

LIST OF PUBLICATIONS

Nicolas J. Cerf

Theses

1. *Densité de niveaux nucléaires, corrélations d'appariement, et leur rôle en astrophysique*, Thèse de doctorat en Sciences, ULB, February 1993.
2. *Méthodes de Monte Carlo : application à l'étude de systèmes quantiques*, Thèse d'agrégation de l'enseignement supérieur, ULB, March 1995.

Publications in peer-reviewed international journals

1. *On the application of a Monte Carlo method to the nuclear level density problem*, N. Cerf, Phys. Lett. B 268 (1991) 317-322.
2. *Parity dependence of the nuclear level density*, N. Cerf, Nucl. Phys. A 554 (1993) 85-106.
3. *Statistical analysis of a sample of spectroscopic binaries containing late-type giants*, H.M.J. Boffin, N. Cerf and G. Paulus, Astron. Astrophys. 271 (1993) 125-138.
4. *Pairing Hamiltonian by a path integral Monte Carlo procedure*, N. Cerf and O. Martin, Phys. Rev. C 47 (1993) 2610-2615.
5. *Nuclear pairing correlations by a quantum Monte Carlo method*, N. Cerf, Nucl. Phys. A 564 (1993) 383-412.
6. *Combinatorial nuclear level density by a Monte Carlo method*, N. Cerf, Phys. Rev. C 49 (1994) 852-866.
7. *Mass distribution of binary stars using an iterative inversion technique*, N. Cerf and H.M.J. Boffin, Inverse Probl. 10 (1994) 533-546.
8. *Realistic microscopic level densities for spherical nuclei*, N. Cerf, Phys. Rev. C 50 (1994) 836-844.
9. *Finite population-size effects in projection Monte Carlo methods*, N. Cerf and O. Martin, Phys. Rev. E 51 (1995) 3679-3693.
10. *Projection Monte Carlo methods: an algorithmic analysis*, N.J. Cerf and O.C. Martin, Int. J. Mod. Phys. C 6 (1995) 693-723.
11. *Single- and multi-event canonical r-process : astrophysics and nuclear physics considerations*, V. Bouquelle, N. Cerf, M. Arnould, T. Tachibana, and S. Goriely, Astron. Astrophys. 305 (1996) 1005-1018.
12. *Monte Carlo computation of pair correlations in excited nuclei*, N.J. Cerf, Phys. Rev. Lett. 76 (1996) 2420-2423.
13. *The random link approximation for the Euclidean Traveling Salesman Problem*, N.J. Cerf, J. Boutet de Monvel, O. Bohigas, O.C. Martin, and A.G. Percus, J. Phys. I (France) 7 (1997) 117-136.

