

# LIST OF PUBLICATIONS

## PREPRINTS

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- [2] **Distributed Quantum Computing in Silicon**  
Photonic Inc. (F. Afzal, ···, [S. Tserkis](#), ···, I. Yoneda)  
*arXiv:2406.01704 (2024)*
- [1] **Information back-flow in quantum non-Markovian dynamics and its connection to teleportation**  
[S. Tserkis](#), K. Head-Marsden, P. Narang  
*arXiv:2203.00668 (2022)*

## PEER REVIEWED PAPERS

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- [22] **Quantifying total correlations in quantum systems through the Pearson correlation coefficient**  
[S. Tserkis](#), S. M. Assad, P.-K. Lam, and P. Narang  
*Physics Letters A 543, 130432 (2025)*
- [21] **Improving Gaussian channel simulation using non-unity gain heralded quantum teleportation**  
B. Shajilal, L.-O. Conlon, A. Walsh, [S. Tserkis](#), J. Zhao, J. Janousek, S. Assad, P.-K. Lam  
*Phys. Rev. Applied 22, 054070 (2024)*
- [20] **Entanglement criterion and strengthened Bell inequalities based on the Pearson correlation**  
[S. Tserkis](#), S. M. Assad, A. Conti, and M. Z. Win  
*Physics Letters A 519, 129635 (2024)*
- [19] **Simulation of Open Quantum Systems via Low-Depth Convex Unitary Evolutions**  
J. Peetz, S. E. Smart, [S. Tserkis](#), and P. Narang  
*Physical Review Research 6, 023263 (2024)*
- [18] **Cavity-Mediated Molecular Entanglement and Generation of Non-Classical States of Light**  
D. M. Welakuh, [S. Tserkis](#), S. E. Smart, and P. Narang  
*Journal of Physical Chemistry A 128, 709 (2024)*
- [17] **Quantum-optimal information encoding using noisy passive linear optics**  
A. Tanggara, R. Nair, S. Assad, V. Narasimachar, [S. Tserkis](#), J. Thompson, P.-K. Lam, and M. Gu  
*Quantum 8, 1218 (2024)*
- [16] **Entanglement purification on quantum networks**  
M. Victora, [S. Tserkis](#), S. Krastanov, S. S. de la Cerda, S. Willis, and P. Narang  
*Physical Review Research 5, 033171 (2023)*
- [15] **Enhancing quantum teleportation efficacy with noiseless linear amplification**  
J. Zhao, H. Jeng, L. O. Conlon, [S. Tserkis](#), B. Shajilal, K. Liu, T. C. Ralph, S. M. Assad, and P.-K. Lam  
*Nature Communications 14, 4745 (2023)*
- [14] **On the equivalence between squeezing and entanglement potential for two-mode Gaussian states**  
A. Das, B. Li, [S. Tserkis](#), P. Narang, P.-K. Lam and S. M. Assad  
*Scientific Reports 13, 11722 (2023)*
- [13] **Surpassing the repeaterless bound with a photon-number encoded measurement-device-independent quantum key distribution protocol**  
Ö. Erkişiç, L. O. Conlon, B. Shajilal, S. Kish, [S. Tserkis](#), Y.-S. Kim, P.-K. Lam, and S. M. Assad  
*NPJ Quantum Information 9, (2023)*

- [12] **Optimal probes for continuous variable quantum illumination**  
M. Bradshaw, L. O. Conlon, S. Tserkis, M. Gu, P.-K. Lam, and S. M. Assad  
*Physical Review A* 103, 062413 (2021)
- [11] **Maximum entanglement of formation for a two-mode Gaussian state over passive operations**  
S. Tserkis, J. Thompson, A. P. Lund, T. C. Ralph, P.-K. Lam, M. Gu, and S. M. Assad  
*Physical Review A* 102, 052418 (2020)
- [10] **Multipartite Gaussian Entanglement of Formation**  
S. Onoe, S. Tserkis, A. P. Lund, and T. C. Ralph  
*Physical Review A* 102, 042408 (2020)
- [9] **Switchable bipartite and genuine tripartite entanglement via an optoelectromechanical interface**  
C. Jiang, S. Tserkis, K. Collins, S. Onoe, Y. Li, and L. Tian  
*Physical Review A* 101, 042320 (2020)
- [8] **Teleportation-based collective attacks in Gaussian quantum key distribution**  
S. Tserkis, N. Hosseinidehaj, N. Walk, and T. C. Ralph  
*Physical Review Research* 2, 013208 (2020)
- [7] **Tight bounds for private communication over bosonic Gaussian channels based on teleportation simulation with optimal finite resources**  
R. Laurenza, S. Tserkis, L. Banchi, S. L. Braunstein, T. C. Ralph, and S. Pirandola  
*Physical Review A* 100, 042301 (2019)
- [6] **Quantifying entanglement of formation for two-mode Gaussian states: Analytical expressions for upper and lower bounds and numerical estimation of its exact value**  
S. Tserkis, S. Onoe, and T. C. Ralph  
*Physical Review A* 99, 052337 (2019)
- [5] **Entanglement properties of a measurement-based entanglement distillation experiment**  
H. Jeng, S. Tserkis, J. Y. Haw, H. M. Chrzanowski, J. Janousek, T. C. Ralph, P.-K. Lam, and S. M. Assad  
*Physical Review A* 99, 042304 (2019)
- [4] **Simulation of Gaussian channels via teleportation and error correction of Gaussian states**  
S. Tserkis, J. Dias, and T. C. Ralph  
*Physical Review A* 98, 052335 (2018)
- [3] **Quantifying entanglement in two-mode Gaussian states**  
S. Tserkis and T. C. Ralph  
*Physical Review A* 96, 062338 (2017)
- [2] **Systematic Study of Information Measures, Statistical Complexity and Atomic Structure Properties**  
K. Ch. Chatzisavvas, S. Tserkis, C. P. Panos, and Ch. C. Moustakidis  
*International Journal of Theoretical Physics* 54, 1481-1491 (2015)
- [1] **Quantum Tunneling and Information Entropy in a Double Square Well Potential: The Ammonia Molecule**  
S. Tserkis, Ch. C. Moustakidis, S. E. Massen, and C. P. Panos  
*Physics Letters A* 378, 497-504 (2014)

## PHD THESIS

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- **Entanglement theory and its applications in Gaussian quantum information**  
Supervised by T. C. Ralph and A. P. Lund  
The University of Queensland (2020)