1329.	0.8	115
15	Smart Transmitters and Receivers for Underwater Free-Space Optical Communication. <i>IEEE Journal on Selected Areas in Communications</i> , 2012, 30, 964-974.	9.7	109
16	Simulating channel losses in an underwater optical communication system. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2014, 31, 920.	0.8	109
17	Plasmonic Structures Based on Subwavelength Apertures for Chemical and Biological Sensing Applications. <i>IEEE Sensors Journal</i> , 2008, 8, 942-950.	2.4	92
18	Transparent indium gallium zinc oxide transistor based floating gate memory with platinum nanoparticles in the gate dielectric. <i>Applied Physics Letters</i> , 2009, 94, .	1.5	91

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19	Temporal Response of the Underwater Optical Channel for High-Bandwidth Wireless Laser Communications. IEEE Journal of Oceanic Engineering, 2013, 38, 730-742.	2.1	90
20	Dielectric elastomer based prototype fiber actuators. Sensors and Actuators A: Physical, 2007, 136, 321-328.	2.0	79
21	Fast All-Transparent Integrated Circuits Based on Indium Gallium Zinc Oxide Thin-Film Transistors. IEEE Electron Device Letters, 2010, 31, 317-319.	2.2	77
22	Ordinary and extraordinary refractive indices for Al _x Ga _{1-x} N epitaxial layers. Applied Physics Letters, 1999, 75, 67-69.	1.5	76
23	Anisotropic thermal conductivity of \hat{I}^2 -Ga ₂ O ₃ at elevated temperatures: Effect of Sn and Fe dopants. Journal of Applied Physics, 2017, 121, .	1.1	68
24	Enhanced photoconductivity of ZnO films Co-doped with nitrogen and tellurium. Applied Physics Letters, 2005, 86, 211918.	1.5	66
25	Woven Fabric-Based Electrical Circuits. Textile Reseach Journal, 2004, 74, 913-919.	1.1	63
26	Optical characterization of Eu-doped \hat{I}^2 -Ga ₂ O ₃ thin films. Applied Physics Letters, 2006, 88, 221906.	1.5	60
27	Modulated pulse laser with pseudorandom coding capabilities for underwater ranging, detection, and imaging. Applied Optics, 2011, 50, 6168.	2.1	54
28	Effect of scattering albedo on attenuation and polarization of light underwater. Optics Letters, 2010, 35, 2088.	1.7	52
29	Electrical and mechanical properties of carbon-black-filled, electrospun nanocomposite fiber webs. Journal of Applied Polymer Science, 2007, 104, 2410-2417.	1.3	50
30	Thermal conductivity, dislocation density and GaN device design. Superlattices and Microstructures, 2006, 40, 338-342.	1.4	49
31	An underwater optical communication system implementing Reed-Solomon channel coding. , 2008, , .		49
32	Transparent IGZO-Based Logic Gates. IEEE Electron Device Letters, 2012, 33, 673-675.	2.2	44
33	Plasmon resonances of gold nanoparticles incorporated inside an optical fibre matrix. Nanotechnology, 2006, 17, 2504-2511.	1.3	43
34	5 Mbps optical wireless communication with error correction coding for underwater sensor nodes. , 2010, , .		40
35	VO ₂ based waveguide-mode plasmonic nano-gratings for optical switching. Optics Express, 2015, 23, 5822.	1.7	39
36	Backscatter suppression for underwater modulating retroreflector links using polarization discrimination. Applied Optics, 2009, 48, 328.	2.1	38

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37	Woven Fabric-Based Electrical Circuits. Textile Reseach Journal, 2004, 74, 955-960.	1.1	36
38	A visible transparent electroluminescent europium doped gallium oxide device. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 146, 252-255.	1.7	36
39	Engineering surface plasmon based fiber-optic sensors. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 149, 237-241.	1.7	35