14. *Negative entropy and information in quantum mechanics*,
N.J. Cerf and C. Adami, Phys. Rev. Lett. 79 (1997) 5194-5197.
15. *Entropic Bell inequalities*,
N.J. Cerf and C. Adami, Phys. Rev. A 55 (1997) 3371-3374.
16. *Information-theoretic interpretation of quantum error-correcting codes*,
N.J. Cerf and R. Cleve, Phys. Rev. A 56 (1997) 1721-1732.
17. *von Neumann capacity of noisy quantum channels*,
C. Adami and N.J. Cerf, Phys. Rev. A 56 (1997) 3470-3483.
18. *Information theory of quantum entanglement and measurement*,
N.J. Cerf and C. Adami, Physica D 120 (1998) 62-81.
19. *Monte Carlo simulation of quantum computation*,
N.J. Cerf and S.E. Koonin, Math. and Comput. in Simulat. 47 (1998) 143-152.
20. *Optical simulation of quantum logic*,
N.J. Cerf, C. Adami, and P.G. Kwiat, Phys. Rev. A 57 (1998) R1477-R1480.
21. *Entropic bounds on coding for noisy quantum channels*,
N.J. Cerf, Phys. Rev. A 57 (1998) 3330-3347.
22. *Asymmetric quantum cloning machines*,
N.J. Cerf, Acta Phys. Slovaca 48 (1998) 115-132
(special issue on Quantum Optics and Quantum Information).
23. *Quantum extension of conditional probability*,
N.J. Cerf and C. Adami, Phys. Rev. A 60 (1999) 893-897.
24. *Reduction criterion for separability*,
N.J. Cerf, C. Adami, and R.M. Gingrich, Phys. Rev. A 60 (1999) 898-909.
25. *Prolegomena to a non-equilibrium quantum statistical mechanics*,
C. Adami and N.J. Cerf, Chaos Solitons Fract. 10 (1999) 1637-1650
(special issue on Quantum Computation).
26. *Physical complexity of symbolic sequences*,
C. Adami and N.J. Cerf, Physica D 137 (2000), 62-69.
27. *Nested quantum search and structured problems*,
N.J. Cerf, L.K. Grover, and C.P. Williams, Phys. Rev. A 61 (2000) 032303.
28. *Classical teleportation of a quantum bit*,
N.J. Cerf, N. Gisin, and S. Massar, Phys. Rev. Lett. 84 (2000) 2521-2524.
29. *Generalized quantum search with parallelism*,
R.M. Gingrich, C.P. Williams, and N.J. Cerf, Phys. Rev. A 61 (2000) 052313.
30. *Pauli cloning of a quantum bit*,
N.J. Cerf, Phys. Rev. Lett. 84 (2000) 4497-4500.
31. *Nested quantum search and NP-hard problems*,
N.J. Cerf, L.K. Grover, and C.P. Williams, Appl. Algebr. Eng. Comm. 10 (2000) 311-338
(special issue on quantum computing).

32. *Cloning of continuous quantum variables*,
N.J. Cerf, A. Ipe, and X. Rottenberg, Phys. Rev. Lett. 85 (2000) 1754-1757.
33. *Optimal N-to-M cloning of conjugate quantum variables*,
N.J. Cerf and S. Iblisdir, Phys. Rev. A 62 (2000) 040301(R).
34. *Asymmetric quantum cloning in any dimension*,
N.J. Cerf, J. Mod. Opt. 47 (2000) 187-209
(special issue on Quantum Information).
35. *Quantum distribution of Gaussian keys using squeezed states*,
N.J. Cerf, M. Levy, and G. Van Assche, Phys. Rev. A 63 (2001) 052311.
36. *Classical simulation of quantum entanglement without local hidden variables*,
S. Massar, D. Bacon, N.J. Cerf, and R. Cleve, Phys. Rev. A 63 (2001) 052305.
37. *Optimal cloning of coherent states with a linear amplifier and beam splitters*,
S.L. Braunstein, N.J. Cerf, S. Iblisdir, P. van Loock, and S. Massar,
Phys. Rev. Lett. 86 (2001) 4938-4941.
38. *Phase conjugation of continuous quantum variables*,
N.J. Cerf and S. Iblisdir, Phys. Rev. A 64 (2001) 032307.
39. *Quantum cloning machines with phase-conjugate input modes*,
N.J. Cerf and S. Iblisdir, Phys. Rev. Lett. 87 (2001) 247903.
40. *Long-distance quantum communication just around the corner?*
P. Kok, H. Lee, N.J. Cerf, and J.P. Dowling, Quant. Inf. Comput. 1 (2001) 87-88.
41. *Optimality of the genetic code with respect to protein stability and amino-acid frequencies*,
D. Gilis, S. Massar, N.J. Cerf, and M. Rooman, Genome Biology 2 (2001) 0049.1-0049.12
42. *Cloning and cryptography with quantum continuous variables*,
N.J. Cerf, S. Iblisdir, and G. Van Assche, Eur. Phys. J. D 18 (2002) 211-218.
43. *Linear optics and projective measurements alone suffice to create large-photon-number path entanglement*,
H. Lee, P. Kok, N.J. Cerf, and J.P. Dowling, Phys. Rev. A 65 (2002) 030101(R).
44. *Security of quantum key distribution using d-level systems*,
N.J. Cerf, M. Bourennane, A. Karlsson, and N. Gisin, Phys. Rev. Lett. 88 (2002) 127902.
45. *Quantum search by local adiabatic evolution*,
J. Roland and N.J. Cerf, Phys. Rev. A 65 (2002) 042308.
46. *Cloning a qutrit*,
N.J. Cerf, T. Durt, and N. Gisin, J. Mod. Opt. 49 (2002) 1355-1373
(special issue on "Quantum Information: Theory, Experiment and Perspectives").
47. *Quantum cloning of orthogonal qubits*,
J. Fiurasek, S. Iblisdir, S. Massar, and N.J. Cerf, Phys. Rev. A 65 (2002) 040302(R).
48. *Greenberger-Horne-Zeilinger paradoxes for many qudits*,
N.J. Cerf, S. Massar, and S. Pironio, Phys. Rev. Lett. 89 (2002) 080402.
49. *Multipartite classical and quantum secrecy monotones*,
N.J. Cerf, S. Massar, and S. Schneider, Phys. Rev. A 66 (2002) 042309.

