

List of Publications

Published Articles (in peer-reviewed journals)

87. *Information criteria for efficient quantum state estimation*, Jun O.S. Yin and S.J. van Enk, Phys. Rev. A **83**, 062110 (2011)
86. *Detecting the Drift of Quantum Sources: Not the de Finetti Theorem*, Lucia Schwarz and S.J. van Enk, Phys. Rev. Lett. **106**, 180501 (2011)
85. *Verifying entanglement in the Hong-Ou-Mandel dip*, Megan R. Ray and S.J. van Enk, Phys. Rev. A **83**, 042318 (2011)
84. *Criteria for reliable entanglement quantification with finite data*, Jun O.S. Yin and S.J. van Enk, Phys. Rev. A **83**, 022326 (2011)
83. *Entanglement of spin waves among four quantum memories*, K. S. Choi, A. Goban, S. B. Papp, S. J. van Enk, and H. J. Kimble, Nature **468**, 412-416 (2010)
82. *Entanglement verification with finite data*, Robin Blume-Kohout, Jun O.S. Yin, and S.J. van Enk, Phys. Rev. Lett. **105**, 170501 (2010)
81. *Interference of two photons of different color*, M.G. Raymer, S.J. van Enk, C.J. McKinstrie, and H.J. McGuinness, Opt. Commun. **283**, 747-752 (2010)
80. *Spin and Orbital Rotation of Electrons and Photons via Spin-Orbit Interaction*, C.C. Leary, M.G. Raymer, and S.J. van Enk, Phys. Rev. A **80**, 061804 (2009)
79. *Characterizing entanglement sources*, P. Lougovski and S.J. van Enk, Phys. Rev. A **80**, 052324 (2009)
78. *Strengthened Bell inequalities for entanglement verification*, P. Lougovski and S.J. van Enk, Phys. Rev. A **80**, 034302 (2009)
77. *Verifying multipartite mode entanglement of W states*, P. Lougovski, S.J. van Enk, K.S. Choi, S.B. Papp, H. Deng, and H.J. Kimble, New J. of Phys., **11**, 063029 (2009)
76. *Direct Measurements of Entanglement and Permutation Symmetry*, S.J. van Enk, Phys. Rev. Lett. **102**, 190503 (2009)

75. *Characterization of Multipartite Entanglement for One Photon Shared Among Four Optical Modes*, S.B. Papp, K.S. Choi, H. Deng, P. Lougovski, S.J. van Enk, and H.J. Kimble, *Science*, **324**, 764-768 (2009)
74. *Splitting the wavefunctions of two particles in two boxes*, S.J. van Enk *Am. J. Phys.* **77**, 140-143 (2009)
73. *Entanglement and purity of one- and two-photon states*, Jun O.S. Yin and S.J. van Enk, *Phys. Rev. A* **77**, 062333 (2008)
72. *Multicolor multipartite entanglement produced by vector four-wave mixing in a fiber*, C.J. McKinstrie, S.J. van Enk, M.G. Raymer, and S. Radic, *Optics Express* **16**, 2720-2739 (2008)
71. *Photons in polychromatic rotating modes*, S.J. van Enk and G. Nienhuis, *Phys. Rev. A* **76**, 053825 (2007)
70. *A toy model for quantum mechanics*, S.J. van Enk, *Found. Phys.* **37**, 1447-1460 (2007)
69. *On experimental entanglement verification protocols*, S.J. van Enk, N. Lutkenhaus, and H.J. Kimble, *Phys. Rev. A* **75**, 052318 (2007)
68. *Mesoscopic entanglement of atomic ensembles through non-resonant stimulated Raman scattering*, Wenhai Ji, Chunbai Wu, S.J. van Enk, M.G. Raymer, *Phys. Rev. A* **75**, 052305 (2007)
67. *Reply to "Comment on "Single-particle entanglement" "*, S.J. van Enk, *Phys. Rev. A* **74**, 026302 (2006)
66. *Quantum communication, reference frames, and gauge theory*, S.J. van Enk, *Phys. Rev. A* **73**, 042306 (2006)
65. *Single-particle entanglement*, S.J. van Enk, *Phys. Rev. A* **72**, 064306 (2005)
64. *Measurement-induced entanglement for excitation stored in remote atomic ensembles*, C.W. Chou, H. de Riedmatten, D. Felinto, S.V. Polyakov, S.J. van Enk, and H.J. Kimble, *Nature* **438**, 828-832 (2005)
63. *Comment on "Quantum state transfer between matter and light"*, S.J. van Enk and H.J. Kimble, *Science* **309**, 1187 (2005)

