

Muhammad A Butt

List of Publications by Year in descending order

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110
papers

2,383
citations

186209

28
h-index

265120

42
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116
all docs

116
docs citations

116
times ranked

785
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasmonic sensors based on Metal-insulator-metal waveguides for refractive index sensing applications: A brief review. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 117, 113798.	1.3	158
2	Bessel Beam: Significance and Applications—A Progressive Review. <i>Micromachines</i> , 2020, 11, 997.	1.4	101
3	Plasmonic refractive index sensor based on metal-insulator-metal waveguides with high sensitivity. <i>Journal of Modern Optics</i> , 2019, 66, 1038-1043.	0.6	88
4	Hybrid plasmonic waveguide-assisted Metal-insulator-Metal ring resonator for refractive index sensing. <i>Journal of Modern Optics</i> , 2018, 65, 1135-1140.	0.6	79
5	Recent advances in photonic crystal optical devices: A review. <i>Optics and Laser Technology</i> , 2021, 142, 107265.	2.2	78
6	Silicon on silicon dioxide slot waveguide evanescent field gas absorption sensor. <i>Journal of Modern Optics</i> , 2018, 65, 174-178.	0.6	65
7	Carbon Dioxide Gas Sensor Based on Polyhexamethylene Biguanide Polymer Deposited on Silicon Nano-Cylinders Metasurface. <i>Sensors</i> , 2021, 21, 378.	2.1	58
8	An evanescent field absorption gas sensor at mid-IR 3.39 μ m wavelength. <i>Journal of Modern Optics</i> , 2017, 64, 1892-1897.	0.6	52
9	Plasmonics: A Necessity in the Field of Sensing-A Review (Invited). <i>Fiber and Integrated Optics</i> , 2021, 40, 14-47.	1.7	52
10	Modern Types of Axicons: New Functions and Applications. <i>Sensors</i> , 2021, 21, 6690.	2.1	52
11	Highly Sensitive Refractive Index Sensor Based on Plasmonic Bow Tie Configuration. <i>Photonic Sensors</i> , 2020, 10, 223-232.	2.5	51
12	Highly sensitive refractive index sensor based on hybrid plasmonic waveguide microring resonator. <i>Waves in Random and Complex Media</i> , 2020, 30, 292-299.	1.6	48
13	An array of nano-dots loaded MIM square ring resonator with enhanced sensitivity at NIR wavelength range. <i>Optik</i> , 2020, 202, 163655.	1.4	48
14	Subwavelength Grating Double Slot Waveguide Racetrack Ring Resonator for Refractive Index Sensing Application. <i>Sensors</i> , 2020, 20, 3416.	2.1	47
15	Metal-insulator-metal nano square ring resonator for gas sensing applications. <i>Waves in Random and Complex Media</i> , 2021, 31, 146-156.	1.6	46
16	Recent Advances in Generation and Detection of Orbital Angular Momentum Optical Beams—A Review. <i>Sensors</i> , 2021, 21, 4988.	2.1	46
17	Silicon photonic devices realized on refractive index engineered subwavelength grating waveguides-A review. <i>Optics and Laser Technology</i> , 2021, 138, 106863.	2.2	42
18	Evanescent Field Ratio Enhancement of a Modified Ridge Waveguide Structure for Methane Gas Sensing Application. <i>IEEE Sensors Journal</i> , 2020, 20, 8469-8476.	2.4	40