50. *Quantum key distribution using multilevel encoding: security analysis*,
M. Bourennane, A. Karlsson, G. Bjork, N. Gisin, and N.J. Cerf,
J. Phys. A 35 (2002) 10065-10076.
51. *Quantum key distribution using Gaussian-modulated coherent states*,
F. Grosshans, G. Van Assche, J. Wenger, R. Brouri, N.J. Cerf, and P. Grangier,
Nature (London) 421 (2003) 238-241.
52. *Security of quantum key distribution with entangled qutrits*,
T. Durt, N.J. Cerf, N. Gisin, and M. Zukowski, Phys. Rev. A 67 (2003), 012311.
53. *Quantum cloning of orthogonal qubits*,
J. Fiurasek, S. Iblisdir, S. Massar, and N. J. Cerf, Fortschr. Phys. 51 (2003) 117-121.
54. *Fiber-optics implementation of the Deutsch-Jozsa and Bernstein-Vazirani quantum algorithms with three qubits*,
E. Brainis, L.-Ph. Lamoureux, N. J. Cerf, Ph. Emplit, M. Haelterman, and S. Massar,
Phys. Rev. Lett. 90 (2003) 157902.
55. *Cloning a real d-dimensional quantum state on the edge of the no-signaling condition*,
P. Navez and N. J. Cerf, Phys. Rev. A 68 (2003) 032313.
56. *Conditional generation of arbitrary multimode entangled states of light with linear optics*,
J. Fiurasek, S. Massar, and N. J. Cerf, Phys. Rev. A 68 (2003) 042325.
57. *Quantum-circuit model of Hamiltonian search algorithms*,
J. Roland and N. J. Cerf, Phys. Rev. A 68 (2003) 062311.
58. *Adiabatic quantum search algorithm for structured problems*,
J. Roland and N. J. Cerf, Phys. Rev. A 68 (2003) 062312
59. *Virtual entanglement and reconciliation protocols for quantum cryptography with continuous variables*,
F. Grosshans, N. J. Cerf, J. Wenger, R. Tualle-Brouri, and Ph. Grangier,
Quant. Inform. Comp. 3 (2003) 535-552.
60. *Reconciliation of a quantum-distributed Gaussian key*,
G. Van Assche, J. Cardinal, and N. J. Cerf, IEEE Trans. Inf. Theory 50 (2004) 394-400.
61. *Cloning the entanglement of a pair of quantum bits*,
L.-Ph. Lamoureux, P. Navez, J. Fiurasek, and N. J. Cerf, Phys. Rev. A 69 (2004) 040301(R).
62. *Intramolecular Hamiltonian logic gates*,
J. Fiurasek, N. J. Cerf, I. Duchemin, and C. Joachim, Physica E 24 (2004) 161-172.
63. *How to measure squeezing and entanglement of Gaussian states without homodyning*,
J. Fiurasek and N. J. Cerf, Phys. Rev. Lett. 93 (2004) 063601.
64. *Continuous-variable quantum cryptography is secure against non-gaussian attacks*,
F. Grosshans and N. J. Cerf, Phys. Rev. Lett. 92 (2004) 047905.
65. *Proposal for a loophole-free Bell test using homodyne detection*,
R. Garcia-Patron, J. Fiurasek, N. J. Cerf, J. Wenger, R. Tualle-Brouri, and Ph. Grangier,
Phys. Rev. Lett. 93 (2004) 130409.
66. *Experimental purification of single qubits*,
M. Ricci, F. De Martini, N. J. Cerf, R. Filip, J. Fiurasek, and C. Macchiavello,
Phys. Rev. Lett. 93 (2004) 170501.

