

PUBLICATIONS

Peer-Reviewed Journals

(citation data from google scholar, 08/08/2018)

1. *'Using Interaction-Based Readouts to Approach the Ultimate Limit of Detection Noise Robustness for Quantum-Enhanced Metrology in Collective Spin Systems'*
S. A. Haine
arXiv:1806.00057 (2018) [0 citations]
2. *'Robustifying twist-and-turn entanglement with interaction-based readout'*
S. S. Mirkhalaf, S. P. Nolan, **S. A. Haine**
Physical Review A **97**, 053618 (2018) [3 citations]
3. *'Quantum Noise in Soliton Matterwave Interferometry'*
S. A. Haine
New Journal of Physics **20**, 033009 (2018) [2 citations]
4. *'Optimal Matterwave Gravimetry'*
M. Kritsotakis, S. S. Szigeti, J. A. Dunningham, **S. A. Haine**
arXiv:1710.06340 (2017) [1 citation]
5. *'Optimal and Robust Quantum Metrology Using Interaction-Based Readouts'*
S. P. Nolan, S. S. Szigeti, and **S. A. Haine**
Phys. Rev. Lett. **119**, 193601 (2017) [11 citations]
6. *'Quantum Fisher information as a predictor of decoherence in the preparation of spin-cat states for quantum metrology'*
S. P. Nolan and **S. A. Haine**
Phys. Rev. A **95**, 043642 (2017). [7 citations]
7. *'Pumped-up SU11 interferometry'*
S. S. Szigeti, R. J. Lewis-Swan, **S. A. Haine**
Phys. Rev. Lett. **118**, 150401 (2017). [24 citation]
8. *'Mean-field Dynamics and Fisher Information in Matterwave Interferometry'*
S. A. Haine
Phys. Rev. Lett. **116**, 230404 (2016). [10 citations]
9. *'Bose-Einstein condensation in large time-averaged optical ring potentials'*
T. A. Bell, J. Glidden, L. Humbert, M. Bromley, **S. A. Haine**, M. J. Davis, T. Neely,
M. A. Baker, H. Rubinsztein-Dunlop
New J. Phys. **18**, 035003 (2016). [36 citations]
10. *'Generation of Atom-Light Entanglement in an Optical Cavity for Quantum Enhanced Atom-Interferometry'*
S. A. Haine and W. Y. S. Lau
Phys. Rev. A **93**, 023607 (2016). [8 citations]
11. *'Quantum Enhanced Measurement of Rotations with a Spin-1 Bose-Einstein Condensate in a Ring Trap'*

- S. P. Nolan, J. Sabbatini, M. W. J. Bromley, M. J. Davis, and **S. A. Haine**
 Phys. Rev. A **93**, 023616 (2016). [8 citation]
12. ‘*Quantum metrology with mixed states: When recovering lost information is better than never losing it*’
S. A. Haine and S. S. Szigeti
 Phys. Rev. A **92**, 032317 (2015). [16 citations]
 13. ‘*Coherence and linewidth of a continuously pumped atom laser at finite temperature*’
 G. M. Lee, **S. A. Haine**, A. S. Bradley, and M. J. Davis
 Phys. Rev. A **92**, 013605 (2015). [1 citation]
 14. ‘*Heisenberg-Limited Metrology with Information Recycling*’
S. A. Haine, S. S. Szigeti, M. D. Lang, and C. M. Caves
 Phys. Rev. A **91**, 041802(R) (2015). [19 citations]
 15. ‘*Heisenberg-limited metrology with a squeezed vacuum state, three-mode mixing, and information recycling*’
 B. Tonekaboni, **S. A. Haine** and S. S. Szigeti
 Phys. Rev. A **91**, 033616 (2015). [7 citations]
 16. ‘*Squeezed-light-enhanced atom interferometry below the standard quantum limit*’
 S. S. Szigeti, B. Tonekaboni, W. Y. S. Lau, S. N. Hood, and **S. A. Haine**
 Phys. Rev. A **90**, 063630 (2014). [23 citations]
 17. ‘*Self-induced spatial dynamics to enhance spin squeezing via one-axis twisting in a two-component Bose-Einstein condensate*’
S. A. Haine, J. Lau, R. P. Anderson, and M. T. Johnsson
 Phys. Rev. A **90**, 0023613 (2014). [11 citations]
 18. ‘*Information recycling beam-splitters for atom-interferometry with enhanced sensitivity*’
S. A. Haine
Phys. Rev. Lett. **110**, 053002 (2013). [21 citations]
 19. ‘*Surpassing the standard quantum limit in an atom interferometer with four-mode entanglement produced from four-wave mixing*’
S. A. Haine and A. J. Ferris,
 Phys. Rev. A **84**, 043624 (2011). [14 citations]
 20. ‘*Optically trapped atom interferometry using the clock transition of large Rb-87 Bose-Einstein condensates*’
 P. A. Altin, G. McDonald, D. Doring, J. E. Debs, T. Barter, N. P. Robins, J. D. Close,
S. A. Haine, T. M. Hanna, R. P. Anderson
 New Journal of Physics, **13**, 065020 (2011). [22 citations]
 21. ‘*Dynamic scheme for generating number squeezing in Bose-Einstein condensates through nonlinear interactions*’
S. A. Haine and M. T. Johnsson
 Phys. Rev. A, **80**, 023611, (2009). [32 citations]
 22. ‘*Observation of shock waves in a large Bose-Einstein condensate*’