#	ARTICLE	IF	CITATIONS
19	Plasmonic sensor based on metal-insulator-metal waveguide square ring cavity filled with functional material for the detection of CO ₂ gas. Optics Express, 2021, 29, 16584.	1.7	39
20	A Numerical Investigation of a Plasmonic Sensor Based on a Metal-Insulator-Metal Waveguide for Simultaneous Detection of Biological Analytes and Ambient Temperature. Nanomaterials, 2021, 11, 2551.	1.9	37
21	A plasmonic colour filter and refractive index sensor applications based on metal-insulator-metal square ring cavities. Laser Physics, 2020, 30, 016205.	0.6	36
22	Spatial-Light-Modulator-Based Multichannel Data Transmission by Vortex Beams of Various Orders. Sensors, 2021, 21, 2988.	2.1	36
23	Nanodots decorated asymmetric metal-insulator-metal waveguide resonator structure based on Fano resonances for refractive index sensing application. Laser Physics, 2020, 30, 076204.	0.6	33
24	A multichannel metallic dual nano-wall square split-ring resonator: design analysis and applications. Laser Physics Letters, 2019, 16, 126201.	0.6	32
25	Recent Advances in Wearable Optical Sensor Automation Powered by Battery versus Skin-like Battery-Free Devices for Personal Healthcare—A Review. Nanomaterials, 2022, 12, 334.	1.9	32
26	Modelling of Rib channel waveguides based on silicon-on-sapphire at 4.67 μ m wavelength for evanescent field gas absorption sensor. Optik, 2018, 168, 692-697.	1.4	29
27	A highly sensitive design of subwavelength grating double-slot waveguide microring resonator. Laser Physics Letters, 2020, 17, 076201.	0.6	29
28	Revolution in Flexible Wearable Electronics for Temperature and Pressure Monitoring—A Review. Electronics (Switzerland), 2022, 11, 716.	1.8	29
29	Optical Computing: Status and Perspectives. Nanomaterials, 2022, 12, 2171.	1.9	28
30	State-of-the-Art Optical Devices for Biomedical Sensing Applications—A Review. Electronics (Switzerland), 2021, 10, 973.	1.8	27
31	Hybrid metasurface perfect absorbers for temperature and biosensing applications. Optical Materials, 2022, 123, 111906.	1.7	26
32	Enhancing the sensitivity of a standard plasmonic MIM square ring resonator by incorporating the Nano-dots in the cavity. Photonics Letters of Poland, 2020, 12, 1.	0.2	25
33	Sensitivity Enhancement of Silicon Strip Waveguide Ring Resonator by Incorporating a Thin Metal Film. IEEE Sensors Journal, 2020, 20, 1355-1362.	2.4	24
34	Ultra-short lossless plasmonic power splitter design based on metal-insulator-metal waveguide. Laser Physics, 2020, 30, 016201.	0.6	23
35	Low-repetition rate femtosecond laser writing of optical waveguides in KTP crystals: analysis of anisotropic refractive index changes. Optics Express, 2015, 23, 15343.	1.7	22
36	Numerical analysis of a miniaturized design of a Fabry-Perot resonator based on silicon strip and slot waveguides for bio-sensing applications. Journal of Modern Optics, 2019, 66, 1172-1178.	0.6	22

