

Odysseas TSILIPAKOS

Publications (April 2023)

A. Peer-reviewed journals

- [J1] **O. Tsilipakos**, T. V. Yioultsis, and E. E. Kriezis, "Theoretical analysis of thermally tunable microring resonator filters made of dielectric-loaded plasmonic waveguides," *J. Appl. Phys.*, vol. 106, 093108, **2009**. DOI: 10.1063/1.3256139 [\[link\]](#)
- [J2] **O. Tsilipakos**, and E. E. Kriezis, "Microdisk resonator filters made of dielectric-loaded plasmonic waveguides," *Opt. Commun.*, vol. 283, no. 15, pp. 3095-3098, **2010**. DOI: 10.1016/j.optcom.2010.04.016 [\[link\]](#)
- [J3] **O. Tsilipakos**, A. Ptilakis, A. C. Tasolamprou, T. V. Yioultsis, and E. E. Kriezis, "Computational techniques for the analysis and design of dielectric-loaded plasmonic circuitry," *Opt. Quant. Electron.*, vol. 42, no. 8, pp. 541-555, **2011**. DOI: 10.1007/s11082-011-9440-4 [\[link\]](#)
- [J4] **O. Tsilipakos**, E. E. Kriezis, and S. I. Bozhevolnyi, "Thermo-optic microring resonator switching elements made of dielectric-loaded plasmonic waveguides," *J. Appl. Phys.*, vol. 109, 073111, **2011**. DOI: 10.1063/1.3564949 [\[link\]](#)
- [J5] **O. Tsilipakos**, E. E. Kriezis, and T. V. Yioultsis, "Boundary condition for the efficient excitation and absorption of hybrid waveguide modes in finite element formulations," *Microw. Opt. Technol. Lett.*, vol. 53, no. 11, pp. 2626-2631, **2011**. DOI: 10.1002/mop.26364 [\[link\]](#)
- [J6] S. Papaioannou, K. Vyrsoinos, **O. Tsilipakos**, A. Ptilakis, K. Hassan, J.-C. Weeber, L. Markey, A. Dereux, S. I. Bozhevolnyi, A. Miliou, E. E. Kriezis, and N. Pleros, "A 320Gb/s-throughput capable 2x2 silicon-plasmonic router architecture for optical interconnects," *J. Lightw. Technol.*, vol. 29, no. 21, pp. 3185-3195, **2011**. DOI: 10.1109/JLT.2011.2167315 [\[link\]](#)
- [J7] K. Hassan, J.-C. Weeber, L. Markey, A. Dereux, A. Ptilakis, **O. Tsilipakos**, and E. E. Kriezis, "Thermo-optic plasmo-photonic mode interference switches based on dielectric loaded waveguides," *Appl. Phys. Lett.*, vol. 99, 241110, **2011**. DOI: 10.1063/1.3670500 [\[link\]](#)
- [J8] G. Giannoulis, D. Kalavrouziotis, D. Apostolopoulos, S. Papaioannou, A. Kumar, S. I. Bozhevolnyi, L. Markey, K. Hassan, J.-C. Weeber, A. Dereux, M. Baus, M. Karl, T. Tekin, **O. Tsilipakos**, A. Ptilakis, E. E. Kriezis, K. Vyrsoinos, H. Avramopoulos, and N. Pleros, "Data transmission and thermo-optic tuning performance of dielectric-loaded plasmonic structures hetero-integrated on a silicon chip," *IEEE Photon. Technol. Lett.*, vol. 24, no. 5, pp. 374-376, **2012**. DOI: 10.1109/LPT.2011.2177964 [\[link\]](#)
- [J9] D. Kalavrouziotis, S. Papaioannou, G. Giannoulis, D. Apostolopoulos, K. Hassan, L. Markey, J.-C. Weeber, A. Dereux, A. Kumar, S. I. Bozhevolnyi, M. Baus, M. Karl, T. Tekin, **O. Tsilipakos**, A. Ptilakis, E. E. Kriezis, H. Avramopoulos, K. Vyrsoinos, and N. Pleros, "0.48Tb/s (12x40Gb/s) WDM transmission and high-quality thermo-optic switching in dielectric loaded plasmonics," *Opt. Express*, vol. 20, no. 7, pp. 7655-7662, **2012**. DOI: 10.1364/OE.20.007655 [\[link\]](#)
- [J10] **O. Tsilipakos**, A. Ptilakis, T. V. Yioultsis, S. Papaioannou, K. Vyrsoinos, D. Kalavrouziotis, G. Giannoulis, D. Apostolopoulos, H. Avramopoulos, T. Tekin, M. Baus, M. Karl, K. Hassan, J.-C. Weeber, L. Markey, A. Dereux, A. Kumar, S. I. Bozhevolnyi, N. Pleros, and E. E. Kriezis, "Interfacing dielectric-loaded plasmonic and silicon photonic waveguides: Theoretical analysis and experimental demonstration," *IEEE J. Quant. Electron.*, vol. 48, no. 5, pp. 678-687, **2012**. DOI: 10.1109/JQE.2012.2189757, [\[link\]](#)
- [J11] **O. Tsilipakos**, D. C. Zografopoulos and E. E. Kriezis, "Quasi-soliton pulse-train propagation in dispersion-managed silicon rib waveguides," *IEEE Photon. Technol. Lett.*, vol. 25, no. 8, pp. 724-727, **2013**. DOI: 10.1109/LPT.2013.2248355 [\[link\]](#)