67. *Security of quantum key distribution with coherent states and homodyne detection*, S. Iblisdir, G. Van Assche, and N. J. Cerf, Phys. Rev. Lett. 93 (2004) 170502.
68. *Pulsed squeezed vacuum characterization without homodyning*, J. Wenger, J. Fiurasek, R. Tualle-Brouri, N. J. Cerf, and Ph. Grangier, Phys. Rev. A 70 (2004) 053812.
69. *Quantum cloning of a coherent light state into an atomic quantum memory*, J. Fiurasek, N. J. Cerf, and E. S. Polzik, Phys. Rev. Lett. 93 (2004) 180501.
70. *Asymmetric phase-covariant d-dimensional cloning*, L.-Ph. Lamoureux and N. J. Cerf, Quant. Inform. Comp. 5 (2005) 32-39.
71. *Loophole-free test of quantum non-locality using high-efficiency homodyne detectors*, R. Garcia-Patron, J. Fiurasek and N. J. Cerf, Phys. Rev. A 71 (2005) 022105.
72. *Noise resistance of adiabatic quantum computation using random matrix theory*, J. Roland and N. J. Cerf, Phys. Rev. A 71 (2005) 032330.
73. *Secure coherent-state quantum key distribution protocols with efficient reconciliation*, G. Van Assche, S. Iblisdir, and N. J. Cerf, Phys. Rev. A 71 (2005) 052304.
74. *Hamiltonian logic gates: computing inside a molecule*, C. Joachim, I. Duchemin, J. Fiurasek, and N. J. Cerf, Int. J. Nanosci. 4 (2005) 107-118.
75. *Experimental error filtration for quantum communication over highly noisy channels*, L.-Ph. Lamoureux, E. Brainis, N. J. Cerf, Ph. Emplit, M. Haelterman, and S. Massar, Phys. Rev. Lett. 94 (2005) 230501.
76. *Simulating maximal quantum entanglement without communication*, N. J. Cerf, N. Gisin, S. Massar, and S. Popescu, Phys. Rev. Lett. 94 (2005) 220403.
77. *Non-Gaussian cloning of quantum coherent states is optimal*, N. J. Cerf, O. Krueger, P. Navez, R. F. Werner, and M. M. Wolf, Phys. Rev. Lett. 95 (2005) 070501.
78. *Separating the classical and quantum information via quantum cloning*, M. Ricci, F. Sciarrino, N. J. Cerf, R. Filip, J. Fiurasek, and F. De Martini, Phys. Rev. Lett. 95 (2005) 090504.
79. *Conditional generation of arbitrary single-mode quantum states of light by repeated photon subtractions*, J. Fiurasek, R. Garcia-Patron, and N. J. Cerf, Phys. Rev. A 72 (2005) 033822.
80. *Cloning quantum entanglement in arbitrary dimensions*, E. Karpov, P. Navez, and N. J. Cerf, Phys. Rev. A 72 (2005) 042314.
81. *Highly asymmetric quantum cloning in arbitrary dimension*, J. Fiurasek, R. Filip, and N. J. Cerf, Quant. Inform. Comp. 5 (2005) 585-594.
82. *Multipartite asymmetric quantum cloning*, S. Iblisdir, A. Acin, N. J. Cerf, R. Filip, J. Fiurasek, and N. Gisin, Phys. Rev. A 72 (2005) 042328.
83. *Quantum entanglement enhances the capacity of bosonic channels with memory*, N. J. Cerf, J. Clavareau, C. Macchiavello, and J. Roland, Phys. Rev. A 72 (2005) 042330.

