

## Journal publications (clickable)

- [44] **M. Minkov**, I. A. D. Williamson, L. C. Andreani, D. Gerace, B. Lou, A. Y. Song, T. W. Hughes, and S. Fan, “Inverse design of photonic crystals through automatic differentiation,” (2020). Under review in *ACS Photonics*.
- [43] I. Williamson, **M. Minkov**, A. Dutt, J. Wang, A. Song, and S. Fan, “Breaking reciprocity in integrated photonic devices through dynamic modulation,” Under review in *Proceedings of the IEEE*.
- [42] A. Song, X.-Q. Sun, A. Dutt, **M. Minkov**, C. Wojcik, H. Wang, I. Williamson, M. Orenstein, and S. Fan, “PT symmetric topological edge-gain effect,” Under review in *Phys. Rev. Lett.*
- [41] S. Pai, I. A. D. Williamson, T. W. Hughes, **M. Minkov**, O. Solgaard, S. Fan, and D. A. B. Miller, “Parallel fault-tolerant programming of an arbitrary feedforward photonic network,” Under review in *Optics Express*.
- [40] A. Dutt, **M. Minkov**, and S. Fan, “Higher-order topological insulators in synthetic dimensions,” Accepted in *Light: Science and Applications*.
- [39] M. M. P. Fard, I. A. Williamson, M. Edwards, K. Liu, S. Pai, B. Bartlett, **M. Minkov**, T. W. Hughes, S. Fan, and T.-A. Nguyen, “Experimental realization of arbitrary activation functions for optical neural networks,” *Optics Express* **28**, 12138 (2020).
- [38] 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,” *Nature Comm.* **11**, 674.
- [37] T. W. Hughes, I. A. D. Williamson, **M. Minkov**, and S. Fan, “Forward-mode differentiation of maxwell’s equations,” *ACS Photonics* **6**, 3010–3016 (2019).
- [36] T. W. Hughes, I. A. D. Williamson, **M. Minkov**, and S. Fan, “Wave physics as an analog recurrent neural network,” *Science Advances* **5**, eaay6946 (2019).
- [35] A. Dutt, Q. Lin, L. Yuan, **M. Minkov**, M. Xiao, and S. Fan, “A single photonic cavity with two independent physical synthetic dimensions,” *Science* **10.1126/science.aaz3071** (2019).
- [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).
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- [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).
- [29] A. Dutt, **M. Minkov**, Q. Lin, L. Yuan, D. A. Miller, and S. Fan, “Experimental demonstration of dynamical input isolation in nonadiabatically modulated photonic cavities,” *ACS Photonics* **6**, 162–169 (2018).
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