

Publications

Matthew Doyle

Journal Articles

- i. M. J. Doyle, A. I. Golov, P. M. Walmsley, and A. W. Baggaley, “Modelling Turbulent Flow of Superfluid ^4He Past a Rough Solid Wall in the $T = 0$ Limit”, J. Low. Temp. Phys **215**, 452-464 (2024). <https://doi.org/10.1007/s10909-024-03073-6>

Conference Posters

- ii. M. J. Doyle, A. W. Baggaley, P. W. Walmsley, and A. I. Golov, “Modelling Flow of Superfluid ^4He past a Rough Solid Wall in the $T = 0$ Limit”, Poster presented at the International Conference on Quantum Fluids and Solids 2024, Jacksonville, USA
- iii. C. O. Goodwin, I. Skachko, J. A. Hay, M. J. Doyle, W. Guo, P. M. Walmsley, and A. I. Golov, “Imaging Particle-Vortex Interactions in Superfluid ^4He in the $T = 0$ Limit”, Poster presented at the International Conference on Quantum Fluids and Solids 2024, Jacksonville, USA (Award winning).
- iv. M. J. Doyle, A. I. Golov, P. M. Walmsley, and A. W. Baggaley, “Modelling Turbulent Flow of Superfluid ^4He Past a Rough Solid Wall in the $T = 0$ Limit”, Poster presented at the International Conference on Quantum Fluids and Solids 2023, Manchester, UK (Award winning).
- v. C. O. Goodwin, I. Skachko, J. A. Hay, M. J. Doyle, W. Guo, P. M. Walmsley, and A. I. Golov, “Imaging Particle-Vortex Interactions in Superfluid ^4He at $T < 1$ K”, Poster presented at the International Conference on Quantum Fluids and Solids 2023, Manchester, UK (Award winning).
- vi. M. J. Doyle, A. I. Golov, P. M. Walmsley, and A. W. Baggaley, “Modelling Vortex Tangles in Pure Superfluid ^4He Moving Past a Solid Wall”, Poster presented at the 29th International Conference on Low Temperature Physics 2022, Sapporo, Japan.
- vii. A. I. Golov, M. J. Doyle, P. M. Walmsley, A. W. Baggaley, “Modelling of the Interaction of a Vortex Line with a Solid Wall in the $T = 0$ Limit”, Poster presented at the International Conference on Quantum Fluids and Solids 2021, Bangalore, India.

Conference Talks

- viii. A. I. Golov, C. O. Goodwin, M. J. Doyle, J. A. Hay, I. Skachko, P. M. Walmsley, and W. Guo, “Visualization of the Interaction of Micron-sized Particles with Vortices in Superfluid ^4He down to 140 mK”, Presentation delivered at the International Conference on Quantum Fluids and Solids 2024, Jacksonville, USA.
- ix. V. B. Eltsov, A. Ikaheimo, T. Kamppinen, S. M. Khan, J. T. Makinen, S. Midlik, D. Schmoranzner, M. J. Doyle, and A. I. Golov, “Vortex Dynamics at Sub-quantum Length Scales, Probed with a NEMS Device”, Presentation delivered at the International Conference on Quantum Fluids and Solids 2024, Jacksonville, USA.
- x. V. B. Eltsov, T. Kamppinen, A. Ikaheimo, J. T. Makinen, S. Midlik, D. Schmoranzner, M. J. Doyle, and A. I. Golov, “Probing Superfluid ^3He with a Nanoelectromechanical Oscillator”, Presentation delivered at the International Conference on Quantum Fluids and Solids 2023, Manchester, UK.

In-progress Journal Articles

- xi. M. J. Doyle, A. W. Baggaley, P. M. Walmsley and A. I. Golov, “Coarse-grained superfluid ^4He turbulence between infinite solid boundaries in the zero-temperature limit”, Targeted at Physical Review B/Physical Review Fluids, (2024/2025).
- xii. M. J. Doyle, A. W. Baggaley, P. M. Walmsley and A. I. Golov, “Modelling vortex line interactions in superfluid helium flowing past a solid wall with a harmonic profile”, Targeted at Physical Review Fluids, (2024/2025).

Underline – Corresponding author or designated presenter.