List of Publications

- Uwe R. Fischer: *Transition probabilities for a Rydberg atom in the field of a gravitational wave*, Class. Quantum Grav. **11,** 463-474 (1994)

- Uwe R. Fischer: *Massive Charged Strings in the Description of Vortex Ring Quantum Nucleation*, J. Low Temp. Phys. **110,** 39-44 (1998)

- Uwe R. Fischer: *Geometric Laws of Vortex Quantum Tunneling*, Phys. Rev. B **58,** 105-108 (1998)

- Uwe R. Fischer: *On the theory of vortex quantum tunnelling in the dense Bose superfluid helium II*, Physica B **255,** 41-54 (1998)

- Uwe R. Fischer: *Motion of Quantized Vortices as Elementary Objects*, Ann. Phys. (N.Y.) **278,** 62-85 (1999)

- Uwe R. Fischer: *Tunnelling of topological line defects in strongly coupled superfluids*, Ann. Phys. (Leipzig) **9,** 523-570 (2000)

- Uwe R. Fischer and Grigori E. Volovik: *Thermal quasi-equilibrium states across Landau horizons in the effective gravity of superfluids*, Int. J. Mod. Phys. D **10,** 57-88 (2001)

- Uwe R. Fischer and Nils Schopohl: *Hall state quantization in a rotating frame*, Europhys. Lett. **54,** 502-507 (2001)

- Uwe R. Fischer: *Specific heat of the Kelvin modes in low temperature superfluid turbulence*, Phys. Rev. B **63,** 212504 (2001)

- Uwe R. Fischer and Nils Schopohl: *Short wavelength spectrum and Hamiltonian stability of vortex rings*, Phys. Rev. E **64,** 016306 (2001)

- Uwe R. Fischer, Christoph Häußler, Jörg Oppenländer, and Nils Schopohl: *Electromagnetomotive force fields in noninertial reference frames and accelerated superconducting quantum interferometers*, Phys. Rev. B **64,** 214509 (2001)

- Uwe R. Fischer and Matt Visser: *Riemannian geometry of irrotational vortex acoustics*, Phys. Rev. Lett. **88,** 110201 (2002)

- Uwe R. Fischer: *Existence of Long-Range Order for Trapped Interacting Bosons*, Phys. Rev. Lett. **89,** 280402 (2002)

- Uwe R. Fischer and Gordon Baym: *Vortex states of rapidly rotating dilute Bose-Einstein condensates*, Phys. Rev. Lett. **90,** 140402 (2003)

- Uwe R. Fischer and Matt Visser: *On the space-time curvature experienced by quasiparticle excitations in the Painlevé-Gullstrand effective geometry*, Ann. Phys. (N.Y.) **304,** 22-39 (2003)

- Uwe R. Fischer and Matt Visser: *Warped space-time for phonons moving in a perfect nonrelativistic fluid*, Europhys. Lett. **62,** 1-7 (2003)

- Petr O. Fedichev and Uwe R. Fischer: *Gibbons-Hawking Effect in the Sonic de Sitter Space-Time of an Expanding Bose-Einstein-Condensed Gas*, Phys. Rev. Lett. **91,** 240407 (2003)

- Petr O. Fedichev, Uwe R. Fischer, and Alessio Recati: *Zero-temperature damping of Bose-Einstein condensate oscillations by vortex-antivortex pair creation*, Phys. Rev. A **68,** 011602 (Rapid Communication) (2003)

- Uwe R. Fischer, Petr O. Fedichev, and Alessio Recati: *Vortex liquids and vortex quantum Hall states in trapped rotating Bose gases*, J. Phys. B: At. Mol. Opt. Phys. **37,** S301-S310 (2004)

- Petr O. Fedichev and Uwe R. Fischer: *Observer dependence for the phonon content of the sound field living on the effective curved space-time background of a Bose-Einstein condensate*, Phys. Rev. D **69,** 064021 (2004)

- Petr O. Fedichev and Uwe R. Fischer: *"Cosmological" quasiparticle production in harmonically trapped superfluid gases*, Phys. Rev. A **69,** 033602 (2004)

- Uwe R. Fischer: *Quasiparticle universes in Bose-Einstein condensates*, Mod. Phys. Lett. A **19,** 1789-1812 (2004)

- Uwe R. Fischer: *Dynamical role of anyonic excitation statistics in rapidly rotating Bose gases*, Phys. Rev. Lett. **93,** 160403 (2004)

