List of Publications

Preprints

[4] **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
arXiv:2408.08667 (2024)

[3] **Distributed Quantum Computing in Silicon**
Photonic Inc. (F. Afzal, ···, S. Tserkis, ···, I. Yoneda)
arXiv:2406.01704 (2024)

[2] **Quantifying total correlations in quantum systems through the Pearson correlation coefficient**
S. Tserkis, S. M. Assad, P.-K. Lam, and P. Narang
arxiv:2306.14458 (2023)

[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

[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. Erkılıç, 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)

PH.D. THESIS

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