Mahmoud S Rasras

List of Publications by Year
in descending order

111 papers	1,901 citations	318942 23 h-index	325983 40 g-index
111 all docs	111 docs citations	111 times ranked	1943 citing authors

#	Article	IF	Citations
1	Si₂Te₃ Photodetectors for Optoelectronic Integration at Telecommunication Wavelengths. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-7.	1.9	6
2	CMOS compatible ultra-compact MMI based wavelength diplexer with 60 Gbit/s system demonstration. Optics Express, 2022, 30, 8257.	1.7	5
3	Autonomous Reconstitution of Fractured Hybrid Perovskite Single Crystals. Advanced Materials, 2022, 34, e2109374.	11.1	11
4	Compact broadband (O, E, S, C, L & U bands) silicon TE-pass polarizer based on ridge waveguide adiabatic S-bends. Optics Express, 2022, 30, 10087.	1.7	7
5	On-chip integration of 2D Van der Waals germanium phosphide (GeP) for active silicon photonics devices. Optics Express, 2022, 30, 15986.	1.7	5
6	A CMOS Compatible On-Chip MMI based Wavelength Diplexer with 60 Gbit/s System Demonstration. , 2022, , .		2
7	Autonomous Reconstitution of Fractured Hybrid Perovskite Single Crystals (Adv. Mater. 19/2022). Advanced Materials, 2022, 34, .	11.1	0
8	Exceptionally high work density of a ferroelectric dynamic organic crystal around room temperature. Nature Communications, 2022, 13, .	5.8	15
9	Compact and broadband silicon TE-pass polarizer based on tapered directional coupler. Optics Letters, 2022, 47, 3399.	1.7	2
10	Design, modelling and characterization of comb drive MEMS gap-changeable differential capacitive accelerometer. Measurement: Journal of the International Measurement Confederation, 2021, 169, 108377.	2.5	21
11	Planar Schottky Photodiode Based on Multilayered 2D GeAs for High-Performance VIS-NIR Broadband Detection. , 2021, , .		0
12	Two-Dimensional GeP-Based NIR Phototransistor. , 2021, , .		0
13	Mechanically robust amino acid crystals as fiber-optic transducers and wide bandpass filters for optical communication in the near-infrared. Nature Communications, 2021, 12, 1326.	5.8	67
14	Plasmon-enhanced graphene photodetector with CMOS-compatible titanium nitride. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 602.	0.9	19
15	Effect of Process Parameters on Mode Conversion in Submicron Tapered Silicon Ridge Waveguides. Applied Sciences (Switzerland), 2021, 11, 2366.	1.3	6
16	Multilayer 2D germanium phosphide (GeP) infrared phototransistor. Optics Express, 2021, 29, 9419.	1.7	15
17	Low Insertion Loss Plasmon-Enhanced Graphene All-Optical Modulator. ACS Omega, 2021, 6, 7576-7584.	1.6	19
18	Strong Reduction in Ge Film Reflectivity by an Overlayer of 3 nm Si Nanoparticles: Implications for Photovoltaics. ACS Applied Nano Materials, 2021, 4, 4602-4614.	2.4	10