84. *Extremal quantum cloning machines*,
G. Chiribella, G. M. D'Ariano, P. Perinotti, and N. J. Cerf, Phys. Rev. A 72 (2005) 042336.
85. *Economical quantum cloning in any dimension*,
T. Durt, J. Fiurasek, and N. J. Cerf, Phys. Rev. A 72 (2005) 052322.
86. *Reduced randomness in quantum cryptography with sequences of qubits encoded in the same basis*
L.-P. Lamoureux, H. Bechmann-Pasquinucci, N. J. Cerf, N. Gisin, and C. Macchiavello,
Phys. Rev. A 73 (2006) 032304.
87. *Universal optical amplification without nonlinearity*
V. Josse, M. Sabuncu, N. J. Cerf, G. Leuchs, and U. L. Andersen, Phys. Rev. Lett. 96 (2006) 163602.
88. *Entanglement enhanced classical capacity of quantum communication channels with correlated noise in arbitrary dimensions*
E. Karpov, D. Daems, and N. J. Cerf, Phys. Rev. A 74 (2006) 032320.
89. *Multipartite nonlocality without entanglement in many dimensions*
J. Niset and N. J. Cerf, Phys. Rev. A 74 (2006) 052103.
90. *Unconditional optimality of Gaussian attacks against continuous-variable quantum key distribution*
R. Garcia-Patron and N. J. Cerf, Phys. Rev. Lett. 97 (2006) 190503.
91. *Entanglement may enhance the channel capacity in arbitrary dimensions*
E. Karpov, D. Daems, and N. J. Cerf, Open Sys. & Information Dyn. 13 (2006) 363-372.
92. *Experimental implementation of non-Gaussian attacks on a continuous-variable quantum-key-distribution system*
J. Lodewyck, T. Debuisschert, R. Garcia-Patron, R. Tualle-Brouri, N. J. Cerf, and P. Grangier,
Phys. Rev. Lett. 98 (2007) 030503.
93. *Superiority of entangled measurements over all local strategies for the estimation of product coherent states*
J. Niset, A. Acin, U. L. Andersen, N. J. Cerf, R. Garcia-Patron, M. Navascues, and M. Sabuncu,
Phys. Rev. Lett. 98 (2007) 260404.
94. *Optimal multicopy asymmetric Gaussian cloning of coherent states*
J. Fiurasek and N. J. Cerf, Phys. Rev. A 75 (2007) 052335.
95. *Tight bounds on the concurrence of quantum superpositions*
J. Niset and N. J. Cerf, Phys. Rev. A 76 (2007) 042328.
96. *Quantum key distribution over 25 km with an all-fiber continuous-variable system*
J. Lodewyck, M. Bloch, R. Garcia-Patron, S. Fossier, E. Karpov, E. Diamanti, T. Debuisschert, N. J. Cerf, R. Tualle-Brouri, S. W. McLaughlin, and P. Grangier, Phys. Rev. A 76 (2007) 042305.
97. *Tight bounds on the eavesdropping of a continuous-variable quantum cryptographic protocol with no basis switching*
J. Sudjana, L. Magnin, R. Garcia-Patron, and N. J. Cerf, Phys. Rev. A 76 (2007) 052301.
98. *Exploring scalar quantum walks on Cayley graphs*
O. Lopez Acevedo, J. Roland, and N. J. Cerf, Quant. Inform. Comp. 8 (2008) 68-81.
99. *Experimentally feasible quantum erasure-correcting code for continuous variables*
J. Niset, U.L. Andersen, and N.J. Cerf, Phys. Rev. Lett. 101 (2008) 130503.
100. *Quantum cloning a pair of orthogonally polarized photons with linear optics*
J. Fiurasek and N. J. Cerf, Phys. Rev. A 77 (2008) 052308.

