Robin Reuvers

Key words

Mathematical physics, quantum mechanics, fermionic and bosonic many-body systems, entanglement, statistical mechanics

Appointments

2022- **Università degli Studi Roma Tre**
Tenure-track researcher (RTD-B)

2021-2022 **Università degli Studi Roma Tre**
Assegni di ricerca

2017-2020 **Darwin College, Cambridge**
Research fellow

2017-2019 **University of Cambridge**
Royal Society Newton International Fellow

Education

2013-2016 **University of Copenhagen**
PhD in Mathematical Physics

2016 **Princeton University**
Visiting Student Research Collaborator

2012-2013 **University of Cambridge**
MASt in Mathematics (Part III)

2009-2012 **Radboud University Nijmegen**
BSc in Mathematics, BSc in Physics

Publications

11. J. Agerskov, J.P. Solovej and R. Reuvers. Ground state energy of dilute Bose gases in 1D. arXiv:2203.17183.

10. R. Reuvers. Generalized Pauli constraints in large systems: the Pauli principle dominates. *Journal of Mathematical Physics* 62(3): 032204, 2021.

9. C.J.F. van de Ven, G.C. Groenenboom, R. Reuvers and N.P. Landsman. Quantum spin systems versus Schrödinger operators: A case study in spontaneous symmetry breaking. *SciPost Physics* 8(2): 022, 2020.

8. S. Fournais, M. Napiórkowski, R. Reuvers and J.P. Solovej. Ground state energy of a dilute two-dimensional Bose gas from the Bogoliubov free energy functional. *Journal of Mathematical Physics* 60: 071903, 2019.

7. R. Reuvers. Lower bound on entanglement in subspaces defined by Young diagrams. *Journal of Mathematical Physics* 60(1): 012201, 2019.

6. R. Reuvers. An algorithm to explore entanglement in small systems. *Proceedings of the Royal Society* A 474(2214): 20180023, 2018.

5. M. Napiórkowski, R. Reuvers and J.P. Solovej. Calculation of the critical temperature of a dilute Bose gas in the Bogoliubov approximation. *Europhysics Letters* 121(1): 10007, 2018.

4. M. Napiórkowski, R. Reuvers and J.P. Solovej. The Bogoliubov free energy functional II. The dilute limit. *Communications in Mathematical Physics* 36(1): 347–403, 2018.

3. M. Napiórkowski, R. Reuvers and J.P. Solovej. The Bogoliubov free energy functional I. Existence of minimizers and phase diagram. *Archive for Rational Mechanics and Analysis* 229(3): 1037–1090, 2018.

2. E.A. Carlen, E.H. Lieb and R. Reuvers. Entropy and entanglement bounds for reduced density matrices of fermionic states. *Communications in Mathematical Physics* 344(3): 655–671, 2016.

1. N.P. Landsman and R. Reuvers. A Flea on Schrödinger's Cat. *Foundations of Physics* 43(3): 373–407, 2013.

Books and theses

2. Enigmas (Darwin College Lectures). E.J. Ward and R. Reuvers, Eds. Cambridge University Press, 2022.

1. R. Reuvers. Analysis of the Bogoliubov free energy functional: a variational description of a weakly-interacting Bose gas. PhD thesis. Department of Mathematical Sciences, Faculty of Science, University of Copenhagen, 2016.