

LIST OF PUBLICATIONS USING FemSIM ®

Title	Author	Publication	Year
Simulation of a parallel waveguide array structure suitable for interrogation scheme in a plasmonic biosensor	João Costa, Alessandro Fantoni, Paulo Lourenço, Manuela Vieira	Proceedings Volume 11274, Physics and Simulation of Optoelectronic Devices XXVIII; 112742B (2020) https://doi.org/10.1117/12.2546178 Event: SPIE OPTO, 2020, San Francisco, California, United States	2020
Optimisation of a plasmonic parallel waveguide sensor based on amorphous silicon compounds	João Costa, Alessandro Fantoni, Paulo Lourenço, Manuela Vieira	Proceedings Volume 11354, Optical Sensing and Detection VI; 113542K (2020) https://doi.org/10.1117/12.2555842 Event: SPIE Photonics Europe, 2020, Online Only	2020
Two Sides Rhombus Shaped Cladding Hexagonal PCF with Low Confinement Loss and Negative Dispersion	Anand Kumar,Shahir Uddin,M. A. Hassan,D.K. Singh	Proceedings of the International Conference on Advances in Electronics, Electrical & Computational Intelligence (ICAEEC) 2019	2020
Tandem Mach Zehnder Directional Coupler Design and Simulation on Silicon Platform for Optical Coherence Tomography Applications	Yi-Ting Lu ,Benedictus Yohanes Bagus Widhianto ,Shih-Hsiang Hsu , andChe-Chang Chang	Journals Sensors Volume 20 Issue 4 10.3390/s20041054	2020
Appropriate method of core selection and crosstalk optimization in single-mode homogeneous multicore fiber	Kumar Dablu & Ranjan Rakesh	Optoelectronics Letters volume 16, pages126–130(2020) Reference : SpringerLink	Web 2020
Imparting memory functionality to planar waveguide structures with photo-magnetic materials	Hiro Munekata, Shunta Ogawa, Kento Michihiro, Kazuhiro Nishibayashi and Nozomi Nishizawa	Japanese Journal of Applied Physics, Volume 59, Number SE	2020
Optimisation of a plasmonic parallel waveguide sensor based on amorphous silicon compounds	João Costa, Alessandro Fantoni, Paulo Lourenço, Manuela Vieira	Proceedings Volume 11354, Optical Sensing and Detection VI; 113542K (2020) https://doi.org/10.1117/12.2555842 Event: SPIE Photonics Europe, 2020, Online Only	2020
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Femtosecond laser inscribed Pr:CaF waveguides: Micro-spectroscopy characterizations and refractive index reconstruction	Taiyong Guoa,Ruonan Li,Lifei Sun,Yangjian Cai,Yingying Ren,Yicun Yao,Mark D. Mackenziec,Ajoy K.Kar	Optics Communications Volume 461, 15 April 2020, 125243 Web Reference : ELSEVIER	2020
High-speed performance of a TDFA-band micro-ring resonator modulator and detector	David E. Hagan, Mengyuan Ye, Peng Wang, John C. Cartledge, and Andrew P. Knights	Optics Express Vol. 28, Issue 11, pp. 16845-16856 (2020)	2020
Silicon nitride based devices: lithographic mask roughness mitigation	Paulo Lourenço, Alessandro Fantoni, João Costa, Manuela Vieira	Proceedings Volume 11364, Integrated Photonics Platforms: Fundamental Research, Manufacturing and Applications; 113641Q (2020) https://doi.org/10.1117/12.2555564 Event: SPIE Photonics Europe, 2020,	2020
Ultra-broadband nanophotonic phase shifter based on subwavelength metamaterial waveguides	David González-Andrade, José Manuel Luque-González, J. Gonzalo Wangüemert-Pérez, Alejandro Ortega-Moñux, Pavel Cheben, Íñigo Molina-Fernández, and Aitor V. Velasco	Photonics Research Vol. 8, Issue 3, pp. 359-367 (2020)	2020