- [J12] D. A. Ketzaki, **O. Tsilipakos**, T. V. Yioultsis, and E. E. Kriezis, "Electromagnetically induced transparency with hybrid silicon-plasmonic traveling-wave resonators," *J. Appl. Phys.*, vol. 114, 113107, **2013**. DOI: 10.1063/1.4821796 [\[link\]](#)
- [J13] A. Pitilakis, **O. Tsilipakos**, and E. E. Kriezis, "Optimizing Silicon-Plasmonic Waveguides for $\chi^{(3)}$ nonlinear applications," *Appl. Phys. A*, vol. 115, no. 2, pp. 475-479, **2014**. DOI: 10.1007/s00339-013-8055-y [\[link\]](#)
- [J14] **O. Tsilipakos**, and E. E. Kriezis, "Optical bistability with hybrid silicon-plasmonic disk resonators," *J. Opt. Soc. Am. B*, vol. 31, no. 7, pp. 1698-1705, **2014**. DOI: 10.1364/JOSAB.31.001698 [\[link\]](#)
- [J15] T. Christopoulos, G. Sinatkas, **O. Tsilipakos***, and E. E. Kriezis, "Bistable action with hybrid plasmonic Bragg-grating resonators." *Opt. Quantum Electron.* 48 (2), 128, **2016**. DOI: 10.1007/s11082-016-0377-5, [\[link\]](#) *corresponding author
- [J16] **O. Tsilipakos**, T. Christopoulos, and E. E. Kriezis, "Long-range hybrid plasmonic disk resonators for mW bistability and self-pulsation," *J. Lightw. Technol.* 34 (4), pp. 1333-1343, **2016**. DOI: 10.1109/JLT.2015.2511447 [\[link\]](#)
- [J17] T. Christopoulos*, **O. Tsilipakos***, N. Grivas, and E. E. Kriezis, "Coupled-mode-theory framework for nonlinear resonators comprising graphene," *Phys. Rev. E* 94, 062219, **2016**. DOI: 10.1103/PhysRevE.94.062219 [\[link\]](#) *corresponding author
- [J18] A. C. Tasolamprou, **O. Tsilipakos**, M. Kafesaki, C. M. Soukoulis and E. N. Economou, "Toroidal eigenmodes in all-dielectric metamolecules," *Phys. Rev. B* 94, 205433, **2016**. DOI: 10.1103/PhysRevB.94.205433 [\[link\]](#)
- [J19] T. Christopoulos, **O. Tsilipakos**, and E. E. Kriezis, "Low-power bistability in graphene-comprising 3D photonic resonant circuits," *J. Appl. Phys.* 122, 233101, **2017**. DOI: 10.1063/1.5005610 [\[link\]](#)
- [J20] **O. Tsilipakos**, T. Koschny, C. M. Soukoulis, "Antimatched Electromagnetic Metasurfaces for Broadband Arbitrary Phase Manipulation in Reflection," *ACS Photonics* 5(3), pp. 1101-1107, **2018**. DOI: 10.1021/acsp Photonics.7b01415 [\[link\]](#)
- [J21] **O. Tsilipakos**, A. C. Tasolamprou, Th. Koschny, M. Kafesaki, E. N. Economou and C. M. Soukoulis, "Pairing toroidal and magnetic dipole resonances in elliptic dielectric rod metasurfaces for reconfigurable wavefront manipulation in reflection," *Adv. Opt. Mater.* 6, 1800633, **2018**. DOI: 10.1002/adom.201800633 [\[link\]](#)
- [J22] T. Christopoulos, **O. Tsilipakos**, G. Sinatkas and E. E. Kriezis, "Degenerate four-wave mixing in nonlinear resonators comprising 2D materials: a coupled-mode theory approach," *Phys. Rev. B* 98, 235421, **2018**. DOI: 10.1103/PhysRevB.98.235421 [\[link\]](#)
- [J23] G. Perrakis, **O. Tsilipakos***, G. Kenanakis, M. Kafesaki, C. M. Soukoulis, E. N. Economou, "Perfect optical absorption with nanostructured metal films: design and experimental demonstration," *Opt. Express* 27(5), pp. 6842-6850, **2019**. DOI: 10.1364/OE.27.006842 [\[link\]](#) *corresponding author
- [J24] F. Liu*, **O. Tsilipakos***, A. Pitilakis, A. C. Tasolamprou, M. S. Mirmoosa, N. V. Kantartzis, D.-H. Kwon, J. Georgiou, K. Kossifos, M. A. Antoniadis, M. Kafesaki, C. M. Soukoulis, S. A. Tretyakov, "Intelligent Metasurfaces with Continuously Tunable Local Surface Impedance for Multiple Reconfigurable Functions" *Phys. Rev. Appl.* 11, 044024, **2019**. DOI: 10.1103/PhysRevApplied.11.044024 [\[link\]](#) *equal contribution, corresponding author [\[Editor's Pick\]](#)
- [J25] T. Christopoulos*, **O. Tsilipakos***, G. Sinatkas and E. E. Kriezis, "On the calculation of Quality Factor in contemporary photonic resonant structures," *Opt. Express* 27(10), pp. 14505-14522, **2019**. DOI: 10.1364/OE.27.014505 [\[link\]](#) *corresponding author
- [J26] E. Takou, A. C. Tasolamprou, **O. Tsilipakos**, and E. N. Economou, "Dynamic Anapole in Metasurfaces made of Sculptured Cylinders," *Phys. Rev. B* 100, 085431, **2019**. DOI: 10.1103/PhysRevB.100.085431 [\[link\]](#)
- [J27] G. Sinatkas, T. Christopoulos, **O. Tsilipakos**, and E. E. Kriezis, "Comparative study of transparent conducting oxide and graphene silicon-photonic modulators," *Phys. Rev. Appl.* 12, 064023, **2019**. DOI: 10.1103/PhysRevApplied.12.064023 [\[link\]](#)

