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’
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).

24. ‘Generating Quadrature Squeezing in an Atom Laser through Self-Interaction’
    M. T. Johnsson and S. A. Haine
    Phys. Rev. Lett. 99 010401 (2007).

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).

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).

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).

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).

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).

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).

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).

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).

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).
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]