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Design of a hybrid wavelength selective switch using silica and silicon waveguides	Kunio Kobayashi, Hiroyuki Tsuda	Proceedings Volume 11184, Optoelectronic Devices and Integration VIII; 111840F (2019) https://doi.org/10.1117/12.2538852 Event: SPIE/COS Photonics Asia, 2019, Hangzhou, China	2019
Beam shaping of a broad-area laser diode using 3D integrated optics	Simon Gross, David W. Coutts, Mark Dubinskiy, and Michael J. Withford	Optics Letters Vol. 44, Issue 4, pp. 831-834 (2019)	2019
Parametric design study of monolayer graphene based TeO2 waveguide saturable absorber	Yile Zhong, Dige Wang, Harry-Dean Kenchington Goldsmith, Steve Madden	Proceedings Volume 11200, AOS Australian Conference on Optical Fibre Technology (ACOFT) and Australian Conference on Optics, Lasers, and Spectroscopy (ACOLS) 2019; 1120036 (2019) https://doi.org/10.1117/12.2540684 Event: ANZCOP, 2019, Melbourne, Australia	2019
Extended Wavelength Responsivity of a Germanium Photodetector Integrated With a Silicon Waveguide Exploiting the Indirect Transition	Ross Anthony ; David E. Hagan ; Dylan Genuth-Okon ; Laura Martinez Maestro ,Iain F. Crowe,Matthew P. Halsall,Andrew P. Knights	IEEE Journal of Selected Topics in Quantum Electronics (Volume: 26 , Issue: 2 , March-April 2020) Article Sequence Number: 3800107 Date of Publication: 28 August 2019 INSPEC Accession Number: 18964713 DOI: 10.1109/JSTQE.2019.2938057 Publisher: IEEE	2019
Parametric design study for waveguide-based graphene MIR photodetectors	Dige Wang, Steve Madden	Proceedings Volume 11200, AOS Australian Conference on Optical Fibre Technology (ACOFT) and Australian Conference on Optics, Lasers, and Spectroscopy (ACOLS) 2019; 112003E (2019) https://doi.org/10.1117/12.2541229 Event: ANZCOP, 2019, Melbourne, Australia	2019
Trimodal polymer waveguide interferometer for chemical sensing	Keito Ebihara, Ken Uchiyama, Kiyoshi Asakawa, Kyohei Okubo and Hiroaki Suzuki	Japanese Journal of Applied Physics, Volume 58, Number 6	2019
Design and cross talk optimization in single-mode high-core count multicore fiber under limited cladding diameter	Dablu Kumar, Rakesh Ranjan	Optical Engineering, 58(5), 056109 (2019). https://doi.org/10.1117/1.OE.58.5.056109	2019
Post-Fabrication Trimming of Silicon Ring Resonators via Integrated Annealing	David E. Hagan ; Benjamin Torres-Kulik ; Andrew P. Knights	IEEE Photonics Technology Letters (Volume: 31 , Issue: 16 , Aug.15, 15 2019) INSPEC Accession Number: 18917407 DOI: 10.1109/LPT.2019.2927323 Publisher: IEEE	2019
Tunable Optical Add/Drop Filter for CWDM Systems Using Photonic Crystal Ring Resonator	Savita Soma, Mahesh V. Sonth & Sanjaykumar C. Gowre	Journal of Electronic Materials volume 48, pages7460–7464(2019)	2019
Parametric design study for waveguide-based graphene MIR photodetectors	Dige Wang, Steve Madden	Proceedings Volume 11200, AOS Australian Conference on Optical Fibre Technology (ACOFT) and Australian Conference on Optics, Lasers, and Spectroscopy (ACOLS) 2019; 112003E (2019) https://doi.org/10.1117/12.2541229	2019
