Nathalie Vermeulen

List of Publications by Year
in descending order

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75	749	516215	580395
papers	citations	16 h-index	25 g-index

75	75	75	768
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	DC current induced second order optical nonlinearity in graphene. Optics Express, 2014, 22, 15868.	1.7	69
2	Negative Kerr Nonlinearity of Graphene as seen via Chirped-Pulse-Pumped Self-Phase Modulation. Physical Review Applied, 2016, 6, .	1.5	68
3	Grapheneâ€™s nonlinear-optical physics revealed through exponentially growing self-phase modulation. Nature Communications, 2018, 9, 2675.	5.8	67
4	Continuous-wave broadly tunable Cr2+:ZnSe laser pumped by a thulium fiber laser. Optics Communications, 2006, 268, 115-120.	1.0	34
5	Mitigating Heat Dissipation in Raman Lasers Using Coherent Anti-Stokes Raman Scattering. Physical Review Letters, 2007, 99, 093903.	2.9	32
6	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
7	Stokes-Anti-Stokes Iterative Resonator Method for Modeling Raman Lasers. IEEE Journal of Quantum Electronics, 2006, 42, 1144-1156.	1.0	28
8	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
9	Laser ablation- and plasma etching-based patterning of graphene on silicon-on-insulator waveguides. Optics Express, 2015, 23, 26639.	1.7	23
10	Opportunities for wavelength conversion with onâ€chip diamond ring resonators. Laser and Photonics Reviews, 2012, 6, 793-801.	4.4	20
11	Scaling of Raman amplification in realistic slow-light photonic crystal waveguides. Physical Review B, 2011, 84, .	1.1	19
12	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
13	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
14	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
15	Coherent antiâ€Stokes Raman scattering in Raman lasers and Raman wavelength converters. Laser and Photonics Reviews, 2010, 4, 656-670.	4.4	17
16	Towards an analytical framework for tailoring supercontinuum generation. Optics Express, 2016, 24, 26629.	1.7	17
17	TE-polarized graphene modes sustained by photonic crystal structures. Optics Letters, 2015, 40, 2076.	1.7	15
18	Low-Loss Millimeter-Length Waveguides and Grating Couplers in Single-Crystal Diamond. Journal of Lightwave Technology, 2016, 34, 5576-5582.	2.7	15

#	Article	IF	Citations
19	Predicting Graphene's Nonlinearâ€Optical Refractive Response for Propagating Pulses. Laser and Photonics Reviews, 2020, 14, 1900402.	4.4	14
20	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
21	Energy-per-Bit Limits in Plasmonic Integrated Photodetectors. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 3800210-3800210.	1.9	12
22	Perspectives on nonlinear optics of graphene: Opportunities and challenges. APL Photonics, 2022, 7, .	3.0	12
23	Quasi-Phase-Matched Cavity-Enhanced Raman Converter Based on a Silicon Nanowire Ring. IEEE Photonics Technology Letters, 2010, 22, 1796-1798.	1.3	11
24	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
25	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
26	Design of large scale plasmonic nanoslit arrays for arbitrary mode conversion and demultiplexing. Optics Express, 2014, 22, 646.	1.7	10
27	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
28	Opportunities for visible supercontinuum light generation in integrated diamond waveguides. Optics Letters, 2017, 42, 3804.	1.7	10
29	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
30	Directional Coupler Based on Single-Crystal Diamond Waveguides. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-9.	1.9	9
31	Measurement of the soliton number in guiding media through continuum generation. Optics Letters, 2020, 45, 4432.	1.7	9
32	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
33	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
34	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
35	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
36	Power-flow-based design strategy for Bloch surface wave biosensors. Optics Letters, 2018, 43, 1095.	1.7	7