- Uwe R. Fischer and Ralf Schützhold: *Quantum simulation of cosmic inflation in two-component Bose-Einstein condensates*, Phys. Rev. A **70,** 063615 (2004)

- Uwe R. Fischer: *Maximal length of trappped one-dimensional Bose-Einstein condensates*, J. Low Temp. Phys. **138,** 723-728 (2005)

- Uwe R. Fischer: *Reply to Comment on "Dynamical role of anyonic excitation statistics in rapidly rotating Bose gases"*, Phys. Rev. Lett. **94**, 208904 (2005)

- Ralf Schützhold, Michael Uhlmann, Yan Xu, and Uwe R. Fischer: *Quantum back-reaction in dilute Bose-Einstein condensates*, Phys. Rev. D **72,** 105005 (2005)

- Uwe R. Fischer: *Stability of quasi-two-dimensional Bose-Einstein condensates with dominant dipole-dipole interactions*, Phys. Rev. A **73,** 031602 (Rapid Communication) (2006)

- Ralf Schützhold, Michael Uhlmann, Yan Xu, and Uwe R. Fischer: *Mean-field expansion in Bose-Einstein condensates with finite-range interactions*, Int. J. Mod. Phys. B **20,** 3555-3565 (2006)

- Ralf Schützhold, Michael Uhlmann, Yan Xu, and Uwe R. Fischer: *Sweeping from the superfluid to the Mott phase in the Bose-Hubbard model*, Phys. Rev. Lett. **97,** 200601 (2006)

- Markus Flaig and Uwe R. Fischer: *Global singularity-free solution of the Iordanskiĭ force problem*, Phys. Rev. B **74,** 224503 (2006)

- Uwe R. Fischer: *Dynamical Aspects of Analogue Gravity: The Backreaction of Quantum Fluctuations in Dilute Bose-Einstein Condensates*, Lect. Notes Phys. **718,** 93-113 (2007)

- Ingrid Bausmerth, Uwe R. Fischer, and Anna Posazhennikova: *Quantum top inside a Bose-Einstein-condensate Josephson junction*, Phys. Rev. A **75,** 053605 (2007)

- Michael Uhlmann, Ralf Schützhold, and Uwe R. Fischer: *Vortex quantum creation and winding number scaling in a quenched spinor Bose gas*, Phys. Rev. Lett. **99,** 120407 (2007)

- Uwe R. Fischer, Christian Iniotakis, and Anna Posazhennikova: *Coherent single atom shuttle between two Bose-Einstein condensates*, Phys. Rev. A **77,** 031602 (Rapid Communication) (2008)

- Uwe R. Fischer, Ralf Schützhold, and Michael Uhlmann: *Bogoliubov theory of quantum correlations in the time-dependent Bose-Hubbard model*, Phys. Rev. A **77,** 043615 (2008)

- Ralf Schützhold, Michael Uhlmann, and Uwe R. Fischer: *Effect of fluctuations on the superfluid-supersolid phase transition on the lattice*, Phys. Rev. A **78,** 033604 (2008)

- Uwe R. Fischer and Ralf Schützhold: *Tunneling-induced damping of phase coherence revivals in deep optical lattices*, Phys. Rev. A **78,** 061603 (Rapid Communication) (2008)

- Philipp Bader and Uwe R. Fischer: *Fragmented many-body ground states for scalar bosons in a single trap*, Phys. Rev. Lett. **103,** 060402 (2009)

- Michael Uhlmann, Ralf Schützhold, and Uwe R. Fischer: *$O(N)$ symmetry-breaking quantum quench: Topological defects versus quasiparticles*, Phys. Rev. D **81,** 025017 (2010)

- Uwe R. Fischer and Philipp Bader: *Interacting trapped bosons yield fragmented condensate states in low dimensions*, Phys. Rev. A **82,** 013607 (2010)

- Yuliya V. Kucherenko, Shefalee K. Bhavsar, Valentin I. Grischenko, Uwe R. Fischer, Stephan M. Huber, and Florian Lang: *Increased Cation Conductance in Human Erythrocytes Artificially Aged by Glycation*, J. Membrane Biol. **235,** 177-189 (2010)

- Michael Uhlmann, Ralf Schützhold, and Uwe R. Fischer: *System size scaling of topological defect creation in a second-order dynamical quantum phase transition*, New J. Phys. **12,** 095020 (2010)