Nathalie Vermeulen

List of Publications by Year
in descending order

75 papers	749 citations	516215 16 h-index	580395 25 g-index
75 all docs	75 docs citations	75 times ranked	768 citing authors

#	Article	IF	Citations
1	Perspectives on nonlinear optics of graphene: Opportunities and challenges. APL Photonics, 2022, 7, .	3.0	12
2	Laser direct writing of short-range interconnect interfacing structures. , 2022, , .		0
3	Simultaneous modal phase and group velocity matching in microstructured optical fibers for second harmonic generation with ultrashort pulses. Optics Express, 2022, 30, 12026.	1.7	5
4	Unraveling and Predicting the Nonlinear-optical Refractive Response of Graphene. , 2021, , .		0
5	Inverse model for ultrashort pulse amplification in semiconductor optical amplifiers. Optics Letters, 2021, 46, 1121.	1.7	1
6	General measurement technique of the ratio between chromatic dispersion and the nonlinear coefficient. , 2021, , .		0
7	Two-Photon Polymerization-based Laser Direct Writing of Mode Conversion Down-tapers for Physical Contact Fiber-to-Chip Coupling. , 2021, , .		1
8	Predicting Graphene's Nonlinearâ€Optical Refractive Response for Propagating Pulses. Laser and Photonics Reviews, 2020, 14, 1900402.	4.4	14
9	Mode-field Matching Down-Tapers on Single-Mode Optical Fibers for Edge Coupling Towards Generic Photonic Integrated Circuit Platforms. Journal of Lightwave Technology, 2020, 38, 4834-4842.	2.7	19
10	3D direct laser writing of microstructured optical fiber tapers on single-mode fibers for mode-field conversion. Optics Express, 2020, 28, 36147.	1.7	24
11	Measurement of the soliton number in guiding media through continuum generation. Optics Letters, 2020, 45, 4432.	1.7	9
12	Modeling Grapheneâ€™s Macroscopic Nonlinear Response. , 2020, , .		0
13	Special Topic on Nonlinear Optics in 2D Materials. APL Photonics, 2019, 4, 060402.	3.0	2
14	Down-scaling grating couplers and waveguides in single-crystal diamond for VIS-UV operation. JPhys Photonics, 2019, 1, 015003.	2.2	4
15	Directional Coupler Based on Single-Crystal Diamond Waveguides. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-9.	1.9	9
16	Localized optical-quality doping of graphene on silicon waveguides through a TFSA-containing polymer matrix. Journal of Materials Chemistry C, 2018, 6, 10739-10750.	2.7	2
17	Power-flow-based design strategy for Bloch surface wave biosensors. Optics Letters, 2018, 43, 1095.	1.7	7
18	Grapheneâ€™s nonlinear-optical physics revealed through exponentially growing self-phase modulation. Nature Communications, 2018, 9, 2675.	5.8	67

#	Article	IF	Citations
19	Visible Supercontinuum Light Generation in Integrated Diamond-on-Insulator Waveguides. , 2018, , .		1
20	Graphene-covered nanoscale waveguides: from fabrication to nonlinear spectral broadening demonstration. , 2018, , .		0
21	Theory of Optical Nonlinearities in Graphene. , 2017, , 183-219.		0
22	Opportunities for visible supercontinuum light generation in integrated diamond waveguides. Optics Letters, 2017, 42, 3804.	1.7	10
23	Towards an analytical framework for tailoring supercontinuum generation. Optics Express, 2016, 24, 26629.	1.7	17
24	Nonlinear optical functionalities of graphene integrated in silicon photonics. , 2016, , .		0
25	Patterning of graphene on silicon-on-insulator waveguides through laser ablation and plasma etching. , 2016, , .		0
26	Low-Loss Millimeter-Length Waveguides and Grating Couplers in Single-Crystal Diamond. Journal of Lightwave Technology, 2016, 34, 5576-5582.	2.7	15
27	Design of infrared and ultraviolet Raman lasers based on grating-coupled integrated diamond ring resonators. Journal of the Optical Society of America B: Optical Physics, 2016, 33, B5.	0.9	13
28	Negative Kerr Nonlinearity of Graphene as seen via Chirped-Pulse-Pumped Self-Phase Modulation. Physical Review Applied, 2016, 6, .	1.5	68
29	Optical-quality controllable wet-chemical doping of graphene through a uniform, transparent and low-roughness F4-TCNQ/MEK layer. RSC Advances, 2016, 6, 104491-104501.	1.7	10
30	Modeling and design of infrared and ultraviolet integrated diamond ring Raman lasers. , 2016, , .		1
31	Opportunities for Wideband Wavelength Conversion in Foundry-Compatible Silicon Waveguides Covered With Graphene. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 347-359.	1.9	19
32	Laser ablation- and plasma etching-based patterning of graphene on silicon-on-insulator waveguides. Optics Express, 2015, 23, 26639.	1.7	23
33	Simultaneous Quasi-Phase Matching of Two Arbitrary Four-Wave-Mixing Processes. Journal of Lightwave Technology, 2015, 33, 1726-1736.	2.7	4
34	TE-polarized graphene modes sustained by photonic crystal structures. Optics Letters, 2015, 40, 2076.	1.7	15
35	Opportunities for Raman wavelength conversion with silicon microdisks. , 2014, , .		0
36	Design of large scale plasmonic nanoslit arrays for arbitrary mode conversion and demultiplexing. Optics Express, 2014, 22, 646.	1.7	10