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37	Modeling mid-infrared continuous-wave silicon-based Raman lasers. , 2007, , .		6
38	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
39	Simultaneous Quasi-Phase Matching of Two Arbitrary Four-Wave-Mixing Processes. Journal of Lightwave Technology, 2015, 33, 1726-1736.	2.7	4
40	Down-scaling grating couplers and waveguides in single-crystal diamond for VIS-UV operation. JPhys Photonics, 2019, 1, 015003.	2.2	4
41	Cooling Silicon Raman Lasers with Coherent Anti-Stokes Raman Scattering. Optics and Photonics News, 2007, 18, 24.	0.4	3
42	Optical cooling of Raman lasers using CARS. , 2007, , .		2
43	Adjoint-enabled optimization of optical devices based on coupled-mode equations. Optics Express, 2014, 22, 19423.	1.7	2
44	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
45	Special Topic on Nonlinear Optics in 2D Materials. APL Photonics, 2019, 4, 060402.	3.0	2
46	Iterative resonator model describing the Stokes and anti-Stokes emission of a continuous-wave silicon-based Raman laser. , 2007, , .		1
47	CARS-based silicon photonics. , 2009, , .		1
48	Enhancing the efficiency of silicon Raman converters. , 2010, , .		1
49	Models for coherent anti-Stokes Raman scattering in Raman devices and in spectroscopy. Proceedings of SPIE, 2010, , .	0.8	1
50	Modeling and design of infrared and ultraviolet integrated diamond ring Raman lasers. , 2016, , .		1
51	Inverse model for ultrashort pulse amplification in semiconductor optical amplifiers. Optics Letters, 2021, 46, 1121.	1.7	1
52	Visible Supercontinuum Light Generation in Integrated Diamond-on-Insulator Waveguides. , 2018, , .		1
53	Two-Photon Polymerization-based Laser Direct Writing of Mode Conversion Down-tapers for Physical Contact Fiber-to-Chip Coupling. , 2021, , .		1
54	Iterative resonator model describing the continuous-wave operation of a Raman laser. , 2006, , .		0

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55	Enhancement methods for CARS-based heat mitigation and application to near- and mid-infrared silicon-based Raman lasers. , 2007, , .		0
56	Mitigating heat dissipation in a hydrogen-based Raman laser using coherent anti-Stokes Raman scattering. , 2007, , .		0
57	Applications of coherent anti-Stokes Raman scattering in silicon photonics. Proceedings of SPIE, 2010, , .	0.8	0
58	Raman scattering in submicron and nanoscale structures. , 2010, , .		0
59	Optimized wavelength conversion in silicon waveguides based on off-Raman-resonance operation. , 2012, , .		0
60	Extending the phase mismatch formalism for silicon-based wavelength converters. , 2012, , .		0
61	Novel nonlinear photonic functionalities in silicon nanowires. , 2012, , .		0
62	Energy-per-bit and noise limits in plasmonic intergrated photodetectors. Proceedings of SPIE, 2013, , .	0.8	0
63	Opportunities for Raman wavelength conversion with silicon microdisks. , 2014, , .		0
64	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
65	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
66	Design of large scale plasmonic nanoslit arrays for arbitrary mode conversion and demultiplexing. Proceedings of SPIE, 2014, , .	0.8	0
67	Efficient four-wave mixing by phase-mismatch switching. , 2014, , .		0
68	Nonlinear optical functionalities of graphene integrated in silicon photonics. , 2016, , .		0
69	Patterning of graphene on silicon-on-insulator waveguides through laser ablation and plasma etching. , 2016, , .		0
70	Theory of Optical Nonlinearities in Graphene. , 2017, , 183-219.		0
71	Unraveling and Predicting the Nonlinear-optical Refractive Response of Graphene. , 2021, , .		0
72	General measurement technique of the ratio between chromatic dispersion and the nonlinear coefficient. , 2021, , .		0

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73	Graphene-covered nanoscale waveguides: from fabrication to nonlinear spectral broadening demonstration. , 2018, , .		0
74	Modeling Grapheneâ€™s Macroscopic Nonlinear Response. , 2020, , .		0
75	Laser direct writing of short-range interconnect interfacing structures. , 2022, , .		0