

Dimitrios CHATZIDIMITRIOU

Publications (October 2023)

A. Peer-reviewed journals

JOURNAL PUBLICATIONS

- [J.01] D. Chatzidimitriou, D. C. Zografopoulos, and E. E. Kriezis, "Graphene Saturable Absorber Mirrors for Silicon Photonic Platforms," *IEEE Photonics Journal*, 14(4), 2239908, 2022.
<https://doi.org/10.1109/JPHOT.2022.3188222>
- [J.02] D. Chatzidimitriou, A. Ptilakis, T. Yioultsis, E. E. Kriezis, "Breaking reciprocity in a non-Hermitian photonic coupler with saturable absorption," *Physical Review A*, 103(5), 053503, 2021.
<https://doi.org/10.1103/PhysRevA.103.053503>
- [J.03] A. Ptilakis, D. Chatzidimitriou, T. Yioultsis, E. E. Kriezis, "Asymmetric Si-slot Coupler with Nonreciprocal Response Based on Graphene Saturable Absorption," *IEEE Journal of Quantum Electronics*, 57 (3), 1-10, 2021.
<https://doi.org/10.1109/JQE.2021.3071247>
- [J.04] D. Chatzidimitriou, E. E. Kriezis, "Light propagation in nanophotonic waveguides considering graphene's saturable absorption," *Physical Review A*, 102(5), 053512, 2020.
<https://doi.org/10.1103/PhysRevA.102.053512>
- [J.05] D. Chatzidimitriou, E. E. Kriezis, "Optical switching through graphene-induced exceptional points," *Journal of the Optical Society of America B*, 35(7), 1525-1535, 2018. **Editors' pick.**
<https://doi.org/10.1364/JOSAB.35.001525>
- [J.06] Ptilakis, A., D. Chatzidimitriou, and E. E. Kriezis, "Theoretical and numerical modeling of linear and nonlinear propagation in graphene waveguides," *Optical and Quantum Electronics*, 48(4), 243, 2016.
<https://doi.org/10.1007/s11082-016-0510-5>
- [J.07] D. Chatzidimitriou, A. Ptilakis, E. E. Kriezis, "Rigorous calculation of nonlinear parameters in graphene-comprising waveguides," *Journal of Applied Physics*, 118(2), 023105, 2015.
<https://doi.org/10.1063/1.4926501>
- [J.08] D. Chatzidimitriou, G. Nousios, T. Christopoulos, E. E. Kriezis, "Mode-locked integrated transition-metal-dichalcogenide graphene laser on a silicon-rich-nitride platform", (in review), 2023

B. Conference Proceedings

- [C.1] G. Nousios, T. Christopoulos, D. Chatzidimitriou, A. Ptilakis, O. Tsilipakos, and E. Kriezis, "Nonlinear Photonic Resonators with Graphene: Saturable Absorption and the Effect of Carrier Diffusion and Finite Relaxation Time," *OSA Advanced Photonics Congress 2021*, 26 July 2021, online.<https://doi.org/10.1364/IPRSN.2021.ITh1A.1>
- [C.2] D. Chatzidimitriou, A. Ptilakis, T. Yioultsis, and E. E. Kriezis, "Nonreciprocal Silicon Photonic Coupler Exploiting Graphene Saturable Absorption," *OSA Advanced Photonics Congress 2021*, 13–16 July 2020, online.<https://doi.org/10.1364/NP.2020.NpW1E.2>
- [C.3] D. Chatzidimitriou, A. Ptilakis, T. Yioultsis, and E. E. Kriezis, "Nonreciprocal propagation in a non-Hermitian silicon photonic coupler employing graphene saturable absorption," EOS Annual Meeting (EOSAM 2020), 20 August 2020, online.<https://doi.org/10.1051/epjconf/202023811006>
- [C.4] D. Chatzidimitriou, A. Ptilakis, and E. E. Kriezis, "PT symmetry breaking in graphene-comprising photonic devices," 11th International Congress on Engineered Materials Platforms for Novel Wave Phenomena 2017 (Metamaterials 2017), pp. 49-51, 28 August - 2 September 2017, Marseille, France.<https://doi.org/10.1109/MetaMaterials.2017.8107834>
- [C.5] D. Chatzidimitriou, G. Sinatkas, T. Christopoulos, A. Ptilakis, E. E. Kriezis, and O. Tsilipakos, "Carrier-controlled nanophotonic components for routing and modulation operations," *5th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, pp. 1-4, 2016.<https://doi.org/10.1109/MOCAST.2016.7495141>
- [C.6] Ptilakis, D. Chatzidimitriou, and E. E. Kriezis, "A strict framework for analyzing linear and nonlinear propagation in photonic and terahertz graphene waveguides," *17th International Conference on Transparent Optical Networks (ICTON)*, 5-9 July 2015, Budapest, Hungary.<https://doi.org/10.1109/ICTON.2015.7193603>
- [C.7] A. Ptilakis, D. Chatzidimitriou, and E. E. Kriezis, "Rigorous retrieval of linear and nonlinear parameters in graphene waveguides," *OWTNM 2015: 23rd Optical Wave & Waveguide Theory and Numerical Modelling Workshop*, 17-18 April 2015, London, UK. Pdf available at <http://photonics.ee.auth.gr/index.php/conferences>
- [C.8] G. Nousios, D. Chatzidimitriou, T. Christopoulos, O. Tsilipakos, and E. E. Kriezis, "Integrated passive Q-switched and mode-locked lasers utilizing TMD gain and graphene saturable absorption," *10th International Conference on Micro-Nanoelectronics, Micro-Nanosciences & Nanotechnologies*, 2-5 November 2023, Athens, Greece.

C. Doctoral Dissertation

- D. Chatzidimitriou, "Utilizing linear and non-linear graphene properties in nanophotonic waveguides," School of Electrical and Computer Engineering, Aristotle of Thessaloniki, December 2018.