- [J28] A. C. Tasolamprou, A. Ptilakis, S. Abadal, **O. Tsilipakos**, X. Timoneda, H. Taghvaei, M. S. Mirmoosa, F. Liu, C. Liaskos, A. Tsioliariidou, N. V. Kantartzis, D. Manassis, J. Georgiou, A. Cabellos-Aparicio, E. Alarcón, A. Pitsillides, I. F. Akyildiz, S. A. Tretyakov, E. N. Economou, M. Kafesaki, and C. M. Soukoulis, “Exploration of Intercell Wireless Millimeter-Wave Communication in the Landscape of Intelligent Metasurfaces,” *IEEE Access*, vol. 7, pp. 122931-122948, **2019**. DOI: 10.1109/ACCESS.2019.2933355 [\[link\]](#)
- [J29] H. Taghvaei, S. Abadal, A. Ptilakis, **O. Tsilipakos**, A. Tasolamprou, C. Liaskos, M. Kafesaki, N. V. Kantartzis, A. Cabellos-Aparicio, and E. Alarcon, “Scalability Analysis of Programmable Metasurfaces for Beam Steering,” *IEEE Access*, vol. 8, pp. 105320-105334, **2020**. DOI: 10.1109/ACCESS.2020.3000424 [\[link\]](#)
- [J30] **O. Tsilipakos**, A. C. Tasolamprou, A. Ptilakis, F. Liu, X. Wang, M. S. Mirmoosa, D. C. Tzarouchis, S. Abadal, H. Taghvaei, C. Liaskos, A. Tsioliariidou, J. Georgiou, A. Cabellos-Aparicio, E. Alarcón, S. Ioannidis, A. Pitsillides, I. F. Akyildiz, N. V. Kantartzis, E. N. Economou, C. M. Soukoulis, Maria Kafesaki, S. Tretyakov, “Toward Intelligent Metasurfaces: The Progress from Globally-Tunable Metasurfaces to Software-Defined Metasurfaces with an Embedded Network of Controllers,” *Advanced Optical Materials*, 202000783, **2020**. DOI: 10.1002/adom.202000783. [\[link\]](#)
- [J31] T. Christopoulos, **O. Tsilipakos**, E. E. Kriezis, “Degenerate four-wave mixing in THz standing-wave graphene resonators,” *J. Opt. Soc. Am. B*, vol. 37, pp. 2626-2636, **2020**. DOI: 10.1364/JOSAB.395461 [\[link\]](#)
- [J32] **O. Tsilipakos**, M. Kafesaki, E. N. Economou, C. M. Soukoulis, T. Koschny, “Squeezing a prism into a surface: Emulating bulk optics with achromatic metasurfaces,” *Advanced Optical Materials* 8(23), 2000942, **2020**. DOI: 10.1002/adom.202000942 [\[link\]](#)
- [J33] A. Ptilakis*, **O. Tsilipakos***, F. Liu*, K. M. Kossifos, A. C. Tasolamprou, D.-H. Kwon, M. S. Mirmoosa, D. Manassis, N. V. Kantartzis, C. Liaskos, M. A. Antoniadis, J. Georgiou, C. M. Soukoulis, M. Kafesaki, and S. A. Tretyakov, “A Multi-Functional Reconfigurable Metasurface: Electromagnetic Design Accounting for Fabrication Aspects,” *IEEE Transactions on Antennas and Propagation* 69(3), pp. 1440-1454, **2020**, DOI: 10.1109/TAP.2020.3016479 [\[link\]](#) *equal contribution
- [J34] K. M. Kossifos, L. Petrou, G. Varnava, A. Ptilakis, **O. Tsilipakos**, F. Liu, P. Karousios, A. Tasolamprou, M. Seckel, D. Manassis, N. V. Kantartzis, D.-H. Kwon, M. A. Antoniadis, and J. Georgiou, “Toward the Realization of Programmable Metasurface Absorber Enabled by Custom Integrated Circuit Technology,” *IEEE Access*, vol. 8, pp. 92986-92998, **2020**. DOI: 10.1109/ACCESS.2020.2994469 [\[link\]](#)
- [J35] **O. Tsilipakos**, A. Xomalis, G. Kenanakis, M. Farsari, C. M. Soukoulis, E. N. Economou, M. Kafesaki, “Split-cube-resonator-based metamaterials for polarization-selective asymmetric perfect absorption,” *Scientific Reports* 10, 17653, **2020**. DOI: 10.1038/s41598-020-74221-7 [\[link\]](#)
- [J36] E. Takou, A. C. Tasolamprou, **O. Tsilipakos**, Z. Viskadourakis, M. Kafesaki, G. Kenanakis, E. N. Economou, “Anapole dissipation loss resilience in thermally tunable dielectric water-based metasurfaces,” *Physical Review Applied* 15, 014043, **2021**. DOI: 10.1103/PhysRevApplied.15.014043 [\[link\]](#)
- [J37] T. Christopoulos*, **O. Tsilipakos***, E. E. Kriezis, “Nonlinear Perturbation Theory for Leaky Cavities,” *Optics Letters* 45(23), pp. 6442-6445, **2020**. DOI: 10.1364/OL.408336 [\[link\]](#) *corresponding author
- [J38] **O. Tsilipakos**, L. Zhang, M. Kafesaki, C. M. Soukoulis, T. Koschny, “Experimental Implementation of Achromatic Multiresonant Metasurface for Broadband Pulse Delay,” *ACS Photonics*, vol. 8, no. 6, pp. 1649–1655, **2021**. DOI: 10.1021/acsp Photonics.1c00025 [\[link\]](#)
- [J39] V. Melissinaki, **O. Tsilipakos**, M. Kafesaki, M. Farsari, S. Pissadakis, “Micro-ring resonator devices prototyped on optical fiber tapers by multi-photon lithography,” *IEEE Journal of Selected Topics in Quantum Electronics*, vol. 27, no. 6, Art no. 5900107, **2021**. DOI: 10.1109/JSTQE.2021.3062716 [\[link\]](#)