Photonic mid-infrared nulling for exoplanet detection on a planar chalcogenide platform	Harry-Dean Kenchington Goldsmith, Michael J. Ireland, Pan Ma, Barry Luther-Davies, Rongping Wang, Barnaby Norris, Peter Tuthill, Stephen J. Madden	Proceedings Volume 10701, Optical and Infrared Interferometry and Imaging VI; 107011E (2018) https://doi.org/10.1117/12.2311904 Event: SPIE Astronomical Telescopes + Instrumentation, 2018, Austin, Texas, United States	2018

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Ultra-Broadband Mode Converter and Multiplexer Based on Sub-Wavelength Structures	David González-Andrade ; Juan Gonzalo Wangüemert-Pérez ; Aitor V. Velasco ;Alejandro Ortega-Moñux,Alaine Herrero-Bermello,Iñigo Molina-Fernández,Robert Halir,Pavel Cheben	IEEE Photonics Journal (Volume: 10 , Issue: 2 , April 2018) Article Sequence Number: 2201010 INSPEC Accession Number: 17712991 DOI: 10.1109/JPHOT.2018.2819364 Publisher: IEEE	2018
Chalcogenide rib waveguides for the characterization of spray deposits	AnisTaleb Bendiab,Malick Bathily,Caroline Vigreux,Raphaël Escalier,Annie Pradel,Raphaël K.Kribichc,Ryad Bendoula	Optical Materials Volume 86, December 2018, Pages 298-303 Web Reference : ELSEVIER	2018
Periodically poled ridge waveguides in KTP for second harmonic generation in the UV regime	Christof Eigner, Matteo Santandrea, Laura Padberg, Martin F. Volk, Christian E. Rüter, Harald Herrmann, Detlef Kip, and Christine Silberhorn	Optics Express Vol. 26, Issue 22, pp. 28827-28833 (2018)	2018
SiN Integrated Photonics for near-infrared LIDAR	Nicola A. Tyler ; Daivid Fowler ; Stephane Malhouitre ; Stephane Brisson ,Olivier Lemonnier,Wilfried Rabaud,Bertrand Szelag	2018 IEEE CPMT Symposium Japan (ICSJ) INSPEC Accession Number: 18361815 DOI: 10.1109/ICSJ.2018.8602596 Publisher: IEEE	2018
Structure-induced asymmetry between counterpropagating modes in three-port couplers	Marek Osiński, Hosuk Lee, Hemashilpa Kalagara, Gennady A. Smolyakov	Proceedings Volume 10526, Physics and Simulation of Optoelectronic Devices XXVI; 1052615 (2018) https://doi.org/10.1117/12.2295234 Event: SPIE OPTO, 2018, San Francisco, California, United States	2018
On the origin of core-to-core variations in multi-core fibre Bragg grating	S. C. Ellis, S.-S. Min, S. G. Leon-Saval, J. Bland-Hawthorn	Proceedings Volume 10706, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation III; 107064U (2018) https://doi.org/10.1117/12.2312895 Event: SPIE Astronomical Telescopes + Instrumentation, 2018, Austin, Texas, United States	2018
Differential phase-shift-keying demodulation by coherent perfect absorption in silicon photonics	Asif Ahmed, Hao Yang, Jacob M. Rothenberg, Brian Souhan, Zhao Wang, Nathan C. Abrams, Xiang Meng, Kirk A. Ingold, Christopher C. Evans, Joel M. Hensley, Keren Bergman, Richard R. Grote, Andrew P. Knights, Jerry I. Dadap, and Richard M. Osgood	Optics Letters Vol. 43, Issue 16, pp. 4061-4064 (2018) • https://doi.org/10.1364/OL.43.004061	2018
Analysis of Coupling Effect in Coupled SOI Rib Waveguide for Different Polarization Mode	Divakar Kumar ; Dablu Kumar ; Rakesh Ranjan	2018 Conference on Information and Communication Technology (CICT) INSPEC Accession Number: 18733411 DOI: 10.1109/INFOCOMTECH.2018.8722395 Publisher: IEEE	2018