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37	Modal Characteristics of Refractive Index Engineered Hybrid Plasmonic Waveguide. IEEE Sensors Journal, 2020, 20, 9779-9786.	2.4	22
38	Thermal effect on the optical and morphological properties of TiO ₂ thin films obtained by annealing a Ti metal layer. Journal of the Korean Physical Society, 2017, 70, 169-172.	0.3	21
39	Label-free detection of ambient refractive index based on plasmonic Bragg gratings embedded resonator cavity sensor. Journal of Modern Optics, 2019, 66, 1920-1925.	0.6	21
40	Device performance of standard strip, slot and hybrid plasmonic $\frac{1}{4}$ -ring resonator: a comparative study. Waves in Random and Complex Media, 2021, 31, 2397-2406.	1.6	21
41	Ultrashort inverted tapered silicon ridge-to-slot waveguide coupler at 1.55 μm and 3.392 μm wavelength. Applied Optics, 2020, 59, 7821.	0.9	21
42	Numerical investigation of a small footprint plasmonic Bragg grating structure with a high extinction ratio. Photonics Letters of Poland, 2020, 12, 82.	0.2	20
43	A compact design of a modified Bragg grating filter based on a metal-insulator-metal waveguide for filtering and temperature sensing applications. Optik, 2022, 251, 168466.	1.4	20
44	Polarization-Insensitive Hybrid Plasmonic Waveguide Design for Evanescent Field Absorption Gas Sensor. Photonic Sensors, 2021, 11, 279-290.	2.5	19
45	2D-Photonic crystal heterostructures for the realization of compact photonic devices. Photonics and Nanostructures - Fundamentals and Applications, 2021, 44, 100903.	1.0	19
46	Simple and Improved Plasmonic Sensor Configuration Established on MIM Waveguide for Enhanced Sensing Performance. Plasmonics, 2022, 17, 1305-1314.	1.8	19
47	Fabrication of Y-Splitters and Mach-Zehnder Structures on (Yb,Nb):RbTiOPO ₄ Epitaxial Layers by Reactive Ion Etching. Journal of Lightwave Technology, 2015, 33, 1863-1871.	2.7	18
48	Metal-Insulator-Metal Waveguide-Based Racetrack Integrated Circular Cavity for Refractive Index Sensing Application. Electronics (Switzerland), 2021, 10, 1419.	1.8	18
49	Numerical investigation of metasurface narrowband perfect absorber and a plasmonic sensor for a near-infrared wavelength range. Journal of Optics (United Kingdom), 2021, 23, 065102.	1.0	17
50	Advancement in Silicon Integrated Photonics Technologies for Sensing Applications in Near-Infrared and Mid-Infrared Region: A Review. Photonics, 2022, 9, 331.	0.9	17
51	Advances in Waveguide Bragg Grating Structures, Platforms, and Applications: An Up-to-Date Appraisal. Biosensors, 2022, 12, 497.	2.3	17
52	Compact design of a polarization beam splitter based on silicon-on-insulator platform. Laser Physics, 2018, 28, 116202.	0.6	16
53	Two-dimensional photonic crystal heterostructure for light steering and TM-polarization maintaining applications. Laser Physics, 2021, 31, 036201.	0.6	16
54	A serially cascaded micro-ring resonator for simultaneous detection of multiple analytes. Laser Physics, 2019, 29, 046208.	0.6	15