- [J40] N. Korakas, D. Vurro, **O. Tsilipakos**, T. Vasileiadis, B. Graczykowski, A. Cucinotta, S. Selleri, G. Fytas, S. Iannota, S. Pissadakis, “Photo-elasticity of silk fibroin harnessing whispering gallery modes,” *submitted*.
- [J41] G. Sinatkas, T. Christopoulos, **O. Tsilipakos**, E. E. Kriezis, “Electro-optic modulation in integrated photonics,” *Journal of Applied Physics* 130, 010901, **2021**. DOI: 10.1063/5.0048712 [[link](#)] [[Editor’s Pick](#)]
- [J42] A. Xomalis*, **O. Tsilipakos***, M. Manousidaki, O. P. d G. Busquets G. Kenanakis, M. Farsari, C. M. Soukoulis, E. N. Economou, M. Kafesaki, “Enhanced refractive index sensing with direction-selective three-dimensional infrared metamaterials,” *ACS Appl. Opt. Mater.*, early access, **2022**. DOI: 10.1021/acsaom.2c00001 [[link](#)] *equal contribution
- [J43] K. Baskourelou, **O. Tsilipakos**, T. Stefański, S. F. Galata, E. N. Economou, M. Kafesaki, K. L. Tsakmakidis, “Topological Microscopy and Near-Perfect Optical Extraordinary Transmission,” *Physical Review Research* 4, L032011, **2022**. DOI: 10.1103/PhysRevResearch.4.L032011 [[link](#)]
- [J44] Z. Viskadourakis, E. Tamiolakis, **O. Tsilipakos**, et al., “3D-Printed Metasurface Units for Potential Energy Harvesting Applications at the 2.4 GHz Frequency Band,” *Crystals*, vol. 11, no. 9, 1089, **2021**. DOI: 10.3390/cryst11091089 [[link](#)]
- [J45] H. Taghvaei, A. Pitolakis, **O. Tsilipakos**, A. Tasolamprou, N. V. Kantartzis, M. Kafesaki, A. Cabellos-Aparicio, E. Alarcon and S. Abadal, “Multi-Wideband Terahertz Communications via Tunable Graphene-based Metasurfaces in 6G Networks,” *IEEE Vehicular Technology Magazine*, vol. 17, no. 2, pp. 16-25, **2022**. DOI: 10.1109/MVT.2022.3155905 [[link](#)]
- [J46] **O. Tsilipakos**, L. Maiolo, F. Maita, R. Beccherelli, M. Kafesaki, E. E. Kriezis, T. V. Yioultsis, and D. C. Zografopoulos, “Experimental demonstration of ultrathin broken-symmetry metasurfaces with controllably sharp resonant response,” *Applied Physics Letters*, vol. 119, no. 23, 231601, **2021**. DOI: 10.1063/5.0073803 [[link](#)]
- [J47] A. Theodosi, **O. Tsilipakos***, C. M. Soukoulis, E. N. Economou, M. Kafesaki, “2D-patterned Graphene Metasurfaces for Efficient Third Harmonic Generation at THz Frequencies,” *Optics Express* 30(1), 460-472, **2022**. DOI: 10.1364/OE.445751 [[link](#)] *corresponding author
- [J48] G. Nousios, T. Christopoulos, **O. Tsilipakos** and E. Kriezis, “Dynamic Routing through Saturable Absorption in Graphene Photonic Resonators: Impact of Carrier Diffusion and Finite Relaxation Time,” *Journal of Applied Physics* 131(5), 053104, **2022**. DOI: 10.1063/5.0076959. [[link](#)]
- [J49] A. Pitolakis*, M. Seckel, A. C. Tasolamprou, F. Liu, A. Deltsidis, D. Manassis, A. Ostmann, N. V. Kantartzis, C. Liaskos, C. M. Soukoulis, S. A. Tretyakov, M. Kafesaki, and **O. Tsilipakos***, “Multi-functional metasurface architecture for amplitude, polarization and wavefront control,” *Phys. Rev. Applied* 17, 064060, **2022**. DOI: 10.1103/PhysRevApplied.17.064060 [[link](#)]. *corresponding author [[Editor’s Pick](#)]
- [J50] N. Korakas, V. Tsafas, **O. Tsilipakos**, I. Konidakis, B. Moog, C. Craig, G. Filippidis, D. Hewak, M. N. Zervas and S. Pissadakis, “Whispering gallery mode resonance in thermally poled borosilicate glass hetero-fibers,” *J. Lightw. Technol.* 40(14), pp. 4786-4794, **2022**. DOI: 10.1109/JLT.2022.3164980 [[link](#)]
- [J51] C. Liaskos, A. Tsioliariidou, K. Georgopoulos, I. Morianos, S. Ioannidis, I. Salem, D. Manassis, S. Schmid, D. Tyrovolas, S. A. Tegos, P.-V. Mekikis, P. D. Diamantoulakis, A. Pitolakis, N. V. Kantartzis, G. K. Karagiannidis, A. C. Tasolamprou, **O. Tsilipakos**, M. Kafesaki, I. F. Akyildiz, A. Pitsillides, M. Pateraki, M. Vakalellis, I. Spais, “XR-RF Imaging Enabled by Software-Defined Metasurfaces and Machine Learning: Foundational Vision, Technologies and Challenges,” *IEEE Access* 10, pp. 119841-119862, **2022**, DOI: 10.1109/ACCESS.2022.3219871 [[link](#)]
- [J52] **O. Tsilipakos** and T. Koschny, “Multiresonant metasurfaces for arbitrarily broad bandwidth pulse chirping and dispersion compensation,” *Phys. Rev. B* 107, 165408, **2023**. DOI: 10.1103/PhysRevB.107.165408 [[link](#)]