62. *Decoherence of multi-dimensional entangled coherent states*, S.J. van Enk, Phys. Rev. A **72**, 022308 (2005)
61. *Relations between cloning and the universal-NOT derived from conservation laws*, S.J. van Enk, Phys. Rev. Lett. **95**, 010502 (2005)
60. *The most robust entangled state of light*, S.J. van Enk and O. Hirota, Phys. Rev. A **71**, 062322 (2005)
59. *Quantifying the resource of sharing a reference frame*, S.J. van Enk, Phys. Rev. A **71**, 032339 (2005)
58. *Quantum information processing in cavity-QED*, S.J. van Enk, H.J. Kimble, and H. Mabuchi, Quantum Information Processing **3**, 75-90 (2004)
57. *Push-button teleportation*, H.J. Kimble and S.J. van Enk, Nature **429**, 712-713 (2004)
56. *Atoms, dipole waves, and strongly focused light beams*, S.J. van Enk, Phys. Rev. A **69**, 043813 (2004)
55. *Reduction theorems for optimal unambiguous state discrimination of density matrices*, P. Raynal, N. Lutkenhaus, and S.J. van Enk, Phys. Rev. A **68**, 022308 (2003)
54. *Quantum communication protocols with the vacuum*, S.J. van Enk and T. Rudolph, Quantum Information and Computation **3**, 423-430 (2003)
53. *Entanglement capabilities in infinite dimensions: multi-dimensional entangled coherent states*, S.J. van Enk, Phys. Rev. Lett. **91**, 017902 (2003)
52. *Odd numbers of photons and teleportation*, S.J. van Enk, Phys. Rev. A **67**, 022318 (2003)
51. *Local vs. joint measurements for the entanglement of assistance*, T. Laustsen, F. Verstraete, and S.J. van Enk, Quantum Information and Computation **3**, 64-83 (2003)
50. *Entanglement of electromagnetic fields*, S.J. van Enk, Phys. Rev. A **67**, 022303 (2003)
49. *Unambiguous state discrimination of coherent states with linear optics: application to quantum cryptography*, S.J. van Enk, Phys. Rev. A **66**, 042313 (2002)
48. *Phase measurements with weak reference pulses*, S.J. van Enk, Phys. Rev. A **66**, 042308 (2002)

47. *Quantum state of a propagating laser field*, S.J. van Enk and C.A Fuchs, *Quantum Information and Computation*, **2**, 151-165 (2002)
46. *On the classical character of control fields in quantum information processing*, S.J. van Enk and H.J. Kimble, *Quantum Information and Computation* **2**, 1-13 (2001)
45. *Classical rules and quantum games*, S.J. van Enk and R. Pike, *Phys. Rev. A* **66**, 024306 (2002)
44. *Quantum state of an ideal propagating laser field*, S.J. van Enk and C.A Fuchs, *Phys. Rev. Lett.* **88**, 027902 (2002)
43. *Quantum networks based on cavity QED*, H. Mabuchi, M. Armen, B. Lev, M. Loncar, J. Vuckovic, H.J. Kimble, J. Preskill, M. Roukes, A. Scherer, and S.J. van Enk, *Quantum Information and Computation* **1**, 7-12 (2001)
42. *The physical meaning of phase and its importance for teleportation*, S.J. van Enk, *J. Mod. Optics* **48**, 2049-2054 (2001)
41. *Entangled coherent states: Teleportation and decoherence*, S.J. van Enk and O. Hirota, *Phys. Rev. A* **64**, 022313 (2001)
40. *Cooling of a single atom in an optical trap inside a resonator*, S.J. van Enk, J. McKeever, H.J. Kimble, and J. Ye, *Phys. Rev. A* **64**, 013407 (2001)
39. *Strongly focused light beams interacting with single atoms in free space*, S.J. van Enk and H.J. Kimble, *Phys. Rev. A* **63**, 023809 (2001)
38. *Paradoxical behavior of an infinite ladder network of inductors and capacitors*, S.J. van Enk, *Am. J. Phys.* **68**, 854-856 (2000)
37. *Single atom in free space as a quantum aperture*, S.J. van Enk and H.J. Kimble, *Phys. Rev. A* **61**, 051802 (2000)
36. *Experimental proposal for achieving superadditive communication capacities with a binary quantum alphabet*, J.R. Buck, S.J. van Enk and C.A. Fuchs *Phys. Rev. A* **61**, 032309 (2000)
35. *Quantum and classical game strategies*, S.J. van Enk, *Phys. Rev. Lett.* **84**, 789 (2000)
34. *Discrete formulation of teleportation with continuous variables*, S.J. van Enk, *Phys. Rev. A*, **60**, 5095—5097 (1999)

