

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
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118
all docs

118
docs citations

118
times ranked

7459
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Dielectric and conducting properties of unintentionally and Sn-doped In^{2+} -Ga $_{2}\text{O}_3$ studied by terahertz spectroscopy. Journal of Applied Physics, 2020, 127, .	1.1	13
3	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
4	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
5	Thermal conductivity of bulk and thin film β -Ga $_{2}\text{O}_3$ measured by the 3ω technique. , 2018, , .		14
6	A Wearable Hydration Sensor with Conformal Nanowire Electrodes. Advanced Healthcare Materials, 2017, 6, 1601159.	3.9	167
7	Anisotropic thermal conductivity of In^{2+} -Ga $_{2}\text{O}_3$ at elevated temperatures: Effect of Sn and Fe dopants. Journal of Applied Physics, 2017, 121, .	1.1	68
8	Hydration Sensing: A Wearable Hydration Sensor with Conformal Nanowire Electrodes (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462	3.9	1
9	Thermal conductivity of bulk GaN grown by HVPE: Effect of Si doping. Physica Status Solidi (B): Basic Research, 2017, 254, 1600713.	0.7	9
10	An Optical-Fiber-Based Airborne Particle Sensor. Sensors, 2017, 17, 2110.	2.1	5
11	Metal oxide gas sensing characterization by low frequency noise spectroscopy. , 2016, , .		0
12	A MEMS infrared thermopile with phononic crystal structures and carbon nanotube absorption layer. , 2016, , .		1
13	Low-Power Wearable Systems for Continuous Monitoring of Environment and Health for Chronic Respiratory Disease. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 1251-1264.	3.9	159
14	Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing. Proceedings of the IEEE, 2015, 103, 665-681.	16.4	166
15	VO $_2$ based waveguide-mode plasmonic nano-gratings for optical switching. Optics Express, 2015, 23, 5822.	1.7	39
16	Incorporation of vanadium oxide films in optical fibers for temperature sensing and optical switching applications. Optical Materials Express, 2014, 4, 1128.	1.6	14
17	Simulating channel losses in an underwater optical communication system. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2014, 31, 920.	0.8	109
18	3D Printing of Free Standing Liquid Metal Microstructures. Advanced Materials, 2013, 25, 5081-5085.	11.1	749

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19	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
20	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
21	Shallow acceptor complexes in p-type ZnO. Applied Physics Letters, 2013, 102, .	1.5	116
22	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
23	Improved Switching Response of VO ₂ Devices Deposited on Silicon Nitride Membranes. Materials Research Society Symposia Proceedings, 2013, 1494, 321-326.	0.1	0
24	Custom multi-wavelength monolithic optical source applied to sensing of physiological and biometrical parameters. , 2012, , .		0
25	Cylindrical microscale plasma generation with a partially anodized aluminum oxide wire and transparent ITO electrode. , 2012, , .		0
26	Smart Transmitters and Receivers for Underwater Free-Space Optical Communication. IEEE Journal on Selected Areas in Communications, 2012, 30, 964-974.	9.7	109
27	A modulated pulse laser for underwater detection, ranging, imaging, and communications. , 2012, , .		5
28	Custom visible to infrared, multi-wavelength light emitters for pulse oximeter applications. , 2012, 2012, 1184-7.		1
29	Transparent IGZO-Based Logic Gates. IEEE Electron Device Letters, 2012, 33, 673-675.	2.2	44
30	Underwater optical communication using software defined radio over LED and laser based links. , 2011, , .		21
31	Modulated pulse laser with pseudorandom coding capabilities for underwater ranging, detection, and imaging. Applied Optics, 2011, 50, 6168.	2.1	54
32	Effect of oxygen pressure on the structure and luminescence of Eu-doped $\text{Gd}_{2}\text{O}_{3}$ thin films. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1949-1953.	0.8	2
33	Spectra and energy levels of Eu ³⁺ in cubic phase $\text{Gd}_{2}\text{O}_{3}$. Physica Status Solidi (B): Basic Research, 2010, 247, 1807-1813.	0.7	10
34	Optically Controlled Optical Modulator using a Self-Assembled 2D Plasmonic Crystal. Materials Research Society Symposia Proceedings, 2010, 1248, 1122.	0.1	0
35	Fabrication of Nanoshell Arrays Using Directed Assembly of Nanospheres. IEEE Sensors Journal, 2010, 10, 617-620.	2.4	5
36	Optimal composition of europium gallium oxide thin films for device applications. Journal of Applied Physics, 2010, 107, .	1.1	26