101. *Quantum search by parallel eigenvalue adiabatic passage*
D. Daems, S. Guérin, and N. J. Cerf, Phys. Rev. A 78 (2008) 042322.
102. *Tests of multimode quantum non-locality with homodyne measurements*
A. Acin, N. J. Cerf, A. Ferraro, and J. Niset, Phys. Rev. A 79 (2009) 012112.
103. *Continuous-variable quantum key distribution protocols over noisy channels*
R. Garcia-Patron and N. J. Cerf, Phys. Rev. Lett. 102 (2009) 130501.
104. *No-go theorem for Gaussian quantum error correction*
J. Niset, J. Fiurasek, and N.J. Cerf, Phys. Rev. Lett. 102 (2009) 120501.
105. *Extending Hudson's theorem to mixed quantum states*
A. Mandilara, E. Karpov, and N. J. Cerf, Phys. Rev. A 79 (2009) 062302.
106. *Security of continuous-variable quantum key distribution: towards a de Finetti theorem for rotation symmetry in phase space*
A. Leverrier, E. Karpov, P. Grangier, and N. J. Cerf, New J. Phys. 11 (2009) 115009.
(invited paper in special issue "Focus on quantum cryptography: Theory and practice")
107. *Quantum de Finetti theorem in phase-space representation*
A. Leverrier and N. J. Cerf, Phys. Rev. A 80 (2009) 010102 (R).
108. *Capacity of a bosonic memory channel with Gauss-Markov noise*
J. Schäfer, D. Daems, E. Karpov, and N. J. Cerf, Phys. Rev. A 80 (2009) 062313.
109. *Strong no-go theorem for Gaussian quantum bit commitment*
L. Magnin, F. Magniez, A. Leverrier, and N. J. Cerf, Phys. Rev. A 81 (2010) 010302 (R).
110. *Tripartite entanglement in parametric down-conversion with spatially structured pump*
D. Daems, F. Bernard, N. J. Cerf, and M. I. Kolobov, J. Opt. Soc. Am. B 27 (2010) 447.
111. *Spatial multipartite entanglement and localization of entanglement*
D. Daems and N. J. Cerf, Phys. Rev. A 82 (2010) 032303.
112. *Quantum optical coherence can survive photon losses using a continuous-variable quantum erasure-correcting code*
M. Lassen, M. Sabuncu, A. Huck, J. Niset, G. Leuchs, N. J. Cerf, and U. L. Andersen, Nature Photonics 4 (2010) 700.
113. *Gaussian capacity of the quantum bosonic memory channel with additive correlated Gaussian noise,*
J. Schäfer, E. Karpov, and N. J. Cerf, Phys. Rev. A 84 (2011) 032318.
114. *Majorization theory approach to the Gaussian channel minimum entropy conjecture,*
R. Garcia-Patron, C. Navarrete-Benlloch, S. Lloyd, J. H. Shapiro, and N. J. Cerf, Phys. Rev. Lett. 108 (2012) 110505.
115. *Gaussian matrix product states for coding in bosonic communication channels,*
J. Schäfer, E. Karpov, and N. J. Cerf, Phys. Rev. A 85 (2012) 012322.
116. *Quantum bit commitment under Gaussian constraints*
A. Mandilara and N. J. Cerf, Phys. Rev. A. 85 (2012) 062310.
117. *Enhancing quantum entanglement by photon addition and subtraction*
C. Navarrete-Benlloch, R. Garcia-Patron, J. H. Shapiro, and N. J. Cerf, Phys. Rev. A 86 (2012) 012328.