33. *Physical implementations for quantum communication in quantum networks*, H.J. Briegel, J.I. Cirac, W. Dur, S.J. van Enk, H.J. Kimble, H. Mabuchi, and P. Zoller, Lecture Notes in Computer Science **1509**, 373-382 (1999)
32. *Quantum communication with dark photons*, S.J. van Enk, H.J. Kimble, J.I. Cirac and P. Zoller, Phys. Rev. A **59**, 2659—2664 (1999)
31. *Quantum communication in a quantum network*, J.I. Cirac, S.J. van Enk, P. Zoller, H.J. Kimble and H. Mabuchi, Physica Scripta **T76**, 223-232 (1998)
30. *Quantum communication and the creation of maximally entangled pairs of atoms over a noisy channel*, H.-J. Briegel, W. Dur, S.J. van Enk, J.I. Cirac and P. Zoller, Philos. T. Roy. Soc. A **356**, 1841-1851 (1998)
29. *Photonic channels for quantum communication*, S.J. van Enk, J.I. Cirac and P. Zoller, Science **279**, 205-208 (1998)
28. *Purifying two-bit quantum gates and joint measurements in cavity-QED*, S.J. van Enk, J.I. Cirac and P. Zoller, Phys. Rev. Lett. **79**, 5178-5181 (1997)
27. *Ideal quantum communication over noisy channels: a quantum optical implementation*, S.J. van Enk, J.I. Cirac and P. Zoller, Phys. Rev. Lett. **78**, 4293-4296 (1997)
26. *On the free-free dipole moment*, S.J. van Enk, Jian Zhang and P. Lambropoulos, J. Phys. B Lett. **30**, L17-21 (1997)
25. *Stimulated Raman scattering in helium with soft-X-ray laser radiation*, E.E. Fill, S.J. van Enk, Jian Zhang and P. Lambropoulos, Phys. Rev. A **54**, 5374-5377 (1996)
24. *Third harmonic generation through double resonances: a model in He*, S.J. van Enk, Jian Zhang and P. Lambropoulos, J. Phys. B **29**, 4041-4057 (1996)
23. *Is there a static magnetic field of the photon?*, S.J. van Enk, Found. Phys. Lett. **9**, 183-190 (1996)
22. *Calculation of $\chi(3)$ in He including configuration interaction for XUV photons*, S.J. van Enk, Jian Zhang and P. Lambropoulos, Z. Phys. D **37**, 211-217 (1996)
21. *Propagation and amplification of short-wavelength radiation in an autoionizing medium*, Jian Zhang, S.J. van Enk and P. Lambropoulos, Optics Commun. **125**, 168-176 (1996)

20. *Excess photon ionization and harmonic generation through an autoionizing resonance*, Jian Zhang and S.J. van Enk, Phys. Rev. A **52**, 4640—4646 (1995)
19. *Calculation of $\chi(3)$ in He for 25eV photons*, S.J. van Enk, Jian Zhang and P. Lambropoulos, J. Phys. B. **28**, 3453-3459 (1995)
18. *Casimir torque between dielectrics*, S.J. van Enk, Phys. Rev. A **52**, 2569-2575 (1995)
17. *Coherent effects through the continuum: Transparency, population trapping and amplification without inversion through autoionizing resonances*, S.J. van Enk, Jian Zhang and P. Lambropoulos, Applied. Phys. B **60**, S141-S152 (1995)
16. *The Casimir effect in dielectrics: A numerical approach*, S.J. van Enk, J. Mod. Optics **42**, 321-338 (1995)
15. *Angular momentum in evanescent waves*, S.J. van Enk and G. Nienhuis, Optics Commun. **112**, 225-234 (1994)
14. *Effect of the continuum on electromagnetically induced transparency with matched pulses*, S.J. van Enk, Jian Zhang and P. Lambropoulos, Phys. Rev. A **50**, 2777-2780 (1994)
13. *Selection rules and center-of-mass motion of ultracold atoms*, S.J. van Enk, Quantum Optics **6**, 445-457 (1994)
12. *Pump-induced transparency and enhanced third harmonic generation near an autoionizing state*, S.J. van Enk, Jian Zhang and P. Lambropoulos, Phys. Rev. A **50**, 3362-3365 (1994)
11. *Commutation rules and eigenvalues of spin and orbital angular momentum of radiation fields*, S.J. van Enk and G. Nienhuis, J. Mod. Optics **41**, 963-977 (1994)
10. *Spin and orbital angular momentum of photons*, S.J. van Enk and G. Nienhuis, Europhys. Lett. **25**, 497-501 (1994)
9. *Geometric phase, transformations of Gaussian light beams and angular momentum transfer*, S.J. van Enk, Optics Commun. **102**, 59-64 (1993)
8. *Spherical angle operators for quantum-mechanical angular momentum*, G. Nienhuis and S.J. van Enk, Physica Scripta **T48**, 87-93 (1993)

7. *Eigenfunction description of laser beams and orbital angular momentum of light*, S.J. van Enk and G. Nienhuis, *Optics Commun.* **94**, 147-158 (1992)
6. *Entropy production and kinetic effects of light*, S.J. van Enk and G. Nienhuis, *Phys. Rev. A* **46**, 1438-1448 (1992)
5. *Light-induced slip*, S.J. van Enk and G. Nienhuis, *Physica A* **179**, 199—218 (1991)
4. *Inelastic collisions and gas-kinetic effects of light*, S.J. van Enk and G. Nienhuis, *Phys. Rev. A* **44**, 7615-7625 (1991)
3. *Macroscopic state of gases in a light field*, G. Nienhuis and S.J. van Enk, *Ann. Physik (Leipzig)* **48**, 169-184 (1991)
2. *Kinetic effects of light in binary gas mixtures*, S.J. van Enk and G. Nienhuis, *Phys. Rev. A* **42**, 3079-3089 (1990)
1. *Light-induced modifications of transport properties of single-component gases*, S.J. van Enk and G. Nienhuis, *Phys. Rev. A* **41**, 3757-3765 (1990)