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19	Planar Multilayered 2D GeAs Schottky Photodiode for High-Performance Visibleâ€“Near-Infrared Photodetection. ACS Applied Materials & Interfaces, 2021, 13, 21499-21506.	4.0	25
20	Performance of silicon OPUFs under variable input losses. , 2021, , .		0
21	Dual-Band (O & C-Bands) Two-Mode Multiplexer on the SOI Platform. IEEE Photonics Journal, 2021, 13, 1-9.	1.0	16
22	Robust broadband athermal 2 Ã— 2 Machâ€“Zehnder interferometer with sub-wavelength grating adiabatic couplers. Optics Letters, 2021, 46, 3781.	1.7	6
23	Multifunctional Deformable Organic Semiconductor Single Crystals. Angewandte Chemie - International Edition, 2021, 60, 26151-26157.	7.2	26
24	Coupling and Optical Analysis of a Round-Cornered Square-Shaped Microresonator. Applied Sciences (Switzerland), 2021, 11, 8659.	1.3	1
25	Experimental studies of plasmonics-enhanced optical physically unclonable functions. Optics Express, 2021, 29, 32020.	1.7	5
26	Short-wavelength infrared (SWIR) photodetector based on multi-layer 2D GaGeTe. Optics Express, 2021, 29, 39395.	1.7	11
27	Structureâ€“Mechanical Relationships in Polymorphs of an Organic Semiconductor (C4-NT3N). Crystal Growth and Design, 2020, 20, 884-891.	1.4	13
28	Tuning the Photoluminescence of Few-Layer MoS₂ Nanosheets by Mechanical Nanostamping for Broadband Optoelectronic Applications. ACS Applied Nano Materials, 2020, 3, 10333-10341.	2.4	8
29	Ultrafast Plasmonic Graphene Photodetector Based on the Channel Photothermoelectric Effect. ACS Photonics, 2020, 7, 488-498.	3.2	37
30	Strong enhancement of direct transition photoluminescence at room temperature for highly tensile-strained Ge decorated using 5 nm gold nanoparticles. Nanotechnology, 2020, 31, 315201.	1.3	1
31	Sequencing and Welding of Molecular Singleâ€Crystal Optical Waveguides. Advanced Functional Materials, 2020, 30, 2003443.	7.8	30
32	A Polarization insensitive Athermal design for Mach-Zehnder Interferometer. , 2020, , .		2
33	Athermal Mach-Zehnder Interferometer with Heterogeneous Cladding for Bio-Sensing. , 2020, , .		1
34	Tuning the Optical Signature of Few-Layer M0S2 on Silicon Substrate using Mechanical Nano-Stamping Approach. , 2020, , .		0
35	Ordered Configuration of Strained Ge Nanostructures on Si using Mechanical Nano-stamping: Towards Light Sources on Silicon. , 2020, , .		0
36	Thin Film GaAs Photodetector Integrated on Silicon using Ultra-Thin Ge Buffer Layer for Visible Photonics Applications. , 2020, , .		0

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37	Toward Physically Unclonable Functions From Plasmonics-Enhanced Silicon Disc Resonators. Journal of Lightwave Technology, 2019, 37, 3805-3814.	2.7	10
38	Vulnerability of MEMS Gyroscopes to Targeted Acoustic Attacks. IEEE Access, 2019, 7, 89534-89543.	2.6	16
39	CMOS-Compatible Titanium Nitride for On-Chip Plasmonic Schottky Photodetectors. ACS Omega, 2019, 4, 17223-17229.	1.6	24
40	Integration of Metal-GaAs-Metal Photodetectors on Si using Thin Ge Buffer Layers for Applications in Visible Photonics. , 2019, , .		0
41	Mechanical Nano-Patterning: Toward Highly-Aligned Ge Self-Assembly on Low Lattice Mismatched GaAs Substrate. Scientific Reports, 2019, 9, 14221.	1.6	6
42	Editorial for the Special Issue on MEMS Accelerometers. Micromachines, 2019, 10, 290.	1.4	2
43	Plasmonic Schottky photodetector with metal stripe embedded into semiconductor and with a CMOS-compatible titanium nitride. Scientific Reports, 2019, 9, 6048.	1.6	41
44	Hexagonal germanium formation at room temperature using controlled penetration depth nano-indentation. Scientific Reports, 2019, 9, 1593.	1.6	24
45	Evaluating temperature-insensitive Design Strategies for a TM mode Mach-Zehnder Interferometer. , 2019, , .		1
46	Complementary metal oxide semiconductor (CMOS) compatible gallium arsenide metal-semiconductor-metal photodetectors (GaAs MSMPDs) on silicon using ultra-thin germanium buffer layer for visible photonic applications. Journal of Applied Physics, 2019, 126, .	1.1	11
47	Lab-on-Chip Silicon Photonic Sensor. , 2019, , 83-102.		1
48	High-bandwidth and high-responsivity waveguide-integrated plasmonic germanium photodetector. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2481.	0.9	26
49	High field enhancement between transducer and resonant antenna for application in bit patterned heat-assisted magnetic recording. Optics Express, 2019, 27, 8605.	1.7	8
50	Volterra Series Based Linearity Analysis of a Phase-Modulated Microwave Photonic Link. Journal of Lightwave Technology, 2018, 36, 1537-1551.	2.7	4
51	Passivation of Ge/high-Î²interface using RF Plasma nitridation. Semiconductor Science and Technology, 2018, 33, 015003.	1.0	7
52	An optimization technique for performance improvement of gap-changeable MEMS accelerometers. Mechatronics, 2018, 54, 203-216.	2.0	23
53	Direct growth of thin Ge-on-Si layer at low temperature as a template for lattice matched GaAs based solar cells. , 2018, , .		0
54	Monolithic Multi Degree of Freedom (MDoF) Capacitive MEMS Accelerometers. Micromachines, 2018, 9, 602.	1.4	49