- [J53] T. Christopoulos, E. E. Kriezis, and **O. Tsilipakos**, “Multimode non-Hermitian framework for third-order nonlinear photonic systems comprising 2D materials,” *Phys. Rev. B* 107, 035413, 2023. DOI: 10.1103/PhysRevB.107.035413 [\[link\]](#)
- [J54] G. Nousios, T. Christopoulos, **O. Tsilipakos** and E. Kriezis, “Integrated Lasers with Transition Metal Dichalcogenide Heterostructures: Analysis and Design Utilizing Coupled-Mode Theory for 2D Materials,” *submitted*
- [J55] D. C. Zografopoulos and **O. Tsilipakos**, “Recent advances in strongly-resonant and gradient all-dielectric metasurfaces,” *Materials Advances* 4, 11-34, 2023. DOI: 10.1039/D2MA00910B [\[link\]](#) [\[Inside Front Cover\]](#)
- [J56] P. Lingos, G. Perrakis, **O. Tsilipakos**, G. D. Tsibidis, E. Stratakis, “Impact of plasmonic modes on the formation of self-organised nano-patterns in thin films,” *Optics & Laser Technology* 163, 109415, 2023. DOI: j.optlastec.2023.109415 [\[link\]](#)
- [J57] **O. Tsilipakos**, Z. Viskadourakis, A. C. Tasolamprou, D. C. Zografopoulos, M. Kafesaki, G. Kenanakis, E. N. Economou, “Meta-Atoms with Toroidal Topology for Strongly Resonant Responses,” *Micromachines*, vol. 14, no. 2, 468, 2023. DOI: 10.3390/mi14020468 [\[link\]](#)

B. Book Chapters

- [B1] S. Papaioannou, K. Vyrsoinos, G. Giannoulis, D. Apostolopoulos, H. Avramopoulos, F. Zacharatos, K. Hassan, J.-C. Weeber, L. Markey, A. Dereux, A. Kumar, S. I. Bozhevolnyi, A. Suna, O. Gili de Villasante, T. Tekin, M. Waldow, **O. Tsilipakos**, A. Pitolakis, E. E. Kriezis, and N. Pleros, *Merging Plasmonics and Silicon Photonics Towards Greener and Faster “Network-on-Chip” Solutions for Data Centers and High-Performance Computing Systems*, in *Plasmonics - Principles and Applications*, Dr. Ki Young Kim (Ed.), ISBN: 978-953-51-0797-2, InTech **2012**. DOI: 10.5772/51853 [\[link\]](#)
- [B2] A. C. Tasolamprou, **O. Tsilipakos**, A. Basharin, M. Kafesaki, C. M. Soukoulis and E. N. Economou, *Toroidal multipoles in metamaterials*, in *Electromagnetic Analysis: From Electrostatics To Photonics*, Igor Tsukerman (Ed.), World Scientific **2020**. ISBN:978-981-3270-16-9. DOI: 10.1142/9789813270343_0007 [\[link\]](#)
- [B3] S. Abadal, X. Timoneda, J. Sole-Pareta, E. Alarcon, A. Cabellos-Aparicio, A. Tasolamprou, **O. Tsilipakos**, C. Liaskos, M. Kafesaki, E. N. Economou, C. Soukoulis, A. Pitolakis, N. V. Kantartzis, M. Sajjad Mirmoosa, F. Liu, S. Tretyakov, *Nanoscale Channel Modeling in Computing Packages*, in *Nanoscale Networking and Communications Handbook*, John R. Vacca (Ed.), CRC Press **2019**. ISBN: 9781498727310. DOI: 10.1201/9780429163043 [\[link\]](#)
- [B4] F. Liu, Xuchen Wang, M. Sajjad Mirmoosa, S. Tretyakov, **O. Tsilipakos**, A. C. Tasolamprou, M. Kafesaki, A. Pitolakis, N. V. Kantartzis, D.-H. Kwon, chapter *Electromagnetic specifications and prototype designs of Software Defined Surfaces*, in book *Internet of Materials* (ed. Christos Liaskos), CRC Press **2020**. in publication DOI: 10.1201/9781003043805 [\[link\]](#)
- [B5] H. Taghvaei, S. Abadal, E. Alarcon, A. Cabellos-Aparicio, T. Saeed, A. Pitsillides, **O. Tsilipakos**, C. Liaskos, A. Tasolamprou, M. Kafesaki, A. Pitolakis, N. Kantartzis, V. Soteriou, M. Lestas, chapter *The Scaling Laws of HyperSurfaces*, in book *Internet of Materials* (ed. Christos Liaskos), CRC Press **2020**. DOI: 10.1201/9781003043805 [\[link\]](#)

C. Conference Proceedings

- [C1] **O. Tsilipakos**, T. V. Yioultsis, and E. E. Kriezis, “Theoretical analysis of microring resonator filters made of plasmonic waveguides,” *ICTON 2009: 11th International Conference on Transparent Optical*