Analysis of Crosstalk Performance and its Reduction Amount in Single-mode Homogeneous Trench-assisted Multicore Fiber	Dablu Kumar ; Rakesh Ranjan	2018 Conference on Information and Communication Technology (CICT) Date of Conference: 26-28 Oct. 2018 INSPEC Accession Number: 18720354 DOI: 10.1109/INFOCOMTECH.2018.8722383 Publisher: IEEE	2018
Design and Analysis of Rhombus-Shaped Dual-Core Propylene Glycol Filled PCF	Neha KumariEmail authorShahiruddinDharmendra Kumar SinghM. A. Hassan	Optical and Wireless Technologies pp 65-74 Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 472)	2018

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Design of zigzag folded inversion-stacked AlGaAs waveguides for ultra-compact wavelength converters	Tomonori Matsushita, Yuki Nakamura, and Takashi Kondo	Optics Express Vol. 25, Issue 19, pp. 22829-22839 (2017)	2017
Modeling multicore integrated waveguides in highly doped glass	David Benedicto, Juan A. Vallés	Proceedings Volume 10453, Third International Conference on Applications of Optics and Photonics; 104530S (2017) https://doi.org/10.1117/12.2271843 Event: Third International Conference on Applications of Optics and Photonics, 2017, Faro, Portugal	2017
Fabrication tolerant chalcogenide mid-infrared multimode interference coupler design with applications for Bracewell nulling interferometry	Harry-Dean Kenchington Goldsmith, Nick Cvetojevic, Michael Ireland, and Stephen Madden	Optics Express Vol. 25, Issue 4, pp. 3038-3051 (2017)	2017
Novel Polarization Rotators for Silicon Photonic Integrated Circuits	Chyong-Hua Chenchyong and Kuei Ho Chen	Optical Data Processing and Storage Volume 3: Issue 1	2017
Crosstalk analysis in homogeneous 12-core multicore fiber with different core layouts for LP01 and LP02 modes	Dablu Kumar ; Rakesh Ranjan	TENCON 2017 - 2017 IEEE Region 10 Conference Date of Conference: 5-8 Nov. 2017 Date Added to IEEE Xplore: 21 December 2017 Electronic ISSN: 2159-3450 INSPEC Accession Number: 17434036 DOI: 10.1109/TENCON.2017.8228264 Publisher: IEEE	2017
Characterization of a Coherent-Perfect-Absorption-based DPSK Demodulator for Si Photonics	Asif Ahmed, Hao Yang, Brian Souhan, Zhao Wang, Christopher C. Evans, Joel M. Hensley, Jerry I. Dadap, Andrew P. Knights, Richard Grote, and Richard M. Osgood	Frontiers in Optics 2017 OSA Technical Digest (online) (Optical Society of America, 2017), paper FW5A.4 • https://doi.org/10.1364/FIO.2017.FW5A.4	2017
Structure-induced asymmetry between counterpropagating modes and the reciprocity principle in whistle-geometry ring lasers	Marek Osinski, Hemashilpa Kalagara, Hosuk Lee, Gennady A. Smolyakov	Proceedings Volume 10345, Active Photonic Platforms IX; 1034520 (2017) https://doi.org/10.1117/12.2274604 Event: SPIE Nanoscience + Engineering, 2017, San Diego, California, United States	2017
Estimation of crosstalk in homogeneous multicore fiber for high core count under limited cladding diameter	Dablu Kumar ; Rakesh Ranjan	2017 Conference on Information and Communication Technology (CICT) INSPEC Accession Number: 17719340 DOI: 10.1109/INFOCOMTECH.2017.8340626 Publisher: IEEE	2017