40	High-Throughput Continuous Beam Steering Using Rotating Polarization Gratings. IEEE Photonics Technology Letters, 2010, 22, 200-202.	1.3	35
41	Optical and structural studies of Ge nanocrystals embedded in AlN matrix fabricated by pulsed laser deposition. Applied Physics Letters, 1999, 75, 1222-1224.	1.5	33
42	Growth and characterization of GaN single crystals. Journal of Crystal Growth, 2000, 208, 100-106.	0.7	30
43	X-ray and Raman analyses of GaN produced by ultrahigh-rate magnetron sputter epitaxy. Applied Physics Letters, 2002, 81, 1797-1799.	1.5	30
44	Quantum confinement of E1 and E2 transitions in Ge quantum dots embedded in an Al ₂ O ₃ or an AlN matrix. Applied Physics Letters, 2000, 76, 43-45.	1.5	26
45	Growth of ZnO films on C-plane (0001) sapphire by pulsed electron deposition (PED). Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 119, 210-212.	1.7	26
46	Optimal composition of europium gallium oxide thin films for device applications. Journal of Applied Physics, 2010, 107, .	1.1	26
47	Optical metastability in bulk GaN single crystals. Applied Physics Letters, 1997, 71, 455-457.	1.5	25
48	Optical metastability of subband gap (2.2 eV) yellow luminescence in GaN. Applied Physics Letters, 2001, 79, 281-283.	1.5	23
49	High performance transparent thin film transistors based on indium gallium zinc oxide as the channel material. , 2007, , .		22
50	Effect of growth temperature on point defect density of unintentionally doped GaN grown by metalorganic chemical vapor deposition and hydride vapor phase epitaxy. Journal of Applied Physics, 1999, 86, 281-288.	1.1	21
51	Underwater optical communication using software defined radio over LED and laser based links. , 2011, , .		21
52	Enhanced Quench Propagation in $\text{Bi}_{2}\text{Sr}_{2}\text{CaCu}_{2}\text{O}_{x}$ and $\text{YBa}_{2}\text{Cu}_{3}\text{O}_{7-x}$ Coils via a Nanoscale Doped-Titania-Based Thermally Conducting Electrical Insulator. IEEE Transactions on Applied Superconductivity, 2013, 23, 7201311-7201311.	1.1	20
53	Planar gallium nitride ultraviolet optical modulator. Applied Physics Letters, 2003, 83, 2748-2750.	1.5	18
54	Development of Woven Fabric-based Electrical Circuits. Materials Research Society Symposia Proceedings, 2002, 736, 1.	0.1	17

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55	Gallium nitride surface quantum wells. Applied Physics Letters, 2005, 87, 192117.	1.5	17
56	Origins of Parasitic Emissions from 353 nm AlGaIn-based Ultraviolet Light Emitting Diodes over SiC Substrates. Japanese Journal of Applied Physics, 2006, 45, 4083-4086.	0.8	17
57	Ultraviolet-visible metal-semiconductor-metal photodetectors fabricated from In _x Ga _{1-x} N (0 ≤ x ≤ 0.13). Journal of Electronic Materials, 2002, 31, L1-L6.	1.0	16
58	An Amorphous Indium-Gallium-Zinc-Oxide Active Matrix Electroluminescent Pixel. Journal of Display Technology, 2009, 5, 438-445.	1.3	16
59	Effect of Carrier Blocking Layers on the Emission Characteristics of AlGaIn-based Ultraviolet Light Emitting Diodes. Japanese Journal of Applied Physics, 2005, 44, 7254-7259.	0.8	16
60	Electron-beam-induced optical memory effects in GaN. Applied Physics Letters, 2002, 80, 2675-2677.	1.5	14
61	A polarization shift-keying system for underwater optical communications. , 2009, , .		14
62	Incorporation of vanadium oxide films in optical fibers for temperature sensing and optical switching applications. Optical Materials Express, 2014, 4, 1128.	1.6	14
63	Thermal conductivity of bulk and thin film [beta]-Ga ₂ O ₃ measured by the 3[omega] technique. , 2018, , .		14