#	Article	IF	Citations
37	Adjoint-enabled optimization of optical devices based on coupled-mode equations. Optics Express, 2014, 22, 19423.	1.7	2
38	On the limitations of the first-order nonlinear SchrÃ¶dinger equation in slow-light photonic crystal structures. Journal of the Optical Society of America B: Optical Physics, 2014, 31, 1660.	0.9	0
39	DC current induced second order optical nonlinearity in graphene. Optics Express, 2014, 22, 15868.	1.7	69
40	Raman Stokes/Anti-Stokes Wavelength Conversion in â€œAutomaticallyâ€•Quasi-Phase-Matched Silicon Microdisk Resonators. Journal of Lightwave Technology, 2014, 32, 2939-2950.	2.7	0
41	Design of large scale plasmonic nanoslit arrays for arbitrary mode conversion and demultiplexing. Proceedings of SPIE, 2014, , .	0.8	0
42	Efficient four-wave mixing by phase-mismatch switching. , 2014, , .		0
43	Quasi-Phase-Matching of Four-Wave-Mixing-Based Wavelength Conversion by Phase-Mismatch Switching. Journal of Lightwave Technology, 2013, 31, 2113-2121.	2.7	19
44	Energy-per-Bit Limits in Plasmonic Integrated Photodetectors. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 3800210-3800210.	1.9	12
45	Energy-per-bit and noise limits in plasmonic intergrated photodetectors. Proceedings of SPIE, 2013, , .	0.8	0
46	B-CALM: AN OPEN-SOURCE MULTI-GPU-BASED 3D-FDTD WITH MULTI-POLE DISPERSION FOR PLASMONICS. Progress in Electromagnetics Research, 2013, 138, 467-478.	1.6	10
47	Optimized wavelength conversion in silicon waveguides based on off-Raman-resonance operation. , 2012, , .		0
48	Extending the phase mismatch formalism for silicon-based wavelength converters. , 2012, , .		0
49	Opportunities for wavelength conversion with onâ€chip diamond ring resonators. Laser and Photonics Reviews, 2012, 6, 793-801.	4.4	20
50	Novel nonlinear photonic functionalities in silicon nanowires. , 2012, , .		0
51	Scaling of Raman amplification in realistic slow-light photonic crystal waveguides. Physical Review B, 2011, 84, .	1.1	19
52	Lasing Directionality and Polarization Behavior in Continuous-Wave Ring Raman Lasers Based on Micro- and Nano-Scale Silicon Waveguides. Journal of Lightwave Technology, 2011, 29, 2180-2190.	2.7	8
53	Optimized wavelength conversion in silicon waveguides based on â€œoff-Raman-resonanceâ€•operation: extending the phase mismatch formalism. Optics Express, 2011, 19, 18810.	1.7	7
54	Wavelength Conversion Based on Raman- and Non-Resonant Four-Wave Mixing in Silicon Nanowire Rings Without Dispersion Engineering. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1078-1091.	1.9	31

#	Article	IF	Citations
55	Low-loss wavelength tuning of a mid-infrared Cr2+:ZnSe laser using a Littrow-mounted resonant diffraction grating. Laser Physics Letters, 2011, 8, 606-612.	0.6	7
56	Applications of coherent anti-Stokes Raman scattering in silicon photonics. Proceedings of SPIE, 2010, , .	0.8	0
57	Raman scattering in submicron and nanoscale structures. , 2010, , .		0
58	Enhancing the efficiency of silicon Raman converters. , 2010, , .		1
59	Coherent antiâ€Stokes Raman scattering in Raman lasers and Raman wavelength converters. Laser and Photonics Reviews, 2010, 4, 656-670.	4.4	17
60	Quasi-Phase-Matched Cavity-Enhanced Raman Converter Based on a Silicon Nanowire Ring. IEEE Photonics Technology Letters, 2010, 22, 1796-1798.	1.3	11
61	Models for coherent anti-Stokes Raman scattering in Raman devices and in spectroscopy. Proceedings of SPIE, 2010, , .	0.8	1
62	CARS-based silicon photonics. , 2009, , .		1
63	The Behavior of CARS in Anti-Stokes Raman Converters Operating at Exact Raman Resonance. IEEE Journal of Quantum Electronics, 2008, 44, 1248-1255.	1.0	10
64	Enhancement methods for CARS-based heat mitigation and application to near- and mid-infrared silicon-based Raman lasers. , 2007, , .		0
65	Iterative resonator model describing the Stokes and anti-Stokes emission of a continuous-wave silicon-based Raman laser. , 2007, , .		1
66	Modeling mid-infrared continuous-wave silicon-based Raman lasers. , 2007, , .		6
67	Mitigating heat dissipation in a hydrogen-based Raman laser using coherent anti-Stokes Raman scattering. , 2007, , .		0
68	Cooling Silicon Raman Lasers with Coherent Anti-Stokes Raman Scattering. Optics and Photonics News, 2007, 18, 24.	0.4	3
69	Mitigating Heat Dissipation in Raman Lasers Using Coherent Anti-Stokes Raman Scattering. Physical Review Letters, 2007, 99, 093903.	2.9	32
70	Optical cooling of Raman lasers using CARS. , 2007, , .		2
71	Mitigating Heat Dissipation in Near- and Mid-Infrared Silicon-Based Raman Lasers Using CARSâ€"Part I: Theoretical Analysis. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 770-782.	1.9	9
72	Mitigating Heat Dissipation in Near- and Mid-Infrared Silicon-Based Raman Lasers Using CARSâ€"Part II: Numerical Demonstration. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 783-788.	1.9	7

#	Article	IF	Citations
73	Stokes-Anti-Stokes Iterative Resonator Method for Modeling Raman Lasers. IEEE Journal of Quantum Electronics, 2006, 42, 1144-1156.	1.0	28
74	Iterative resonator model describing the continuous-wave operation of a Raman laser. , 2006, , .		0
75	Continuous-wave broadly tunable Cr2+:ZnSe laser pumped by a thulium fiber laser. Optics Communications, 2006, 268, 115-120.	1.0	34