- Networks*, art. no. 5185251, Azores, Portugal, 28 June-2 July **2009**. DOI: 10.1109/ICTON.2009.5185251 [\[link\]](#) [\[invited\]](#)
- [C2] N. Pleros, K. Vyrsokinos, S. Papaioannou, D. Fitsios, **O. Tsilipakos**, A. Pitolakis, E. E. Kriezis, A. Miliou, T. Tekin, M. Baus, M. Karl, D. Kalavrouziotis, G. Giannoulis, H. Avramopoulos, N. Djellali, J.-C. Weeber, L. Markey, A. Dereux, J. Gosciniaik, and S. I. Bozhevolnyi, "Tb/s switching fabrics for optical interconnects using heterointegration of plasmonics and silicon photonics: The FP7 PLATON approach," *IEEE Photonics Society 23rd Annual Meeting* (Denver, US), 7-11 Nov. **2010**. DOI: 10.1109/PHOTONICS.2010.5698810 [\[link\]](#) [\[invited\]](#)
- [C3] A. Dereux, K. Hassan, J.-C. Weeber, N. Djellali, S. I. Bozhevolnyi, **O. Tsilipakos**, A. Pitolakis, E. E. Kriezis, S. Papaioannou, K. Vyrsokinos, N. Pleros, T. Tekin, M. Baus, D. Kalavrouziotis, G. Giannoulis, and H. Avramopoulos, "Parametric study of dielectric loaded surface plasmon polariton add-drop filters for hybrid silicon/plasmonic optical circuitry," in *Proceedings of SPIE Photonics West*, 7945-40, (San Francisco, US), 24 January **2011**. DOI: 10.1117/12.873165 [\[link\]](#)
- [C4] D. Kalavrouziotis, G. Giannoulis, D. Apostolopoulos, S. Papaioannou, A. Kumar, S. I. Bozhevolnyi, L. Markey, K. Hassan, J.-C. Weeber, A. Dereux, M. Baus, M. Karl, T. Tekin, **O. Tsilipakos**, A. Pitolakis, E. E. Kriezis, H. Avramopoulos, K. Vyrsokinos, and N. Pleros, "10 Gb/s transmission and thermo-Optic resonance tuning in silicon-plasmonic waveguide platform," *ECOC 2011: 37th European Conference on Optical Communications*, (Geneva, CH), 18-22 September **2011**. DOI: ECOC.2011.We.10.P1.27 [\[link\]](#)
- [C5] K. Hassan, J.-C. Weeber, L. Markey, A. Dereux, A. Pitolakis, **O. Tsilipakos**, and E. E. Kriezis, "Characterization of thermo-optical 2x2 switch configurations made of Dielectric Loaded Surface Plasmon Polariton Waveguides for telecom routing architecture," in *Proceedings Optical Fiber Communication Conference and Exposition (OFC) and The National Fiber Optic Engineers Conference (NFOEC) (OFC/NFOEC'2012)*, Los Angeles, California, USA, 4-8 March **2012**. DOI: OFC.2012.OW3E.5 [\[link\]](#)
- [C6] **O. Tsilipakos**, A. Pitolakis and E. E. Kriezis, "Hybrid silicon-plasmonics: efficient waveguide interfacing for low-loss integrated switching components," *Proc. SPIE* 8424, 84241E, Brussels, Belgium, 1 May **2012**, DOI: 10.1117/12.922298 [\[link\]](#) [\[Best student paper award\]](#)
- [C7] J.-C. Weeber, K. Hassan, M. G. Nielsen, A. Pitolakis, **O. Tsilipakos**, E. E. Kriezis, J. Fatome, C. Finot, L. Markey, O. Albrechtsen, S. I. Bozhevolnyi and A. Dereux, "Dielectric loaded surface plasmon waveguides for datacom applications", *Proc. SPIE* 8424, 842407, Brussels, Belgium, 30 April **2012**. DOI: 10.1117/12.921766 [\[link\]](#) [\[invited\]](#)
- [C8] A. Pitolakis, **O. Tsilipakos** and E. E. Kriezis, "Nonlinear effects in hybrid plasmonic waveguides," *ICTON 2012: 14th International Conference on Transparent Optical Networks*, art. no. 6254436, Coventry, UK, 2-5 July **2012**. DOI: 10.1109/ICTON.2012.6254436 [\[link\]](#)
- [C9] **O. Tsilipakos**, D. C. Zografopoulos and E. E. Kriezis, "Soliton-like propagation in dispersion-managed silicon nanowaveguides," *CLEO Europe 2013*, (Munich, DE), May 12-16, **2013**, DOI: 10.1109/CLEOE-IQEC.2013.6800890 [\[link\]](#)
- [C10] D. Chatzidimitriou, G. Sinatkas, T. Christopoulos, A. Pitolakis, E. E. Kriezis, **O. Tsilipakos** "Carrier-controlled nanophotonic components for routing and modulation operations," *MOCAS 2016: 5th International Conference on Modern Circuits and Systems Technologies* (Thessaloniki, GR), May 12-14, **2016**. DOI: 10.1109/MOCAS.2016.7495141 [\[link\]](#)
- [C11] T. Christopoulos, **O. Tsilipakos**, Nikolaos Grivas, Georgios I. Sinatkas and E. E. Kriezis, "Modeling Nonlinear Resonators Comprising Graphene: A Coupled Mode Theory Approach," *CLEO 2017: Conference on Lasers and Electro-Optics*, paper FTu3H.3, (San Jose, CA, USA), 14-19 May, **2017**. DOI: 10.1364/CLEO_QELS.2017.FTu3H.3 [\[link\]](#)
- [C12] **O. Tsilipakos**, A. C. Tasolamprou, Th. Koschny, M. Kafesaki, E. N. Economou and C. M. Soukoulis, "Dielectric Rod Metasurfaces: Exploiting Toroidal and Magnetic Dipole Resonances," *Metamaterials*