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37	5 Mbps optical wireless communication with error correction coding for underwater sensor nodes. , 2010, , .		40
38	High-Throughput Continuous Beam Steering Using Rotating Polarization Gratings. IEEE Photonics Technology Letters, 2010, 22, 200-202.	1.3	35
39	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
40	Effect of scattering albedo on attenuation and polarization of light underwater. Optics Letters, 2010, 35, 2088.	1.7	52
41	A MEMS blue/green retroreflecting modulator for underwater optical communications. , 2010, , .		13
42	Amorphous InGaZnO logic gates for transparent electronics. , 2010, , .		0
43	Underwater optical modulating retro-reflector links. , 2010, , .		6
44	Patterned Hybrid Nanohole Array Surfaces for Cell Adhesion and Migration. Langmuir, 2009, 25, 11236-11238.	1.6	5
45	Backscatter suppression for underwater modulating retroreflector links using polarization discrimination. Applied Optics, 2009, 48, 328.	2.1	38
46	An Amorphous Indiumâ€“Galliumâ€“Zincâ€“Oxide Active Matrix Electroluminescent Pixel. Journal of Display Technology, 2009, 5, 438-445.	1.3	16
47	A spatial diversity system to measure optical fading in an underwater communications channel. , 2009, , .		10
48	Transparent indium gallium zinc oxide transistor based floating gate memory with platinum nanoparticles in the gate dielectric. Applied Physics Letters, 2009, 94, .	1.5	91
49	A polarization shift-keying system for underwater optical communications. , 2009, , .		14
50	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
51	Transparent, high mobility InGaZnO thin films deposited by PLD. Thin Solid Films, 2008, 516, 1326-1329.	0.8	115
52	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
53	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
54	Plasmonic Structures Based on Subwavelength Apertures for Chemical and Biological Sensing Applications. IEEE Sensors Journal, 2008, 8, 942-950.	2.4	92

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55	An underwater optical communication system implementing Reed-Solomon channel coding. , 2008, , .		49
56	An Amorphous IGZO Rare Earth Doped Luminescent Phosphor. Materials Research Society Symposia Proceedings, 2008, 1111, 1.	0.1	1
57	Controlling the Wrinkling of the Bilayer Thin Films Electrothermally. Materials Research Society Symposia Proceedings, 2008, 1139, 1.	0.1	0
58	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
59	Optical Properties of High Mole-Fraction Europium Doped Beta Gallium Oxide. , 2008, , .		0
60	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
61	Room temperature pulsed laser deposited indium gallium zinc oxide channel based transparent thin film transistors. Applied Physics Letters, 2007, 90, 123512.	1.5	146
62	High performance transparent thin film transistors based on indium gallium zinc oxide as the channel material. , 2007, , .		22
63	Directed Self-Assembly of Polystyrene Spheres for Biophotonics and Surface Plasmon Based Sensors. , 2007, , .		0
64	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
65	Lasercomm demonstration during US navy trident warrior O6 forcenet exercise. , 2007, , .		6
66	Electrical and mechanical properties of carbon-black-filled, electrospun nanocomposite fiber webs. Journal of Applied Polymer Science, 2007, 104, 2410-2417.	1.3	50
67	Tunable photoluminescence of polymer doped with PbSe quantum dots. Materials Science and Engineering C, 2007, 27, 1078-1081.	3.8	13
68	Dielectric elastomer based prototype fiber actuators. Sensors and Actuators A: Physical, 2007, 136, 321-328.	2.0	79
69	Photoluminescence study of ZnO films codoped with nitrogen and tellurium. Journal of Applied Physics, 2006, 100, 123102.	1.1	12
70	Plasmon resonances of gold nanoparticles incorporated inside an optical fibre matrix. Nanotechnology, 2006, 17, 2504-2511.	1.3	43
71	In-line fiber optic structures for environmental sensing applications. Optics Letters, 2006, 31, 1391.	1.7	11
72	Thermal conductivity, dislocation density and GaN device design. Superlattices and Microstructures, 2006, 40, 338-342.	1.4	49

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73	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
74	Annealing and Persistent Photoconductivity Effects in Amorphous and Crystalline Vanadium Oxide Films. Materials Research Society Symposia Proceedings, 2006, 928, 1.	0.1	0
75	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
76	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
77	Optical Transmission Measurements on MOCVD Grown GaMnN Films on Sapphire. Materials Research Society Symposia Proceedings, 2006, 955, 1.	0.1	3
78	Optical characterization of Eu-doped In^{2+} -Ga ₂ O ₃ thin films. Applied Physics Letters, 2006, 88, 221906.	1.5	60
79	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
80	Refractive Indices of A-plane GaN Thin Films on R-plane Sapphire. Materials Research Society Symposia Proceedings, 2005, 892, 526.	0.1	0
81	Surface Recombination and Vacuum/GaN/AlGaIn Surface Quantum Wells. Materials Research Society Symposia Proceedings, 2005, 892, 508.	0.1	0
82	Refractive indices of ZnSiN ₂ on r-plane sapphire. Applied Physics Letters, 2005, 86, 121906.	1.5	9
83	Origins of Parasitic Emissions from 353 nm AlGaIn-based UV LEDs over SiC Substrates. Materials Research Society Symposia Proceedings, 2005, 892, 154.	0.1	0
84	Enhanced photoconductivity of ZnO films Co-doped with nitrogen and tellurium. Applied Physics Letters, 2005, 86, 211918.	1.5	66
85	Gallium nitride surface quantum wells. Applied Physics Letters, 2005, 87, 192117.	1.5	17
86	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
87	Optical Properties of II-IV-N ₂ Semiconductors. Materials Research Society Symposia Proceedings, 2004, 831, 218.	0.1	11
88	Woven Fabric-Based Electrical Circuits. Textile Research Journal, 2004, 74, 913-919.	1.1	63
89	Woven Fabric-Based Electrical Circuits. Textile Research Journal, 2004, 74, 955-960.	1.1	36
90	Planar gallium nitride ultraviolet optical modulator. Applied Physics Letters, 2003, 83, 2748-2750.	1.5	18

