

Publication list - Prof. Andrew J. Daley

Recent Preprints:

- S. Flannigan, N. Pearson, G. H. Low, A. Buyskikh, I. Bloch, P. Zoller, M. Troyer, A. J. Daley, *Propagation of errors and quantitative quantum simulation with quantum advantage*, arXiv:2204.13644
- Ieva Čepaitė, Anatoli Polkovnikov, Andrew J. Daley, Callum W. Duncan, *Counterdiabatic Optimised Local Driving*, arXiv:2203.01948
- Gerard Pelegrí, Andrew J. Daley, Jonathan D. Pritchard, *High-fidelity multiqubit Rydberg gates via two-photon adiabatic rapid passage*, arXiv:2112.13025
- Luca Lepori, Andrea Trombettoni, Domenico Giuliano, Johannes Kombe, Jorge Yago Malo, Andrew J. Daley, Augusto Smerzi, Maria Luisa Chiofalo, *Improving producibility estimation for mixed quantum states*, arXiv:2108.03605

Journal articles:

1. Shovan Dutta, Anton Buyskikh, Andrew J. Daley, and Erich J. Mueller, *Density-Matrix Renormalization Group for Continuous Quantum Systems*, Phys. Rev. Lett. **128**, 230401 (2022). (arXiv:2108.05366)
2. Valentin Link, Kai Müller, Rosaria G. Lena, Kimmo Luoma, François Damanet, Walter T. Strunz, and Andrew J. Daley, *Non-Markovian Quantum Dynamics in Strongly Coupled Multimode Cavities Conditioned on Continuous Measurement*, PRX Quantum, PRX Quantum **3**, 020348 (2022). (arXiv:2112.09499)
3. Tomohiro Hashizume, Sridevi Kuriyattil, Andrew J. Daley, Gregory Bentsen, *Tunable Geometries in Sparse Clifford Circuits*, Symmetry **14**(4), 666 (2022). (arXiv:2202.11750)
4. Stuart Flannigan, François Damanet, Andrew J. Daley, *Many-body quantum state diffusion for non-Markovian dynamics in strongly interacting systems*, Phys. Rev. Lett. **128**, 063601 (2022). (arXiv:2108.06224)
5. Tomohiro Hashizume, Gregory Bentsen, Andrew J. Daley, *Measurement-induced phase transitions in sparse nonlocal scramblers*, Phys. Rev. Research **4**, 013174 (2022). (arXiv:2109.10944)
6. François Damanet, Elliott Mansfield, Megan Briggeman, Patrick Irvin, Jeremy Levy, and Andrew J. Daley, *Spin-orbit-assisted electron pairing in one-dimensional waveguides*, Phys. Rev. B **104**, 125103 (2021). (arXiv:2012.11425)
7. Stuart Flannigan, Luisa Madail, Ricardo G. Dias, Andrew J. Daley, *Hubbard models and state preparation in an optical Lieb lattice*, New Journal of Physics **23**, 083014 (2021). (arXiv:2101.03819)
8. Tomohiro Hashizume, Gregory S. Bentsen, Sebastian Weber, Andrew J. Daley, *Deterministic Fast Scrambling with Neutral Atom Arrays*, Phys. Rev. Lett. **126**, 200603 (2021). (arXiv:2102.13117)
9. Megan Briggeman, Hyungwoo Lee, Jung-Woo Lee, Kitae Eom, François Damanet, Elliott Mansfield, Jianan Li, Mengchen Huang, Andrew J. Daley, Chang-Beom Eom, Patrick Irvin, and Jeremy Levy, *One-dimensional Kronig-Penney superlattices at the LaAlO₃/SrTiO₃ interface*, Nat. Physics **12**, 1745-2481 (2021). (arXiv:1912.07164)
10. Jan Hendrik Becher, Enrico Sindici, Ralf Klemm, Selim Jochim, Andrew J. Daley, and Philipp M. Preiss, *Measurement of Identical Particle Entanglement and the Influence of Antisymmetrisation*, Phys. Rev. Lett. **125**, 180402 (2020). (arXiv:2002.11207)
11. Andrea Di Carli, Grant Henderson, Stuart Flannigan, Craig D. Colquhoun, Matthew Mitchell, Gian-Luca Oppo,