64	Reconfigurable optical properties in InGaIn/GaN quantum wells. Applied Physics Letters, 1997, 71, 1455-1457.	1.5	13
65	Tunable photoluminescence of polymer doped with PbSe quantum dots. Materials Science and Engineering C, 2007, 27, 1078-1081.	3.8	13
66	A MEMS blue/green retroreflecting modulator for underwater optical communications. , 2010, , .		13
67	Wide Band Gap Semiconductor Technology for Energy Efficiency. Materials Science Forum, 0, 858, 797-802.	0.3	13
68	Dielectric and conducting properties of unintentionally and Sn-doped In ₂ O ₃ studied by terahertz spectroscopy. Journal of Applied Physics, 2020, 127, .	1.1	13
69	Observation of lasing from photopumped InGaIn/GaN heterostructures in an edge emitting configuration. Journal of Applied Physics, 1997, 81, 2021-2023.	1.1	12
70	Photoluminescence study of ZnO films codoped with nitrogen and tellurium. Journal of Applied Physics, 2006, 100, 123102.	1.1	12
71	Effect of Growth Pressure on PLD-Deposited Gallium Oxide Thin Films for Deep-UV Photodetectors. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900098.	0.8	12
72	Optical data storage in InGaIn/GaN heterostructures. Applied Physics Letters, 1997, 71, 1382-1384.	1.5	11

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73	Optical Properties of II-IV-N ₂ Semiconductors. Materials Research Society Symposia Proceedings, 2004, 831, 218.	0.1	11
74	In-line fiber optic structures for environmental sensing applications. Optics Letters, 2006, 31, 1391.	1.7	11
75	Phonon-boundary scattering and thermal transport in Al _x Ga _{1-x} N: Effect of layer thickness. Applied Physics Letters, 2020, 117, .	1.5	11
76	A spatial diversity system to measure optical fading in an underwater communications channel. , 2009, , .		10
77	Spectra and energy levels of Eu ³⁺ in cubic phase Gd ₂ O ₃ . Physica Status Solidi (B): Basic Research, 2010, 247, 1807-1813.	0.7	10
78	Refractive indices of ZnSiN ₂ on r-plane sapphire. Applied Physics Letters, 2005, 86, 121906.	1.5	9
79	Thermal conductivity of bulk GaN grown by HVPE: Effect of Si doping. Physica Status Solidi (B): Basic Research, 2017, 254, 1600713.	0.7	9
80	Fabrication of a GaN p/n lateral polarity junction by polar doping selectivity. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1977-1979.	0.8	8
81	Electrotextiles - Present and Future. Materials Research Society Symposia Proceedings, 2002, 736, 1.	0.1	7
82	Modulating indium gallium zinc oxide transistor characteristics with discrete redox states of molecules embedded in the gate dielectric. Applied Physics Letters, 2008, 92, 223304.	1.5	7
83	Lasercomm demonstration during US navy trident warrior 06 forcenet exercise. , 2007, , .		6
84	Underwater optical modulating retro-reflector links. , 2010, , .		6
85	Optical nano-textile sensors based on the incorporation of semiconducting and metallic nanoparticles into optical fibers. Materials Research Society Symposia Proceedings, 2006, 920, 1.	0.1	5
86	Patterned Hybrid Nanohole Array Surfaces for Cell Adhesion and Migration. Langmuir, 2009, 25, 11236-11238.	1.6	5
87	Fabrication of Nanoshell Arrays Using Directed Assembly of Nanospheres. IEEE Sensors Journal, 2010, 10, 617-620.	2.4	5
88	A modulated pulse laser for underwater detection, ranging, imaging, and communications. , 2012, , .		5
89	An Optical-Fiber-Based Airborne Particle Sensor. Sensors, 2017, 17, 2110.	2.1	5
90	Growth and fabrication of AlGaIn-based ultraviolet light emitting diodes on 6H-SiC(0001) substrates and the effect of carrier-blocking layers on their emission characteristics. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 127, 169-179.	1.7	4

