

Publications of Dario Gerace

Main Publications

1. F. Tacchino, S. Mangini, P. Barkoutsos, C. Macchiavello, D. Gerace, I. Tavernelli, D. Bajoni, “Variational learning for quantum artificial neural networks,” **arxiv2103.02498**, to appear in **IEEE Transactions on Quantum Engineering** (2021).
2. S. Mangini, F. Tacchino, D. Gerace, D. Bajoni, C. Macchiavello, “Quantum computing models for artificial neural networks,” **arxiv2102.03879**.
3. M. Clementi, S. Iadanza, S. A. Schulz, G. Urbinati, D. Gerace, L. O’Faolain, M. Galli, “Thermo-optically induced transparency on a photonic chip,” **arxiv2012.14865**.
4. D. Rosser, D. Gerace, Y. Chen, Y. Liu, J. Whitehead, A. Ryou, L. C. Andreani, A. Majumdar, “Dispersive coupling between MoSe₂ and a zero-dimensional integrated nanocavity,” **arxiv2010.05458**.
5. S. Zanotti, M. Minkov, S. Fan, L. C. Andreani, D. Gerace, “Doubly-Resonant Photonic Crystal Cavities for Efficient Second-Harmonic Generation in III-V Semiconductors,” **Nanomaterials** **11**, 605 (2021).
6. F. Tacchino, T. F. F. Santos, D. Gerace, M. Campisi, M. F. Santos, “Non equilibrium steady states as resources for quantum heat engines,” **Physical Review E**, **102**, 062133 (2020).
7. S. Iadanza, M. Clementi, C. Hu, S. A. Schulz, D. Gerace, M. Galli, L. O’Faolain, “Model of thermo-optic nonlinear dynamics of photonic crystal cavities,” **Physical Review B**, **102**, 245404 (2020).
8. S. Mangini, F. Tacchino, D. Gerace, C. Macchiavello, D. Bajoni, “Quantum computing model of an artificial neuron with continuously valued input data,” **Machine Learning: Science and Technology**, **1**, 045008 (2020).
9. F. Tacchino, P. Barkoutsos, C. Macchiavello, I. Tavernelli, D. Gerace, D. Bajoni, “Quantum implementation of an artificial feedforward neural network,” **Quantum Science and Technology**, **5**, 044010 (2020).
10. J. Wang, M. Clementi, M. Minkov, A. Barone, J.-F. Carlin, N. Grandjean, D. Gerace, S. Fan, M. Galli, R. Houdré, “Doubly resonant second-harmonic generation of a vortex beam from a bound state in the continuum,” **Optica** **7**, 1126-1132 (2020).
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12. M. Minkov, I. A. D. Williamson, L. C. Andreani, D. Gerace, B. Lou, A. Y. Song, T. W. Hughes, S. Fan, “Inverse design of photonic crystals through automatic differentiation,” **ACS Photonics**, **7**, 1729-1741 (2020).
13. J. P. Vasco, D. Gerace, K. R. Seibold, V. Savona, “Monolithic silicon-based nanobeam cavities for integrated nonlinear and quantum photonics,” **Physical Review Applied**, **13**, 034070 (2020).

14. N.H.M. Dang, D. Gerace, E. Drouard, G. Trippé-Allard, F. Lédée, R. Mazurczyk, E. Deleporte, C. Seassal, H.S. Nguyen,
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15. M. Passoni, D. Gerace, L. O’Faolain, and L. C. Andreani,
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20. M. Minkov, D. Gerace, S. Fan,
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