

Rainer Hainberger

List of Publications by Year in descending order

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86
papers

877
citations

566801

15
h-index

525886

27
g-index

86
all docs

86
docs citations

86
times ranked

1007
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonlinearity of optimized silicon photonic slot waveguides. <i>Optics Express</i> , 2009, 17, 9282.	1.7	74
2	Integrated polymer-based Mach-Zehnder interferometer label-free streptavidin biosensor compatible with injection molding. <i>Biosensors and Bioelectronics</i> , 2011, 26, 3832-3837.	5.3	63
3	Structural Optimization of Silicon-On-Insulator Slot Waveguides. <i>IEEE Photonics Technology Letters</i> , 2006, 18, 2557-2559.	1.3	53
4	Analysis of silicon nitride partial Euler waveguide bends. <i>Optics Express</i> , 2019, 27, 31394.	1.7	51
5	CMOS-compatible Si ₃ N ₄ Waveguides for Optical Biosensing. <i>Procedia Engineering</i> , 2015, 120, 578-581.	1.2	42
6	Monitoring Dynamic Interactions of Tumor Cells with Tissue and Immune Cells in a Lab-on-a-Chip. <i>Analytical Chemistry</i> , 2013, 85, 11471-11478.	3.2	39
7	Toward optical coherence tomography on a chip: in vivo three-dimensional human retinal imaging using photonic integrated circuit-based arrayed waveguide gratings. <i>Light: Science and Applications</i> , 2021, 10, 6.	7.7	37
8	Optimization of the emission characteristics of light emitting diodes by surface plasmons and surface waveguide modes. <i>Applied Physics Letters</i> , 2000, 77, 2295-2297.	1.5	36
9	Comparison of span configurations of Raman-amplified dispersion-managed fibers. <i>IEEE Photonics Technology Letters</i> , 2002, 14, 471-473.	1.3	32
10	Light trapping by backside diffraction gratings in silicon solar cells revisited. <i>Optics Express</i> , 2012, 20, A20.	1.7	32
11	Flexible thin-film polymer waveguides fabricated in an industrial roll-to-roll process. <i>Applied Optics</i> , 2013, 52, 4510.	0.9	30
12	Hexammineruthenium (II)/(III) as alternative redox-probe to Hexacyanoferrat (II)/(III) for stable impedimetric biosensing with gold electrodes. <i>Biosensors and Bioelectronics</i> , 2019, 127, 25-30.	5.3	29
13	Human IgG detection in serum on polymer based Mach-Zehnder interferometric biosensors. <i>Journal of Biophotonics</i> , 2016, 9, 218-223.	1.1	18
14	Efficient coupling of narrow beams into polyimide waveguides by means of grating couplers with high-index coating. <i>Applied Optics</i> , 2010, 49, 1972.	2.1	16
15	Sensitivity and design of grating-assisted bimodal interferometers for integrated optical biosensing. <i>Optics Express</i> , 2014, 22, 32344.	1.7	16
16	Impact of the wavelength dependence of the mode field on the nonlinearity coefficient of PCFs. <i>IEEE Photonics Technology Letters</i> , 2005, 17, 70-72.	1.3	15
17	Multi-step surface functionalization of polyimide based evanescent wave photonic biosensors and application for DNA hybridization by Mach-Zehnder interferometer. <i>Analytica Chimica Acta</i> , 2011, 699, 206-215.	2.6	15
18	Streptavidin binding as a model to characterize thiol-ene chemistry-based polyamine surfaces for reversible photonic protein biosensing. <i>Chemical Communications</i> , 2014, 50, 2424.	2.2	15