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91	Optical Transmission Measurements on MOCVD Grown GaMnN Films on Sapphire. Materials Research Society Symposia Proceedings, 2006, 955, 1.	0.1	3
92	Effect of oxygen pressure on the structure and luminescence of Eu-doped Gd_2O_3 thin films. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1949-1953.	0.8	2
93	High Mobility Indium Gallium Zinc Oxide for Transparent Conductive Contacts and Thin Film Transistors. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
94	An Amorphous IGZO Rare Earth Doped Luminescent Phosphor. Materials Research Society Symposia Proceedings, 2008, 1111, 1.	0.1	1
95	Custom visible to infrared, multi-wavelength light emitters for pulse oximeter applications. , 2012, 2012, 1184-7.		1
96	A MEMS infrared thermopile with phononic crystal structures and carbon nanotube absorption layer. , 2016, , .		1
97	Hydration Sensing: A Wearable Hydration Sensor with Conformal Nanowire Electrodes (Adv.) Tj ETQq1 1 0.784314,rgBT /Overlock 10	3.9	1
98	Multidisciplinary Undergraduate Minor Program in Nano-Science and Technology at North Carolina State University. , 0, , .		1
99	Improving interconnect characteristics of thin film MEMS processes. , 2001, , .		0
100	Refractive Indices of A-plane GaN Thin Films on R-plane Sapphire. Materials Research Society Symposia Proceedings, 2005, 892, 526.	0.1	0
101	Surface Recombination and Vacuum/GaN/AlGaN Surface Quantum Wells. Materials Research Society Symposia Proceedings, 2005, 892, 508.	0.1	0
102	Origins of Parasitic Emissions from 353 nm AlGaN-based UV LEDs over SiC Substrates. Materials Research Society Symposia Proceedings, 2005, 892, 154.	0.1	0
103	Annealing and Persistent Photoconductivity Effects in Amorphous and Crystalline Vanadium Oxide Films. Materials Research Society Symposia Proceedings, 2006, 928, 1.	0.1	0
104	Electrothermal Wrinkling of Silicon Nitride Membrane Mirror in a Fabry-Perot Cavity. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
105	Directed Self-Assembly of Polystyrene Spheres for Biophotonics and Surface Plasmon Based Sensors. , 2007, , .		0
106	Controlling the Wrinkling of the Bilayer Thin Films Electrothermally. Materials Research Society Symposia Proceedings, 2008, 1139, 1.	0.1	0
107	Optically Controlled Optical Modulator using a Self-Assembled 2D Plasmonic Crystal. Materials Research Society Symposia Proceedings, 2010, 1248, 1122.	0.1	0
108	Amorphous InGaZnO logic gates for transparent electronics. , 2010, , .		0

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109	Custom multi-wavelength monolithic optical source applied to sensing of physiological and biometrical parameters. , 2012, , .		0
110	Cylindrical microscale plasma generation with a partially anodized aluminum oxide wire and transparent ITO electrode. , 2012, , .		0
111	Expanded Thermo-chromic Color Changes in VO ₂ Thin Film Devices Using Structured Plasmonic Metal Layers. Materials Research Society Symposia Proceedings, 2013, 1494, 171-177.	0.1	0
112	Improved Switching Response of VO ₂ Devices Deposited on Silicon Nitride Membranes. Materials Research Society Symposia Proceedings, 2013, 1494, 321-326.	0.1	0
113	Metal oxide gas sensing characterization by low frequency noise spectroscopy. , 2016, , .		0
114	Optical Properties of High Mole-Fraction Europium Doped Beta Gallium Oxide. , 2008, , .		0
115	Designing and Testing a Closed-loop Magnetically Actuated Laser Scanning System for Tissue Ablation. Journal of Medical Devices, Transactions of the ASME, 2021, , .	0.4	0