118. *Probabilistic phase-insensitive optical squeezer in compliance with causality*,
C. N. Gagatsos, E. Karpov, and N. J. Cerf, Phys. Rev. A 86 (2012) 012324.
119. *Quantum uncertainty relation saturated by the eigenstates of the harmonic oscillator*,
A. Mandilara and N. J. Cerf, Phys. Rev. A 86 (2012) 030102(R).
120. *Noiseless loss suppression in quantum optical communication*,
M. Micuda, I. Straka, M. Mikova, M. Dusek, N. J. Cerf, J. Fiurasek, and M. Jezek,
Phys. Rev. Lett. 109 (2012) 180503.
121. *Gaussian postselection and virtual noiseless amplification in continuous-variable quantum key distribution*,
J. Fiurasek and N. J. Cerf, Phys. Rev. A 86 (2012) 060302(R).
122. *Security of continuous-variable quantum key distribution against general attacks*,
A. Leverrier, R. García-Patrón, R. Renner, and N. J. Cerf, Phys. Rev. Lett. 110 (2013) 030502.
123. *Exploring pure quantum states with maximally mixed reductions*,
L. Arnaud and N. J. Cerf, Phys. Rev. A 87 (2013) 012319.
124. *Majorization relations and entanglement generation in a beam splitter*,
C. N. Gagatsos, O. Oreshkov, and N. J. Cerf, Phys. Rev. A 87 (2013) 042307.
125. *Equivalence relations for the classical capacity of single-mode Gaussian quantum channels*,
J. Schäfer, E. Karpov, R. Garcia-Patron, O. V. Pilyavets, and N. J. Cerf,
Phys. Rev. Lett. 111 (2013) 030503.
126. *Gaussian classical capacity of Gaussian quantum channels*,
E. Karpov, J. Schäfer, R. Garcia-Patron, O. V. Pilyavets, and N. J. Cerf,
Nanosystems: Physics, Chemistry, Mathematics 4 (2013) 496.
127. *Purity- and Gaussianity-bounded uncertainty relations*,
A. Mandilara, E. Karpov, and N. J. Cerf, J. Phys. A: Math. Theor. 47 (2014) 045302.
128. *Heralded noiseless amplification and attenuation of non-Gaussian states of light*,
C. N. Gagatsos, J. Fiurasek, A. Zavatta, M. Bellini, and N. J. Cerf,
Phys. Rev. A 89 (2014) 062311.
129. *Optimality of Gaussian discord*,
S. Pirandola, G. Spedalieri, S. L. Braunstein, N. J. Cerf and S. Lloyd,
Phys. Rev. Lett. 113 (2014) 140405.
130. *Ultimate classical communication rates of quantum optical channels*,
V. Giovannetti, R. Garcia-Patron, N. J. Cerf, and A. S. Holevo,
Nature Photonics 8 (2014) 796–800.
- *Operational quantum theory without predefined time*,
O. Oreshkov and N. J. Cerf, e-print arXiv:14063829 [quant-ph]
- *Quantum entropic characterization of Gaussian optical transformations using the replica method*,
C. N. Gagatsos, A. I. Karanikas, G. Kordas, and N. J. Cerf, e-print arXiv:1408.5062 [quant-ph]
- *Interconversion of pure Gaussian states using non-Gaussian operations*,
M. G. Jabbour, R. Garcia-Patron, and N. J. Cerf, e-print arXiv:1409.8217 [quant-ph]

Review articles

131. *Optical quantum cloning*,
N. J. Cerf and J. Fiurasek,
in: *Progress in Optics*, 49, edited by E. Wolf, (Elsevier, Amsterdam, 2006), pp. 455-545.
132. *From quantum cloning to quantum key distribution with continuous variables: a review*
N. J. Cerf and P. Grangier, *J. Opt. Soc. Am. B* 24 (2007) 324-334.
(invited review in a special issue on "Optical Quantum Information Science")
133. *The security of practical quantum key distribution*
V. Scarani, H. Bechmann-Pasquinucci, N. J. Cerf, M. Dušek, N. Lütkenhaus, and M. Peev,
Rev. Mod. Phys. 81 (2009) 1301.
134. *Gaussian quantum information*
C. Weedbrook, S. Pirandola, R. Garcia-Patron, N. J. Cerf, T. C. Ralph, J. H. Shapiro, and S. Lloyd,
Rev. Mod. Phys. 84 (2012) 621.