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19	Local functionalization of CMOS-compatible Si ₃ N ₄ Mach-Zehnder interferometers with printable functional polymers. <i>Sensors and Actuators B: Chemical</i> , 2016, 236, 1061-1068.	4.0	15
20	Insights in the light trapping effect in silicon solar cells with backside diffraction gratings. <i>Journal of Photonics for Energy</i> , 2013, 3, 034595.	0.8	13
21	Broadband SiN asymmetric directional coupler for 840 nm operation. <i>OSA Continuum</i> , 2018, 1, 1324.	1.8	13
22	Slot-Waveguide Silicon Nitride Organic Hybrid Distributed Feedback Laser. <i>Scientific Reports</i> , 2019, 9, 18438.	1.6	12
23	Material gain concentration quenching in organic dye-doped polymer thin films. <i>Optical Materials Express</i> , 2019, 9, 1208.	1.6	12
24	Waveguide Mach-Zehnder biosensor with laser diode pumped integrated single-mode silicon nitride organic hybrid solid-state laser. <i>Biosensors and Bioelectronics</i> , 2022, 197, 113816.	5.3	11
25	Monolithically Integrated, CMOS-Compatible SiN Photonics for Sensing Applications. <i>Proceedings (mdpi)</i> , 2018, 2, .	0.2	10
26	Single-mode criterion for rib waveguides with small cross sections. , 2006, 6115, 436.		9
27	Lateral leakage in symmetric SOI rib-type slot waveguides. <i>Optics Express</i> , 2008, 16, 287.	1.7	9
28	Ion multibeam nanopatterning for photonic applications: Experiments and simulations, including study of precursor gas induced etching and deposition. <i>Journal of Vacuum Science & Technology B</i> , 2009, 27, 2668.	1.3	9
29	Nanopatterned polymethylpentene substrates fabricated by injection molding for biophotonic applications. <i>Microelectronic Engineering</i> , 2010, 87, 821-823.	1.1	9
30	Antireflective surface structures in glass by self-assembly of SiO ₂ nanoparticles and wet etching. <i>Optics Express</i> , 2013, 21, 20254.	1.7	9
31	Surface Modification of Integrated Optical MZI Sensor Arrays Using Inkjet Printing Technology. <i>Procedia Engineering</i> , 2016, 168, 337-340.	1.2	9
32	Polymer waveguide based biosensor. <i>Proceedings of SPIE</i> , 2008, , .	0.8	8
33	Silicon-nitride waveguide-based integrated photonic circuits for medical diagnostic and other sensing applications. , 2019, , .		8
34	Integrated silicon nitride organic hybrid DFB laser with inkjet printed gain medium. <i>Optics Express</i> , 2019, 27, 29350.	1.7	8
35	Multi-channel swept source optical coherence tomography concept based on photonic integrated circuits. <i>Optics Express</i> , 2020, 28, 32468.	1.7	8
36	Broadband low loss and ultra-low crosstalk waveguide crossings based on a multimode interferometer for 840 nm operation. <i>OSA Continuum</i> , 2020, 3, 334.	1.8	8

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37	Efficient small grating couplers for low-index difference waveguide systems. , 2009, , .		7
38	Microfluidic chips fabrication from UV curable adhesives for heterogeneous integration. , 2012, , .		6
39	Single-mode and single-beam emission from surface emitting laser diodes based on surface-mode emission. Applied Physics Letters, 1996, 69, 3638-3640.	1.5	5
40	Optical characteristics of V-groove waveguide structures. , 2009, , .		5
41	Silicon photonic MZI sensor array employing on-chip wavelength multiplexing. Optical and Quantum Electronics, 2012, 44, 557-562.	1.5	5
42	Digital beam steering from surface-emitting laser diodes based on surface mode emission. , 1997, 3001, 192.		4
43	Lateral leakage in symmetric SOI rib-type slot waveguides. , 2007, , .		4
44	Direct replication of nanostructures from silicon wafers in polymethylpentene by injection molding. Proceedings of SPIE, 2010, , .	0.8	4
45	Argon ion multibeam nanopatterning of Ni-Cu inserts for injection molding. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C6B1-C6B6.	0.6	4
46	Design of a Photonic Crystal Defect Waveguide Biosensor Operating in Aqueous Solutions at 1.34 μm . Proceedings (mdpi), 2018, 2, 1026.	0.2	4
47	Optical biosensor technologies for molecular diagnostics at the point-of-care. , 2015, , .		3
48	Design and simulation of Si_3N_4 based arrayed waveguide gratings applying AWG-Parameters tool. , 2016, , .		3
49	Impedimetric IgG-Biosensor with In-Situ Generation of the Redox-Probe. Proceedings (mdpi), 2017, 1, .	0.2	3
50	Optimum span configuration of Raman-amplified dispersion-managed fibers. , 2001, , .		3
51	In vivo human retinal swept source optical coherence tomography and angiography at 830nm with a CMOS compatible photonic integrated circuit. Scientific Reports, 2021, 11, 21052.	1.6	3
52	Micro-Optical Platform for All-Optical Demultiplexing Switch Array. Japanese Journal of Applied Physics, 2000, 39, 1533-1537.	0.8	2
53	Leakage studies on SOI slot waveguide structures. Proceedings of SPIE, 2008, , .	0.8	2
54	Design of silicon and polymer photonic waveguide structures for sensing applications. , 2009, , .		2