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55	Modelling of multilayer dielectric filters based on TiO ₂ /SiO ₂ and TiO ₂ /MgF ₂ for fluorescence microscopy imaging. <i>Computer Optics</i> , 2016, 40, 674-678.	1.3	15
56	Narrowband perfect metasurface absorber based on impedance matching. <i>Photonics Letters of Poland</i> , 2020, 12, 88.	0.2	15
57	One-dimensional photonic crystal waveguide based on SOI platform for transverse magnetic polarization-maintaining devices. <i>Photonics Letters of Poland</i> , 2020, 12, 85.	0.2	15
58	Fabrication and Investigation of Spectral Properties of a Dielectric Slab Waveguide Photonic Crystal Based Fano-Filter. <i>Crystals</i> , 2022, 12, 226.	1.0	15
59	Optical Thin Films Fabrication Techniques—Towards a Low-Cost Solution for the Integrated Photonic Platform: A Review of the Current Status. <i>Materials</i> , 2022, 15, 4591.	1.3	15
60	Channel waveguides and Mach-Zehnder structures on RbTiOPO ₄ by Cs ⁺ ion exchange. <i>Optical Materials Express</i> , 2015, 5, 1183.	1.6	14
61	Plasmonic refractive index sensor based on M-I-M square ring resonator. , 2018, , .		14
62	A T-shaped 1:1 balanced optical power splitter based on 90° bend asymmetric vertical slot waveguides. <i>Laser Physics</i> , 2019, 29, 046207.	0.6	14
63	Spectral characteristics of broad band-rejection filter based on Bragg grating, one-dimensional photonic crystal, and subwavelength grating waveguide. <i>Physica Scripta</i> , 2021, 96, 055505.	1.2	13
64	A compact design of a balanced 1:4 optical power splitter based on silicon on insulator slot waveguides. <i>Computer Optics</i> , 2018, 42, 244-247.	1.3	11
65	Subwavelength Grating Waveguide Structures Proposed on the Low-Cost Silica-Titania Platform for Optical Filtering and Refractive Index Sensing Applications. <i>International Journal of Molecular Sciences</i> , 2022, 23, 6614.	1.8	11
66	Generation of Complex Transverse Energy Flow Distributions with Autofocusing Optical Vortex Beams. <i>Micromachines</i> , 2021, 12, 297.	1.4	10
67	Mode Sensitivity Exploration of Silica-Titania Waveguide for Refractive Index Sensing Applications. <i>Sensors</i> , 2021, 21, 7452.	2.1	10
68	A Miniaturized FSS-Based Eight-Element MIMO Antenna Array for Off/On-Body WBAN Telemetry Applications. <i>Electronics (Switzerland)</i> , 2022, 11, 522.	1.8	9
69	Development of a low-cost silica-titania optical platform for integrated photonics applications. <i>Optics Express</i> , 2022, 30, 23678.	1.7	9
70	Modelling of TiO ₂ based slot waveguides with high optical confinement in sharp bends. , 2016, , .		8
71	Hybrid plasmonic waveguide race-track μ -ring resonator: Analysis of dielectric and hybrid mode for refractive index sensing applications. <i>Laser Physics</i> , 2020, 30, 016202.	0.6	8
72	Power Phase Apodization Study on Compensation Defocusing and Chromatic Aberration in the Imaging System. <i>Electronics (Switzerland)</i> , 2021, 10, 1327.	1.8	8

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73	CONDITIONS OF A SINGLE-MODE RIB CHANNEL WAVEGUIDE BASED ON DIELECTRIC TiO ₂ /SiO ₂ . Computer Optics, 2017, 41, 494-498.	1.3	8
74	Numerical Study of Fabrication-Related Effects of the Structural-Profile on the Performance of a Dielectric Photonic Crystal-Based Fluid Sensor. Materials, 2022, 15, 3277.	1.3	8
75	Enhancement of evanescent field ratio in a silicon strip waveguide by incorporating a thin metal film. Laser Physics, 2019, 29, 076202.	0.6	7
76	Biomedical bandpass filter for fluorescence microscopy imaging based on TiO ₂ /SiO ₂ and TiO ₂ /MgF ₂ dielectric multilayers. Journal of Physics: Conference Series, 2016, 741, 012136.	0.3	6
77	Investigation of Spectral Properties of DBR-Based Photonic Crystal Structure for Optical Filter Application. Crystals, 2022, 12, 409.	1.0	6
78	Au-SiO ₂ -Si hybrid plasmonic waveguide micro-ring resonator sensor. Journal of Physics: Conference Series, 2018, 1124, 051001.	0.3	5
79	2D-Heterostructure Photonic Crystal Formation for On-Chip Polarization Division Multiplexing. Photonics, 2021, 8, 313.	0.9	5
80	Plasmonic sensor realized on metal-insulator-metal waveguide configuration for refractive index detection. Photonics Letters of Poland, 2022, 14, 1.	0.2	5
81	Optical planar waveguide sensor based on (Yb,Nb):RTP/RTP(001) system for the estimation of metal coated cells. , 2016, , .		4
82	SOI Suspended membrane waveguide at 3.39 Åµm for gas sensing application. Photonics Letters of Poland, 2020, 12, 67.	0.2	4
83	Multilayer dielectric stack Notch filter for 450-700 nm wavelength spectrum. , 2017, , .		4
84	Dielectric-Metal-Dielectric (D-M-D) infrared (IR) heat reflectors. Journal of Physics: Conference Series, 2017, 917, 062007.	0.3	3
85	Bessel beams produced by axicon and spatial light modulator: A brief analysis. , 2021, , .		3
86	Indium phosphide all air-gap Fabry-Pérot filters for near-infrared spectroscopic applications. Journal of Physics: Conference Series, 2016, 741, 012135.	0.3	2
87	Modelling of the optical planar waveguide based on (Yb,Nb):RTP/RTP(001) system for cell counting. , 2016, , .		2
88	Fabrication of optical waveguides in RbTiOPO ₄ single crystals by using different techniques. Proceedings of SPIE, 2016, , .	0.8	2
89	Infrared reflective coatings for building and automobile glass windows for heat protection. , 2017, , .		2
90	Light confinement in a 90° double high mesa slot bend waveguide. Journal of Physics: Conference Series, 2018, 1096, 012126.	0.3	2

