

## Publications in peer reviewed journals

### 2022

- [1] L. C. Jaurigue, and K. Lüdge, *Connecting Reservoir Computing with Statistical Forecasting and Deep Neural Networks*, Nat. Commun. **13** 227 (2022).
- [2] F. Köster, S. Yanchuk, and K. Lüdge, *Master memory function for delay-based reservoir computers with single-variable dynamics*, **under review**, arXiv:2108.12643 (2022).
- [3] T. Hülser, F. Köster, L. Jaurigue, K. Lüdge *The role of delay-times in delay-based Photonic Reservoir Computing*, **under review**, arXiv:2112.11830 (2022).

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- [4] L.C. Jaurigue, E. Robertson, J. Wolters, and K. Lüdge, *Reservoir Computing with Delayed Input for Fast and Easy Optimization*, Entropy **23**, 1560 (2021).
- [5] F. Köster, B. Lingnau, A. Krimlowski, P. Hövel, and K. Lüdge, *Collective coherence resonance*, Phys. Status Solidi B, 2100345 **2021** (2021).
- [6] A. Roos, S. Meinecke, and K. Lüdge, *Stabilizing Delay-Coupled Nanolasers via Polarization Lifetime Tuning*, Sci. Rep. **11**, 18558 (2021).
- [7] A. Thurn, J. Bissinger, S. Meinecke, P. Schmiedeke, S. S. Oh, W. W. Chow, K. Lüdge, G. Kobl Müller, and J. J. Finley, *Observation of ultrafast electron-hole plasma temperature oscillations in nanowire lasers*, Nat. Commun. **submitted** (2021)
- [8] M. Galler, K. Lüdge, R. Humphries, K. Mulchrone, and P. Hövel, *Deterministic and stochastic effects in spreading dynamics: A case study of bovine viral diarrhoea*, Chaos **31**, 093129 (2021).
- [9] P. M. Müller, J. Heitzig, J. Kurths, K. Lüdge, M. Wiedermann, *Anticipation-induced social tipping – Can the environment be stabilised by social dynamics?*, Eur. Phys. J. Spec. Top. **2021**, (2021).
- [10] F. Köster, S. Yanchuk, and K. Lüdge, *Improving Delay Based Reservoir Computing via Eigenvalue Analysis*, J. Phys. Photonics **3**, 024011 (2021).
- [11] S. Meinecke, and K. Lüdge, *Efficient timing jitter simulation for passively mode-locked semiconductor lasers*, App. Phys. Lett. **118**, 011104 (2021).
- [12] J. Hausen, B. Herzog, A. Nelde, S. Meinecke, N. Owschimikow, K. Lüdge, *Feedback induced locking in semiconductor lasers with strong amplitude-phase coupling*, Phys. Rev. A **103**, 043511 (2021).

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- [13] J. Hausen, S. Meinecke, J. Javaloyes, S. V. Gurevich, and K. Lüdge, *Phase incoherent photonic molecules in V-shaped mode-locked VECSELS*, Phys. Rev. Appl. **14**, 044059 (2020).
- [14] K. Lüdge, B. Lingnau, *Laser Dynamics and Delayed Feedback*, Encyclopedia of Complexity and Systems Science (Ed. Meyers), Springer, DOI 10.1007/978-3-642-27737-5\_729-1 (2020).
- [15] F. Köster, J. Duan, B. Dong, H. Huang, F. Grillot, K. Lüdge, *Temperature Dependent Linewidth Rebroadening in Quantum Dot Semiconductor Lasers*, J. Phys. D **53**, 235106 (2020).
- [16] F. Köster, D. Ehlert, K. Lüdge, *Limitations of the recall capabilities in delay based reservoir computing systems*, Cogn. Comput. **2020** ISSN 1866-9956, (2020).
- [17] B. Lingnau, D. Schicke, M. Eichelmann, and K. Lüdge, *Dynamic Signatures of Mode Competition in Optically Injected High- $\beta$  Lasers*, New J. Phys. **22**, 073052 (2020).
- [18] S. Meinecke, L. Kluge, J. Hausen, B. Lingnau, and K. Lüdge, *Optical Feedback Induced Oscillation Bursts In Two-State Quantum-Dot Lasers*, Opt. Express **28**, 3361 (2020).

- [19] M. Goldmann, F. Köster, K. Lüdge, and S. Yanchuk, *Deep Time-Delay Reservoir Computing: Dynamics and Memory Capacity*, *Chaos*, **30**, 093124 (2020).
- [20] J. Hausen, K. Lüdge, S. V. Gurevich, and J. Javaloyes, *How carrier memory enters the Haus master equation of mode-locking*, *Opt. Lett.* **45** 6210 (2020).
- [21] F. Stelzer, A. Röhm, K. Lüdge, and S. Yanchuk, *Performance boost of time-delay reservoir computing by non-resonant clock cycle*, *Neural Networks* **124**, 158 (2020).

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- [22] K. Lüdge, and A. Röhm, *Computing with a camera*, *Nat. Mach. Intell.* **1**, 12, 551 (2019).
- [23] A. Röhm, L. C. Jaurigue, K. Lüdge: *Reservoir Computing Using Laser Networks* *IEEE J. Sel. Top. Quantum Electron.* **26**, 7700108 (2019) .
- [24] E. Schlottmann, D. Schicke, F. Krüger, B. Lingnau, C. Schneider, S. Höfling, K. Lüdge, X. Porte, S. Reitzenstein, *Stochastic polarization switching induced by optical injection in bimodal quantum-dot micropillar lasers*, *Opt. Express* **27**, 28816 (2019).
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- [31] S. Terrien, B. Krauskopf, N. G. R. Broderick, L. C. Jaurigue, and K. Lüdge, *Q-switched pulsing lasers subject to delayed feedback: A model comparison*, *Phys. Rev. A* **98**, 043819 (2018).
- [32] A. Röhm, K. Lüdge, *Multiplexed networks: reservoir computing with virtual and real nodes*, *J. Phys. Commun.* **2**, 085007 (2018).
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- [34] C. G. E. Alfieri, D. Waldburger, R. Nürnberg, M. Golling, L. C. Jaurigue, K. Lüdge, and U. Keller, *Modelocking instabilities for high-gain semiconductor disk lasers based on active submonolayer quantum dots*, *Phys. Rev. Appl.* **10**, 044015 (2018).
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- [39] C. Redlich, B. Lingnau, H. Huang, R. Raghunathan, K. Schires, P. J. Poole, F. Grillot, K. Lüdge, *Linewidth rebroadening in quantum dot semiconductor lasers*, IEEE J. Sel. Top. Quantum Electron. **23**, 6, 1901110 (2017).
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**Book chapters**

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- [104] K. Lüdge, B. Lingnau *Laser Dynamics and Delayed Feedback* Encyclopedia of Complexity and Systems Science , Living Ed, Editors: Robert A. Meyers, Section Editors: Dr. Axel Hutt, Prof. Hermann Haken, **ISBN** 978-1-07-160420-5, Springer Berlin Heidelberg(2020).
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