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55	High dynamic range Z-axis hybrid spring MEMS capacitive accelerometer. , 2018, , .		4
56	Modelling and Optimization of Inertial Sensor-Accelerometer. , 2017, , 331-345.		3
57	Tuning the optical properties of RF-PECVD grown Î¼c-Si:H thin films using different hydrogen flow rate. Superlattices and Microstructures, 2017, 107, 172-177.	1.4	10
58	Hydrogen-Induced Crystallization of Germanium Films at Low Temperature Using an RF-PECVD Reactor. ECS Transactions, 2017, 77, 213-217.	0.3	1
59	Double-Comb-Finger Design to Eliminate Cross-Axis Sensitivity in a Dual-Axis Accelerometer. , 2017, 1, 1-4.		13
60	Germanium MOS capacitors grown on Silicon using low temperature RF-PECVD. Journal Physics D: Applied Physics, 2017, 50, 405107.	1.3	8
61	Low temperature deposition of germanium on silicon using Radio Frequency Plasma Enhanced Chemical Vapor Deposition. Thin Solid Films, 2017, 636, 585-592.	0.8	23
62	Distribution and coverage of 40 nm gold nano-particles on aluminum and hafnium oxide using electrophoretic method and fabricated MOS structures. Materials Research Bulletin, 2017, 86, 302-307.	2.7	1
63	Low-jitter, plain vanilla CMOS CDR with half-rate linear PD and half rate frequency detector. , 2017, , .		3
64	Metal-germanium-metal photodetector grown on silicon using low temperature RF-PECVD. Optics Express, 2017, 25, 32110.	1.7	45
65	Germanium metal-semiconductor-metal photodetectors grown on Silicon using low temperature RF-PECVD. , 2017, , .		0
66	Arbitrary frequency response filter synthesis using generalized cascaded Mach-Zehnder interferometer lattice filters. Proceedings of SPIE, 2016, , .	0.8	0
67	A crab leg suspension based dual axis MEMS accelerometer with low cross axis sensitivity. , 2016, , .		4
68	Design, Analysis and System-Level Modelling of a Single Axis Capacitive Accelerometer. , 2016, , .		2
69	Broadband and high-speed silicon dual-ring modulator based on p-i-n-i-p junction. , 2016, , .		2
70	Bi-axial highly sensitive Â±5g polysilicon based differential capacitive accelerometer. , 2016, , .		3
71	Optimization of finger spacing and spring constant in comb type capacitive accelerometer. , 2016, , .		4
72	A Study of Electrical and Optical Properties of Boron-Doped Amorphous Silicon Deposited by RF-PECVD with Different B2H6/H2 Flow Rates. ECS Transactions, 2016, 72, 301-304.	0.3	3

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73	Micro-opto-mechanical disk for inertia sensing. Photonic Sensors, 2016, 6, 78-84.	2.5	1
74	Tailoring the Optical Properties of Boron Doped Î¼c-Si:H Thin Films by Changing the SiH4/H2 Ratio Using RF-PECVD Process. , 2016, , .		1
75	Structural characterization of electric-field assisted dip-coating of gold nanoparticles on silicon. AIP Advances, 2015, 5, 097181.	0.6	4
76	Broadband photoelectric hot carrier collection with wafer-scale metallic-semiconductor photonic crystals. , 2015, , .		5
77	Linearized Optical Discriminator. Journal of Lightwave Technology, 2015, 33, 386-390.	2.7	2
78	Silicon hybrid (de)multiplexer enabling simultaneous mode and wavelength-division multiplexing. Optics Express, 2015, 23, 943.	1.7	42
79	A Digital-like On-Chip Photonics Sensor. , 2015, , .		1
80	Linear phase-and-frequency-modulated photonic links using optical discriminators. Optics Express, 2012, 20, 26292.	1.7	23
81	Energy-efficient 026-Tb/s coherent-optical OFDM transmission using photonic-integrated all-optical discrete Fourier transform. Optics Express, 2012, 20, 896.	1.7	14
82	Reconfigurable Linear Optical FM Discriminator. IEEE Photonics Technology Letters, 2012, 24, 1856-1859.	1.3	17
83	DWDM Hybrid-Integrated TOSA and ROSA for 10$,imes,$10.7-Gb/s Transmission Over 75-km Links. IEEE Photonics Technology Letters, 2012, 24, 1657-1659.	1.3	9
84	Compact Hybridly Integrated 10$,imes,$11.1-Gb/s DWDM Optical Receiver. IEEE Photonics Technology Letters, 2012, 24, 1166-1168.	1.3	4
85	High-Speed All-Optical Generation of Advanced Modulation Formats Using Photonic-Integrated All-Optical Format Converter. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 765-771.	1.9	9
86	All-optical OFDM transmission of 7 x 5-Gb/s data over 84-km standard single-mode fiber without dispersion compensation and time gating using a photonic-integrated optical DFT device. Optics Express, 2011, 19, 9111.	1.7	24
87	Long-haul transmission of 35-Gb/s all-optical OFDM signal without using tunable dispersion compensation and time gating. Optics Express, 2011, 19, B811.	1.7	6
88	CMOS-Compatible Si-Ring-Assisted Machâ€“Zehnder Interferometer With Internal Bandwidth Equalization. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 45-52.	1.9	37
89	CMOS Silicon Receiver Integrated With Ge Detector and Reconfigurable Optical Filter. IEEE Photonics Technology Letters, 2010, 22, 112-114.	1.3	26
90	Silicon RF-Photonic Filter and Down-Converter. Journal of Lightwave Technology, 2010, 28, 3019-3028.	2.7	61