- 2017: *11th International Congress on Engineered Material Platforms for Novel Wave Phenomena*, (Marseille, FR), Aug. 28th – Sep. 2nd, **2017**. DOI: 10.1109/MetaMaterials.2017.8107810 [\[link\]](#)
- [C13] F. Liu, A. Pitolakis, M. Sajjad Mirmoosa, **O. Tsilipakos**, X. Wang, A. C. Tasolamprou, S. Abadal, A. Cabellos-Aparicio, E. Alarcón, C. Liaskos, N. V. Kantartzis, M. Kafesaki, E. N. Economou, C. M. Soukoulis, S. Tretyakov, “Programmable Metasurfaces: State of the Art and Prospects,” 2018 IEEE International Symposium on Circuits and Systems (ISCAS), Florence (IT), 27-30 May **2018**. DOI: 10.1109/ISCAS.2018.8351817 [\[link\]](#)
- [C14] A. C. Tasolamprou, M. Sajjad Mirmoosa, **O. Tsilipakos**, A. Pitolakis, F. Liu, S. Abadal, A. Cabellos-Aparicio, E. Alarcón, C. Liaskos, N. V. Kantartzis, S. Tretyakov, M. Kafesaki, E. N. Economou, C. M. Soukoulis, “Intercell Wireless Communication in Software-defined Metasurfaces”, 2018 IEEE International Symposium on Circuits and Systems (ISCAS), Florence (IT), 27-30 May **2018**. DOI: 10.1109/ISCAS.2018.8351865 [\[link\]](#)
- [C15] G. Sinatkas, T. Christopoulos, **O. Tsilipakos**, and E. E. Kriezis, "Silicon-photonic electro-optic modulators based on graphene and epsilon-near-zero materials," in *Advanced Photonics 2018*, OSA Technical Digest, paper IW3B.5. Zurich, Switzerland, 2–5 July **2018**. DOI: 10.1364/IPRSN.2018.IW3B.5 [\[link\]](#)
- [C16] **O. Tsilipakos**, F. Liu, A. Pitolakis, A. C. Tasolamprou, D.-H. Kwon, M. S. Mirmoosa, N. V. Kantartzis, E. N. Economou, M. Kafesaki, C. M. Soukoulis, S. A. Tretyakov, “Tunable Perfect Anomalous Reflection in Metasurfaces with Capacitive Lumped Elements,” in *Proceedings Metamaterials 2018: 12th International Congress on Artificial Materials for Novel Wave Phenomena*, pp. 392-394, (Espoo, Finland), Aug. 27th – Sept. 1th, **2018**. DOI: 10.1109/MetaMaterials.2018.8534083 [\[link\]](#)
- [C17] **O. Tsilipakos**, Th. Koschny, C. M. Soukoulis, “Metasurfaces with Interleaved Electric and Magnetic Resonances for Broadband Arbitrary Group Delay in Reflection,” in *Proceedings Metamaterials 2018: 12th International Congress on Artificial Materials for Novel Wave Phenomena*, pp. 389-391, (Espoo, Finland), Aug. 27th – Sept. 1th, **2018**. DOI: 10.1109/MetaMaterials.2018.8534076 [\[link\]](#)
- [C18] F. Liu*, **O. Tsilipakos***, X. Wang, A. Pitolakis, A. C. Tasolamprou, M. S. Mirmoosa, D.-H. Kwon, K. Kossifos, J. Georgiou, M. Kafesaki, C. M. Soukoulis, S. A. Tretyakov, “Electromagnetic Aspects of Practical Approaches to Realization of Intelligent Metasurfaces,” in *Proceedings Metamaterials 2018: 12th International Congress on Artificial Materials for Novel Wave Phenomena*, pp. 260-262, (Espoo, Finland), Aug. 27th – Sept. 1th, **2018**. DOI: 10.1109/MetaMaterials.2018.8534164 [\[link\]](#) [\[invited\]](#)
*corresponding author
- [C19] A. Pitolakis, A. C. Tasolamprou, C. Liaskos, F. Liu, **O. Tsilipakos**, X. Wang, M. S. Mirmoosa, K. Kossifos, J. Georgiou, A. Pitsilides, N. V. Kantartzis, S. Ioannidis, E. N. Economou, M. Kafesaki, S. A. Tretyakov, C. M. Soukoulis, "Software-Defined Metasurface Paradigm: Concept, Challenges, Prospects," in *Proceedings Metamaterials 2018: 12th International Congress on Artificial Materials for Novel Wave Phenomena*, pp. 483-485, (Espoo, Finland), Aug. 27th – Sept. 1th, **2018**. DOI: 10.1109/MetaMaterials.2018.8534096 [\[link\]](#) [\[invited\]](#)
- [C20] D. Manassis, M. Seckel, F. Liu, **O. Tsilipakos**, A. Pitolakis, A. Tasolamprou, K. Kossifos, C. Liaskos, M. Kafesaki, S. Tretyakov, J. Georgiou, A. Ostmann, R. Aschenbrenner, M. Schneider-Ramelow, K.-L. Lang, “High frequency substrate technologies for the realisation of software programmable metasurfaces on PCB hardware platforms with integrated controller nodes,” EMPC 2019: 22nd Microelectronics and Packaging Conference (EMPC) & Exhibition, Pisa, Italy, 16-19 September **2019**. DOI: 10.23919/EMPC44848.2019.8951834 [\[link\]](#)
- [C21] **O. Tsilipakos**, T. Christopoulos, G. Sinatkas, E. E. Kriezis, “Single- and Multi-Channel Nonlinear Phenomena in Resonant Structures Comprising Graphene,” 13th International Congress on Artificial Materials for Novel Wave Phenomena – Metamaterials 2019, Rome, Italy, Sept. 16th – Sept. 21st, pp. X-435 – X-437, **2019**. DOI: 10.1109/MetaMaterials.2019.8900806 [\[link\]](#)