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55	A 2D numerical study on the photo current density enhancement in silicon solar cells with optimized backside gratings. , 2011, , .		2
56	A Coupled-Spiral Silicon Nitride Organic-Hybrid Laser. IEEE Photonics Technology Letters, 2020, 32, 561-564.	1.3	2
57	Single-beam and single-mode emission from surface emitting laser diodes based on surface mode emission. , 0, , .		1
58	Nonlinearity of optimized horizontal slot waveguides. , 2009, , .		1
59	Monitoring light scattering characteristics of adherent cell cultures using a lab-on-a-chip. , 2011, , .		1
60	Ion multi-beam direct sputtering of Si imprint stamps and simulation of resulting structures. Journal of Micromechanics and Microengineering, 2012, 22, 055008.	1.5	1
61	Multi-wavelength photon pair source assisted by a silicon-on-insulator micro-ring resonator. , 2017, , .		1
62	REAP: revealing drug tolerant persister cells in cancer using contrast enhanced optical coherence and photoacoustic tomography. JPhys Photonics, 2021, 3, 021001.	2.2	1
63	A Self-Contained, Single-Chip Amperometric Measurement Platform for Biomedical Applications. , 2021, , .		1
64	Biofilm Growth Monitoring on a-Si:H Based Mach-Zehnder Interferometric Biosensors. , 2012, , .		1
65	Optimization of silicon solar cells using backside diffraction gratings. , 2011, , .		1
66	PECVD silicon nitride optical waveguide devices for sensing applications in the visible and $< 1\mu\text{m}$ near infrared wavelength region. , 2019, , .		1
67	Screen-printed amperometric biosensors: A balancing act of manufacturing properties, cost efficiency and sensitivity. , 2022, , .		1
68	Single-Beam Emission from Surface-Emitting Laser Diodes Based on Surface Mode Emission. , 1996, , .		0
69	All-optical modules for compact free-space laser link transceivers. , 0, , .		0
70	<title>All-optical switching module based on diffractive optics technology</title>. , 2001, 4455, 79.		0
71	All-optical switching module suitable for noise-suppressed detection of pulse position modulated codes. , 2001, , .		0
72	Status and trends in modern micro- and nanotechnology. Elektrotechnik Und Informationstechnik, 2005, 122, 442-445.	0.7	0

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73	Lateral confinement in horizontal SOI slot waveguide structures. Proceedings of SPIE, 2008, , .	0.8	0
74	Spin coated thin-film polymer waveguide Mach-Zehnder interferometer for label-free streptavidin detection. , 2011, , .		0
75	Reflection and transmission characteristics of silicon photonic wire Bragg gratings. , 2011, , .		0
76	On-chip multiplexing concept for silicon photonic MZI biosensor array. , 2012, , .		0
77	Roll-to-roll fabrication of thin foil-based optical waveguides with grating couplers. , 2012, , .		0
78	On the light trapping mechanism in silicon solar cells with backside diffraction gratings. Proceedings of SPIE, 2014, , .	0.8	0
79	Integrated optical waveguide and nanoparticle based label-free molecular biosensing concepts. , 2014, , .		0
80	Preparation of Mach-Zehnder interferometric photonic biosensors by inkjet printing technology. , 2017, , .		0
81	Microring-assisted all-optical sub-channel demultiplexing for dense IM/DD access with low-complexity optical network unit. , 2017, , .		0
82	On the Transfer of Quantum-Optic Pair Sources Realized on SOI Photonics to Electronic Wafers. , 2018, , .		0
83	Compact Quantum-Optic Photon-Pair Engine 3D-Integrated on BiCMOS Electronics. , 2018, , .		0
84	Power-optimized single-mode slot waveguides. AIP Conference Proceedings, 2007, , .	0.3	0
85	Silicon photonic wire Bragg grating for on-chip wavelength (de)multiplexing employing ring resonators. , 2011, , .		0
86	PECVD Silicon Nitride Photonic Integrated Circuits and Key Building Blocks for Sensing Applications. , 2020, , .		0