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91	Hybrid optical vector modulator utilising AlGaInAs reflective EAMs and high index-contrast silica circuit. Electronics Letters, 2009, 45, 222.	0.5	0
92	All-optical XOR and XNOR operations atâ€˜864 Gb/s using a pair of semiconductor optical amplifier Mach-Zehnder interferometers. Optics Express, 2009, 17, 19062.	1.7	48
93	Demonstration of a Tunable Microwave-Photonic Notch Filter Using Low-Loss Silicon Ring Resonators. Journal of Lightwave Technology, 2009, 27, 2105-2110.	2.7	153
94	Diplexer With Integrated Filters and Photodetector in Geâ€“Si Using $Gamma-{X}$ and $Gamma-{M}$ Directions in a Grating Coupler. IEEE Photonics Technology Letters, 2009, 21, 1698-1700.	1.3	18
95	Characterization of the Dynamical Processes in All-Optical Signal Processing Using Semiconductor Optical Amplifiers. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 758-769.	1.9	46
96	A Programmable 8-bit Optical Correlator Filter for Optical Bit Pattern Recognition. IEEE Photonics Technology Letters, 2008, 20, 694-696.	1.3	37
97	All-Optical Byte Recognition for 40-Gb/s Phase-Shift-Keyed Transmission Using a Planar-Lightwave-Circuit Passive Correlator. IEEE Photonics Technology Letters, 2008, 20, 1024-1026.	1.3	19
98	Optimization of time-domain header processing filters using genetic algorithms. Optics Letters, 2008, 33, 297.	1.7	1
99	A hybrid electroabsorption modulator device for generation of high spectral-efficiency optical modulation formats. Optics Express, 2008, 16, 8480.	1.7	53
100	Optical modulation techniques for analog signal processing and CMOS compatible electro-optic modulation. , 2008, , .		3
101	Demonstration of a Fourth-Order Pole-Zero Optical Filter Integrated Using CMOS Processes. Journal of Lightwave Technology, 2007, 25, 87-92.	2.7	83
102	Integrated resonance-enhanced variable optical delay lines. IEEE Photonics Technology Letters, 2005, 17, 834-836.	1.3	101
103	Origin of substrate hole current after gate oxide breakdown. Journal of Applied Physics, 2002, 91, 2155-2160.	1.1	7
104	Impact of MOSFET gate oxide breakdown on digital circuit operation and reliability. IEEE Transactions on Electron Devices, 2002, 49, 500-506.	1.6	199
105	Analysis and modeling of a digital CMOS circuit operation and reliability after gate oxide breakdown: a case study. Microelectronics Reliability, 2002, 42, 555-564.	0.9	36
106	Explanation of nMOSFET substrate current after hard gate oxide breakdown. Microelectronic Engineering, 2001, 59, 155-160.	1.1	5
107	Spectroscopic photon emission microscopy: a unique tool for failure analysis of microelectronics devices. Microelectronics Reliability, 2001, 41, 1161-1169.	0.9	7
108	Spectroscopic identification of light emitted from defects in silicon devices. Journal of Applied Physics, 2001, 89, 249-258.	1.1	9

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109	Non-uniform triggering of gg-nMOSt investigated by combined emission microscopy and transmission line pulsing. Microelectronics Reliability, 1999, 39, 1551-1561.	0.9	6
110	A reliability study of titanium silicide lines using micro-Raman spectroscopy and emission microscopy. Microelectronics Reliability, 1997, 37, 1591-1594.	0.9	7
111	Modification and application of an emission microscope for continuous wavelength spectroscopy. Microelectronics Reliability, 1997, 37, 1595-1598.	0.9	3