A Comparative Study on Asymmetric, Triangular, and Rectangular Core Large-Mode-Area PCF Designs	Netra Dalvi, Radhika Ramesh, Pravin Joshi	Optical And Microwave Technologies pp 229-236 Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 468) Web Reference : SpringerLink	2017
Postfabrication Trimming of CMOS-Compatible Athermal MZI by Thermal Annealing	Jong-Moo Lee ; Min-su Kim ; Maryse Fournier ; Pierre Labeye ; Claudio J. Oton ; Francesco Testa	Journal of Lightwave Technology (Volume: 34 , Issue: 4 , Feb.15, 15 2016) INSPEC Accession Number: 15786220 DOI: 10.1109/JLT.2016.2515102 Publisher: IEEE	2016
Augmenting data rate performance for higher order modulation in triangular index profile multicore fiber interconnect	Jitendra K. Mishra, Vishnu Priye, B.M.A. Rahman	Optics Communications Volume 371, 15 July 2016, Pages 40-46 Web Reference : ELSEVIER	2016
Optical autocorrelation performance of silicon wire p-i-n waveguides utilizing the enhanced two-photon absorption	Guangwei Cong, Morifumi Ohno, Yuriko Maegami, Makoto Okano, and Koji Yamada	Optics Express Vol. 24, Issue 26, pp. 29452-29458 (2016)	2016
Design of broadband high-efficiency superconducting-nanowire single photon detectors	L Redaelli, G Bulgarini, S Dobrovolskiy, S N Dorenbos, V Zwiller, E Monroy and J M Gérard	Superconductor Science and Technology, Volume 29, Number 6	2016

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Dispersion-optimized multicladding silicon nitride waveguides for nonlinear frequency generation from ultraviolet to mid-infrared	J. M. Chávez Boggio, A. Ortega Moñux, D. Modotto, T. Fremberg, D. Bodenmüller, D. Giannone, M. M. Roth, T. Hansson, S. Wabnitz, E. Silvestre, and L. Zimmermann	Journal of the Optical Society of America B Vol. 33, Issue 11, pp. 2402-2413 (2016) • https://doi.org/10.1364/JOSAB.33.002402	2016
Towards a quantum interface between telecommunication and UV wavelengths: design and classical performance	Helge Rütz, Kai-Hong Luo, Hubertus Suche & Christine Silberhorn	Applied Physics B volume 122, Article number: 13 (2016)	2016
Mesoscale cavities in hollow-core waveguides for quantum optics with atomic ensembles	C.M. Haapamaki, J. Flannery, G. Bappi, R. Al Maruf, S.V. Bhaskara, O. Alshehri, T. Yoon and M. Bajcsy	Nanophotonics Volume 5: Issue 3 DOI: https://doi.org/10.1515/nanoph-2015-0026	2016
Ultrafast surface plasmon-polariton interference and switching in multiple crossing dielectric waveguides	Tobias Birr, Urs Zywiets, Tim Fischer, Parva Chhantyal, Andrey B. Evlyukhin, Boris N. Chichkov & Carsten Reinhardt	Applied Physics B volume 122, Article number: 164 (2016)	2016
Design of a Polymer-Based Hollow-Core Bandgap Fiber for Low-Loss Terahertz Transmission	Ajanta Barh ; Ravi K. Varshney ; Bishnu P. Pal ; G. P. Agrawal ; B. M. A. Rahman	IEEE Photonics Technology Letters (Volume: 28 , Issue: 15 , Aug.1, 1 2016) INSPEC Accession Number: 16068370 DOI: 10.1109/LPT.2016.2544198 Publisher: IEEE	2016
Model-based calculations of fiber output fields for fiber-based spectroscopy	Eloy Hernandez, Daniel Bodenmüller, Martin M. Roth, Andreas Kelz	Proceedings Volume 9907, Optical and Infrared Interferometry and Imaging V; 990734 (2016) https://doi.org/10.1117/12.2232401	2016

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