

## Journal publications (clickable)

- [37] T. W. Hughes, I. A. D. Williamson, **M. Minkov**, and S. Fan, “Forward-mode differentiation of maxwell’s equations,” Under review in *ACS Photonics*.
- [36] S. Buddhiraju, Y. Shi, A. Song, C. Wojcik, **M. Minkov**, I. A. D. Williamson, A. Dutt, and S. Fan, “Absence of unidirectionally propagating surface plasmon-polaritons in nonreciprocal plasmonics,” Under review in *Nature Photonics*.
- [35] T. W. Hughes, I. A. D. Williamson, **M. Minkov**, and S. Fan, “Wave physics as an analog recurrent neural network,” Under review in *Science Advances*.
- [34] **M. Minkov**, D. Gerace, and S. Fan, “Doubly resonant  $\chi^{(2)}$  nonlinear photonic crystal cavity based on a bound state in the continuum,” *Optica* **8**, 1039 (2019). Featured online: [Stanford](#), [phys.org](#), [LFW](#).
- [33] A. Dutt, **M. Minkov**, Q. Lin, L. Yuan, D. A. B. Miller, and S. Fan, “Experimental band structure spectroscopy along a synthetic dimension,” *Nature Comm.* **10**, 3122 (2019).
- [32] I. A. D. Williamson, T. W. Hughes, **M. Minkov**, B. Bartlett, S. Pai, and S. Fan, “Re-programmable electro-optic nonlinear activation functions for optical neural networks,” *IEEE JSTQE* **26**, 7700412 (2019).
- [31] **M. Minkov**, M. Pinkwart, and P. Schupp, “Entropy methods for CMB analysis of anisotropy and non-Gaussianity,” *Phys. Rev. D* **99**, 103501 (2019).
- [30] X. Ge, **M. Minkov**, S. Fan, X. Li, and W. Zhou, “Laterally confined photonic crystal surface emitting laser incorporating monolayer tungsten disulfide,” *npj 2D Materials and Applications* **3**, 16 (2019).
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- [28] **M. Minkov**, I. A. D. Williamson, M. Xiao, and S. Fan, “Zero-index bound states in the continuum,” *Phys. Rev. Lett.* **121**, 263901 (2018).
- [27] T. W. Hughes<sup>†</sup>, **M. Minkov**<sup>†</sup>, I. A. D. Williamson, and S. Fan, “Adjoint method and inverse design for nonlinear nanophotonic devices,” *ACS Photonics* **5**, 4781–4787 (2018). <sup>†</sup>authors contributed equally.
- [26] M. S. Mohamed, Y. Lai, **M. Minkov**, V. Savona, A. Badolato, and R. Houdré, “Influence of disorder and finite-size effects on slow light transport in extended photonic crystal coupled-cavity waveguides,” *ACS Photonics* **5**, 4846–4853 (2018).
- [25] **M. Minkov** and S. Fan, “Unidirectional light transport in dynamically modulated waveguides,” *Phys. Rev. Applied* **10**, 044028 (2018).
- [24] Y. Lai, M. S. Mohamed, B. Gao, **M. Minkov**, R. W. Boyd, V. Savona, R. Houdré, and A. Badolato, “Ultra-wide-band structural slow light,” *Sci. Rep.* **8**, 14811 (2018).
- [23] C. Guo, M. Xiao, **M. Minkov**, Y. Shi, and S. Fan, “Isotropic wavevector domain image filters by a photonic crystal slab device,” *J. Opt. Soc. Am. A* **35**, 1685–1691 (2018).

- [22] T. W. Hughes, **M. Minkov**, Y. Shi, and S. Fan, “Training of photonic neural networks through *in situ* backpropagation and gradient measurement,” *Optica* **5**, 864–871 (2018). Featured online: [OSA](#), [Stanford](#), [phys.org](#).
- [21] **M. Minkov** and S. Fan, “Localization and time-reversal of light through dynamic modulation,” *Phys. Rev. B* **97**, 060301 (2018).
- [20] Y. Shi, Q. Lin, **M. Minkov**, and S. Fan, “Nonreciprocal Optical Dissipation Based on Direction-Dependent Rabi Splitting,” *IEEE JSTQE* **24**, 3500107 (2018).
- [19] C. Guo, M. Xiao, **M. Minkov**, Y. Shi, and S. Fan, “Photonic crystal slab Laplace operator for image differentiation,” *Optica* **5**, 251–256 (2018).
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