- Andrew J. Daley, Stefan Kuhr, and Elmar Haller, *Collisionally inhomogeneous Bose-Einstein condensates with a linear interaction gradient*, Phys. Rev. Lett. **125**, 183602 (2020). (arXiv:1908.10021)
12. M. J. Mark, S. Flannigan, F. Meinert, K. Jag-Lauber, J. P. D'Incao, A. J. Daley, and H.-C. Nägerl, *Interplay between coherent and dissipative dynamics of bosonic doublons in an optical lattice*, Phys. Rev. Research **2**, 043050 (2020). (arXiv:2005.09763)
 13. Stuart Flannigan and Andrew J. Daley, *Enhanced repulsively bound atom pairs in topological optical lattice ladders*, Quantum Science and Technology **5**, 045017 (2020). (arXiv:2006.07112)
 14. Araceli Venegas-Gomez, Anton S. Buyskikh, Johannes Schachenmayer, Wolfgang Ketterle, and Andrew J. Daley, *Dynamics of rotated spin states and magnetic ordering with two-component bosonic atoms in optical lattices*, Phys. Rev. A **102**, 023321 (2020). (arXiv:1912.10028)
 15. Araceli Venegas-Gomez, Johannes Schachenmayer, Anton S. Buyskikh, Wolfgang Ketterle, Maria Luisa Chiofalo, and Andrew J. Daley, *Adiabatic preparation of entangled, magnetically ordered states with cold bosons in optical lattices*, Quantum Science and Technology **5**, 045013 (2020). (arXiv:2003.10905)
 16. Saubhik Sarkar, Suzanne McEndoo, Dominik Schneble, and Andrew Daley, *Interspecies entanglement with impurity atoms in a lattice gas*, New Journal of Physics **22**, 083017 (2020). (arXiv:1805.01592)
 17. Rosaria Lena, and Andrew Daley, *Dissipative dynamics and cooling rates of trapped impurity atoms immersed in a reservoir gas*, Phys. Rev. A **101**, 033612 (2020). (arXiv:1912.04347)
 18. Peyman Givi, Andrew J. Daley, Dimitri Mavriplis, and Mujeeb Malik, *Quantum Speedup for Aerospace and Engineering*, AIAA Journal **58**, 1-13 (2020).
 19. Ellen Derbyshire, Jorge Yago Malo, Andrew Daley, Elham Kashefi, and Petros Wallden, *Randomized Benchmarking in the Analogue Setting*, Quantum Science and Technology **5**, 034001 (2020). (arXiv:1909.01295)
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 21. Guanglei Xu, Andrew J. Daley, Peyman Givi and Rolando D. Somma, *Quantum algorithm for the computation of the reactant conversion rate in homogeneous turbulence*, Combustion Theory and Modelling **23**, 1090-1104 (2019).
 22. François Damanet, Eduardo Mascarenhas, David Pekker, and Andrew J Daley, *Reservoir engineering of Cooper-pair-assisted transport with cold atoms*, New J. Phys. **21**, 115001 (2019).
 23. L. Madail, S. Flannigan, A. M. Marques, A. J. Daley, and R. G. Dias, *Enhanced localization and protection of topological edge states due to geometric frustration*, Phys. Rev. B **100**, 125123 (2019).
 24. Eduardo Mascarenhas, François Damanet, Stuart Flannigan, Luca Tagliacozzo, Andrew J. Daley, John Goold, and Inés de Vega, *Nonreciprocal Quantum Transport at Junctions of Structured Leads*, Phys. Rev. B **99**, 245134 (2019). (arXiv:1810.04929)
 25. François Damanet, Eduardo Mascarenhas, David Pekker, and Andrew J. Daley, *Controlling Quantum Transport via Dissipation Engineering*, Phys. Rev. Lett. **123**, 180402 (2019). (arXiv:1904.03631)
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 27. Liam S. Walker, Gordon R. M. Robb, and Andrew J. Daley, *Measurement and feedback for cooling heavy levitated particles in low frequency traps*, Phys. Rev. A **100**, 063819 (2019). (arXiv:1903.10470)

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