- R. Meppelink, S. B. Koller, J. M. Vogels, P. van der Straten, E. D. van Ooijen, N. R. Heckenberg, H. Rubinsztein-Dunlop, **S. A. Haine**, and M. J. Davis, *Phys. Rev. A*, **80** 043606 (2009). [49 citations]
23. ‘*From Squeezed Atom Lasers to Teleportation of Massive Particles*’
M. K. Olsen, **S. A. Haine**, A. S. Bradley, and J. J. Hope
Eur. Phys. J. Special Topics, **160**, 331-342 (2008). [7 citations]
24. ‘*Generating Quadrature Squeezing in an Atom Laser through Self-Interaction*’
M. T. Johnsson and **S. A. Haine**
Phys. Rev. Lett. **99** 010401 (2007). [38 citations]
25. ‘*Raman scheme to measure the quantum statistics of an atom laser beam*’
A. S. Bradley, M. K. Olsen, **S. A. Haine** and J. J. Hope
Phys. Rev. A **76**, 033603 (2007). [14 citations]
26. ‘*Quantum Statistical measurements of an atom laser beam*’
M. K. Olsen, A. S. Bradley, **S. A. Haine** and J. J. Hope
Nuclear Physics A, **790**, 733c (2007). [1 citations]
27. ‘*Semiclassical limits to the linewidth of an atom laser*’
M. T. Johnsson, **S. A. Haine**, J. J. Hope, N. P. Robins, C. Figl, M. Jeppesen, J. Dugue, and J. C. Close
Phys. Rev. A **75**, 043618 (2007). [17 citations]
28. ‘*Generating controllable atom-light entanglement with a Raman atom laser system*’
S. A. Haine, M. K. Olsen, and J. J. Hope
Phys. Rev. Lett. **96**, 133601 (2006). [51 citations]
29. ‘*Achieving peak brightness in an atom laser*’
N. P. Robins, C. Figl, **S. A. Haine**, A. K. Morrison, M. Jeppesen, J. J. Hope, J. D. Close
Phys. Rev. Lett. **96**, 140403 (2006). [57 citations]
30. ‘*A multi-mode model of a non-classical atom laser produced by outcoupling from a Bose-Einstein condensate with squeezed light*’
S. A. Haine and J. J. Hope
Laser Phys. Lett. **2** No. 12, 597-602 (2005). [14 citations]
31. ‘*Outcoupling from a Bose-Einstein condensate with squeezed light to produce entangled atom laser beams*’
S. A. Haine and J. J. Hope
Phys. Rev. A. **72**, 033601 (2005). [67 citations]
32. ‘*Stabilizing an atom laser using spatially selective pumping and feedback*’
M. Johnsson, **S. A. Haine**, and J. J. Hope.
Phys. Rev. A **72** 053603 (2005). [12 citations]
33. ‘*Fluctuations and flux: The limits of multi-state atom lasers*’
N. P. Robins, C. M. Savage, J. J. Hope, J. E. Lye, C. S. Fletcher, **S. A. Haine** and J. D. Close.
Phys. Rev. A **69** 051602(R) (2004). [37 citations]

34. *'Control of an atom laser using feedback'*
S. A. Haine, A. J. Ferris, J. D. Close, and J. J. Hope
Phys. Rev. A **69**, 013605 (2004). [23 citations]
35. *'Mode Selectivity and Stability of Continuously Pumped Atom Lasers'*
S. A. Haine and J. J. Hope
Phys. Rev. A **68**, 023607 (2003). [13 citations]
36. *'Stability of Continuously Pumped Atom Lasers'*
S. A. Haine, J. J. Hope, N. P. Robins, and C. M. Savage
Phys. Rev. Lett. **88**, 170403 (2002). [29 citations]