- [C22] C.Liaskos, G.Pirialakos, A.Pitilakis, S.Abadal, A.Tsioliaridou, A.Tasolamprou, **O.Tsilipakos**, N. Kantartzis, S.Ioannidis, E.Alarcon, A.Cabellos, M. Kafesaki, A.Pitsillides, K.Kossifos, J.Georgiou, “ABSense: Sensing Electromagnetic Waves on Metasurfaces via Ambient Compilation of Full Absorption,” ACM NanoCom 2019: 6th ACM International Conference on Nanoscale Computing and Communication, Dublin, Ireland, September 25-27, **2019**. DOI: 10.1145/3345312.3345468 [\[link\]](#)
- [C23] T. Christopoulos, **O. Tsilipakos***, V. G. Ataloglou, and E. E. Kriezis, “Multi-channel Nonlinear Interactions in Practical Graphene Components,” (METANANO 2020 — V International Conference on Metamaterials and Nanophotonics, 14-18 September, Tbilisi, Georgia), AIP Conference Proceedings 2300, 020018, **2020**. DOI: 10.1063/5.0031772 [\[link\]](#) *corresponding author
- [C24] D. Manassis, M. Seckel, F. Liu, **O. Tsilipakos**, A. Pitilakis, A. Tasolamprou, K. Kossifos, G. Varnava, C. Liaskos, M. Kafesaki, C. M. Soukoulis, S. Tretyakov, J. Georgiou, A. Ostmann, R. Aschenbrenner, M. Schneider-Ramelow, K.-D. Lang, “Manufacturing of high frequency substrates as software programmable metasurfaces on PCBs with integrated controller nodes,” IEEE 8th European System Technology Conference (ESTC 2020), 15-18 Sep **2020**. DOI: 10.1109/ESTC48849.2020.9229660 [\[link\]](#)
- [C25] A. Theodosi, **O. Tsilipakos***, C. M. Soukoulis, E. N. Economou, M. Kafesaki, “Graphene-Based Metasurfaces for Efficient Third Harmonic Generation,” 2021 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), **2021**. DOI: 10.1109/CLEO/Europe-EQEC52157.2021.9542054 [\[link\]](#) *corresponding author
- [C26] N. Korakas, D. Vurro, **O. Tsilipakos**, A. Cucinotta, S. Selleri, S. Iannotta, S. Pissadakis, “Optical birefringence in strain tuneable silk fibroin whispering gallery mode cavities,” 2021 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), **2021**. DOI: 10.1109/CLEO/Europe-EQEC52157.2021.9542304 [\[link\]](#)
- [C27] V. Melissinaki, **O. Tsilipakos**, M. Kafesaki, M. Farsari, S. Pissadakis, “A High Sensitivity Ethanol Sensor Based on Photo-imprinted, Micro-ring Resonators on Optical-Fiber Tapers,” 2021 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), **2021**. DOI: 10.1109/CLEO/Europe-EQEC52157.2021.9542247 [\[link\]](#)
- [C28] G. Nousios, T. Christopoulos, D. Chatzidimitriou, A. Pitilakis, **O. Tsilipakos** and E. Kriezis, “Nonlinear photonic resonators with graphene: saturable absorption and the effect of carrier diffusion and finite relaxation time,” Advanced Photonics Congress OSA, paper ITh1A.1, **2021**. doi: 10.1364/IPRSN.2021.ITh1A.1 [\[link\]](#)
- [C29] **O. Tsilipakos**, L. Zhang, M. Kafesaki, C. M. Soukoulis, T. Koschny, “Microwave realization of multiresonant metasurfaces for achromatic pulse delay,” METANANO 2021 - VI International Conference on Metamaterials and Nanophotonics, 13-17 September (online event), Journal of Physics: Conference Series 2015, 012157, **2021**. DOI: 10.1088/1742-6596/2015/1/012157 [\[link\]](#) [\[invited\]](#)
- [C30] **O. Tsilipakos**, A. Theodosi, C. M. Soukoulis, E. N. Economou, M. Kafesaki, “Efficient Third Harmonic Generation with THz Graphene Metasurfaces,” METANANO 2021 - VI International Conference on Metamaterials and Nanophotonics, 13-17 September (online event), Journal of Physics: Conference Series 2015, 012156, **2021**. DOI: 10.1088/1742-6596/2015/1/012156 [\[link\]](#)
- [C31] A. Pitilakis, **O. Tsilipakos**, M. Seckel, M. Christodoulou, A. C. Tasolamprou, F. Liu, D. Manassis, N. V. Kantartzis, C. Liaskos, S. A. Tretyakov, C. M. Soukoulis and M. Kafesaki, “Design, Fabrication, and Characterization of a Proof-of-Concept Multi-functional Microwave Metasurface using Static Loads,” 2021 Fifteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), pp. 337-339, **2021**. DOI: 10.1109/Metamaterials52332.2021.9577147 [\[link\]](#)
- [C32] C. Tasolamprou, E. Takou, **O. Tsilipakos**, Z. Viskadourakis, M. Kafesaki, G. Kenanakis and E. N. Economou, “Anapoles in dielectric metasurfaces and thermal tunability: theory and experiments,” 2021 Fifteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), pp. 426-428, **2021**. DOI: 10.1109/Metamaterials52332.2021.9577158 [\[link\]](#)

- [C33] T. Christopoulos, **O. Tsilipakos** and E. E. Kriezis, “A Coupled-Mode Theory Approach for Consolidating Nonlinearities with Quasinormal Modes,” *Frontiers in Optics* 2021, 31 October – 04 November **2021**. DOI: 10.1364/FIO.2021.JTu1A.33 [[link](#)]
- [C34] V. Melissinaki, **O. Tsilipakos**, M. Kafesaki, M. Farsari, S. Pissadakis, "Light resonators imprinted onto optical fibers using multi-photon lithography," *Proc. SPIE 11990, Nanoscale and Quantum Materials: From Synthesis and Laser Processing to Applications* 2022, 1199004, 4 March **2022**. DOI: 10.1117/12.2608213 [[link](#)]

D. Doctoral Dissertation

- O. Tsilipakos, “Surface plasmon polariton photonic devices of subwavelength physical scale,” School of Electrical and Computer Engineering, Aristotle of Thessaloniki, November 2013. DOI: 10.12681/eadd/39995 [[link](#)]