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91	Electron-beam-induced optical memory effects in GaN. Applied Physics Letters, 2002, 80, 2675-2677.	1.5	14
92	X-ray and Raman analyses of GaN produced by ultrahigh-rate magnetron sputter epitaxy. Applied Physics Letters, 2002, 81, 1797-1799.	1.5	30
93	Development of Woven Fabric-based Electrical Circuits. Materials Research Society Symposia Proceedings, 2002, 736, 1.	0.1	17
94	Electrotextiles - Present and Future. Materials Research Society Symposia Proceedings, 2002, 736, 1.	0.1	7
95	Ultraviolet-visible metal-semiconductor-metal photodetectors fabricated from $\text{In}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 0.13$). Journal of Electronic Materials, 2002, 31, L1-L6.	1.0	16
96	Structural, optical and magnetic properties of diluted magnetic semiconducting $\text{Zn}_{1-x}\text{Mn}_x\text{O}$ films. Solid State Communications, 2002, 121, 371-374.	0.9	216
97	Improving interconnect characteristics of thin film MEMS processes. , 2001, , .		0
98	Optical metastability of subband gap (2.2 eV) yellow luminescence in GaN. Applied Physics Letters, 2001, 79, 281-283.	1.5	23
99	Growth and characterization of GaN single crystals. Journal of Crystal Growth, 2000, 208, 100-106.	0.7	30
100	Refractive indices and absorption coefficients of $\text{Mg}_x\text{Zn}_{1-x}\text{O}$ alloys. Applied Physics Letters, 2000, 76, 979-981.	1.5	191
101	Quantum confinement of E1 and E2 transitions in Ge quantum dots embedded in an Al_2O_3 or an AlN matrix. Applied Physics Letters, 2000, 76, 43-45.	1.5	26
102	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
103	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
104	Optical and structural properties of epitaxial $\text{Mg}_x\text{Zn}_{1-x}\text{O}$ alloys. Applied Physics Letters, 1999, 75, 3327-3329.	1.5	378
105	Ordinary and extraordinary refractive indices for $\text{Al}_x\text{Ga}_{1-x}\text{N}$ epitaxial layers. Applied Physics Letters, 1999, 75, 67-69.	1.5	76
106	Excitonic structure and absorption coefficient measurements of ZnO single crystal epitaxial films deposited by pulsed laser deposition. Journal of Applied Physics, 1999, 85, 7884-7887.	1.1	337
107	Visible-blind GaN Schottky barrier detectors grown on Si(111). Applied Physics Letters, 1998, 72, 551-553.	1.5	123
108	Reconfigurable optical properties in InGaN/GaN quantum wells. Applied Physics Letters, 1997, 71, 1455-1457.	1.5	13

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109	Observation of lasing from photopumped InGaN/GaN heterostructures in an edge emitting configuration. Journal of Applied Physics, 1997, 81, 2021-2023.	1.1	12
110	Optical data storage in InGaN/GaN heterostructures. Applied Physics Letters, 1997, 71, 1382-1384.	1.5	11
111	Optical metastability in bulk GaN single crystals. Applied Physics Letters, 1997, 71, 455-457.	1.5	25
112	Absorption coefficient, energy gap, exciton binding energy, and recombination lifetime of GaN obtained from transmission measurements. Applied Physics Letters, 1997, 71, 2572-2574.	1.5	654
113	Dominance of tunneling current and band filling in InGaN/AlGaIn double heterostructure blue light-emitting diodes. Applied Physics Letters, 1996, 68, 2867-2869.	1.5	209
114	Wide Band Gap Semiconductor Technology for Energy Efficiency. Materials Science Forum, 0, 858, 797-802.	0.3	13
115	Multidisciplinary Undergraduate Minor Program in Nano-Science and Technology at North Carolina State University. , 0, , .		1