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91	A fair comparison of spectral properties of Slot and Hybrid plasmonic micro-ring resonators. Journal of Physics: Conference Series, 2019, 1410, 012119.	0.3	2
92	Multiport optical power splitter design based on coupled-mode theory. Journal of Physics: Conference Series, 2019, 1368, 022006.	0.3	2
93	Cold mirror based on High-Low-High refractive index dielectric materials. , 2017, , .		2
94	An approach to developing a Fabry-Perot filter by a single fabrication step for gas sensing applications. , 2018, , .		2
95	Standard slot waveguide and double hybrid plasmonic waveguide configurations for enhanced evanescent field absorption methane gas sensing. Photonics Letters of Poland, 2022, 14, 10.	0.2	2
96	E-beam lithography exposure conditions for the fabrication of RGB filter based on metal/dielectric subwavelength grating. Journal of Physics: Conference Series, 2016, 741, 012150.	0.3	1
97	Acceleration characterization of dual purpose gyro/accelerometer device using MS3110 differential capacitive read out IC. , 2016, , .		1
98	Fabrication of silicon slanted grating by using modified thermal deposition technique to enhance fiber-to-chip coupling. , 2016, , .		1
99	Modeling of a straight channel and Y-splitter waveguides by loading SiO ₂ /planar waveguide with MgF ₂ . , 2017, , .		1
100	Modeling of a narrow band pass filter for Bathymetry light detection and ranging (LIDAR) system. Journal of Physics: Conference Series, 2017, 917, 062004.	0.3	1
101	Performance Comparison of Silicon- and Gallium-Nitride-Based MOSFETs for a Power-Efficient, DC-to-DC Flyback Converter. Electronics (Switzerland), 2022, 11, 1222.	1.8	1
102	Design and simulation of non-resonant 1-DOF drive mode and anchored 2-DOF sense mode gyroscope for implementation using UV-LIGA process. , 2016, , .		0
103	Modeling of nebula viewing broadband and narrowband filters based on TiO ₂ -SiO ₂ multilayers. Proceedings of SPIE, 2017, , .	0.8	0
104	Fabrication of amplitude-phase type diffractive optical elements in aluminium films. Journal of Physics: Conference Series, 2017, 917, 062026.	0.3	0
105	Strontium Optical Atomic Clocks in KL FAMO Blue Detuned Lattice for Strontium Atoms and Project of a Continuous Active Optical Clock with Cold Strontium Atoms. , 2019, , .		0
106	Interactions of Ultra-cold Alkaline-earth-like and Alkali Atoms with Light. , 2019, , .		0
107	Study of Superoscillating Functions Application to Overcome the Diffraction Limit with Suppressed Sidelobes. Optics, 2021, 2, 155-168.	0.6	0
108	Single mode ZnO/Al ₂ O ₃ Strip loaded waveguide at 633 nm visible wavelength. , 2017, , .		0

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109	Optimization of silicon waveguides for gas detection application at mid-IR wavelengths. , 2018, , .		0
110	A polarization-independent highly sensitive hybrid plasmonic waveguide structure. Journal of Physics: Conference Series, 2020, 1695, 012101.	0.3	0