Book contributions

135. *Information-theoretic aspects of quantum copying*,
N.J. Cerf, *Lect. Notes Comput. Sc.* 1509 (1999) 218-234.
136. *Quantum computation with linear optics*,
C. Adami and N.J. Cerf, *Lect. Notes Comput. Sc.* 1509 (1999) 391-401.
137. *What information theory can tell us about quantum reality*,
C. Adami and N.J. Cerf, *Lect. Notes Comput. Sc.* 1509 (1999) 258-268.
138. *Quantum cloning with continuous variables*,
N.J. Cerf, in: *Quantum Information with Continuous Variables*, eds. S.L. Braunstein and A.K. Pati
(Kluwer Academic, Dordrecht, 2002), pp. 273-289.
139. *Continuous-variable quantum key distribution*,
F. Grosshans, A. Acin, and N. J. Cerf
in: *Quantum Information with Continuous Variables of Atoms and Light*, edited by N.J. Cerf,
G. Leuchs, and E.S. Polzik, (Imperial College Press, London, 2007), pp. 63-83.
140. *Loophole-free test of quantum nonlocality with continuous variables of light*
R. Garcia-Patron, J. Fiurasek, and N. J. Cerf
in: *Quantum Information with Continuous Variables of Atoms and Light*, edited by N.J. Cerf,
G. Leuchs, and E.S. Polzik, (Imperial College Press, London, 2007), pp. 121-139.

Publications in proceedings of international conferences

141. *Nuclear level density by a Monte Carlo approach*,
N. Cerf, in: *Proc. of 1992 International Nuclear Physics Conference*, eds. P. Kienle et al., Wiesbaden,
Germany, 1992.
142. *Statistical analysis of single-lined red giant spectroscopic binaries*,
H.M.J. Boffin, G. Paulus and N. Cerf, in: *Binaries as Tracers of Stellar Formation*, eds. A. Duquennoy
and M. Mayor, (Cambridge University Press, Cambridge, 1992), 26-37.
143. *Combinatorial nuclear level density for the determination of astrophysical reaction rates*,
N. Cerf, M. Rayet, and M. Arnould, in: *Proc. of the 8th Int. Symposium on Capture Gamma-Ray
Spectroscopy and Related Topics*, ed. J. Kern, (World Scientific, Singapore, 1993), 759-761.

144. *Combinatorial nuclear level density by a Monte Carlo method*,
N. Cerf, in: Proc. of the Int. Conf. on the Future of Nuclear Spectroscopy, eds. W. Gelletly et al.,
(Institute of Nuclear Physics, Athens, 1994), 311-316.
145. *Realistic level density calculation for heavy nuclei*,
N. Cerf, B. Pichon, M. Rayet, and M. Arnould, in: Proc. of the Int. Conf. on Nuclear Data for Science
and Technology, ed. J.K. Dickens, (American Nuclear Society, 1995), 479-481.
146. *Quantum information theory of entanglement*,
N. Cerf and C. Adami, in: Proc. of the 4th Workshop on Physics and Computation, eds. T. Toffoli et
al., (New England Complex Systems Institute, Cambridge, 1996), 65-71.
147. *Negative entropy in quantum information theory*,
N.J. Cerf and C. Adami, in: New Developments on Fundamental Problems in Quantum Physics,
Fundamental Theories of Physics, Vol. 81, eds. M. Ferrero and A. van der Merwe, (Kluwer Academic,
Dordrecht, 1997), 77-84. (Proc. of the 2nd Int. Symposium on Fundamental Problems in Quantum
Physics, Oviedo 96)
148. *Universal copying of coherent states: a Gaussian cloning machine*,
N.J. Cerf and S. Iblisdir, in: Quantum Communication, Computing, and Measurement 3, eds. P.
Tombesi and O. Hirota (Kluwer Academic, New York, 2001), pp. 11-14. (Proc. of the 5th Int. Conf. on
Quantum Communication, Measurement, and Computing, Capri, July 3-8, 2000)
149. *How robust is the genetic code against mistranslation errors*,
D. Gilis, S. Massar, N.J. Cerf, and M. Rooman, in: Proc. of the XIIth Rencontres de Blois, 2000:
Frontiers of Life, L.M. Celnikier & J.T. Thanh Van (Eds.), 2001.
150. *Generation of large photon-number cat states using linear optics and quantum memory*,
N. J. Cerf, J. Fiurasek, S. Iblisdir, and S. Massar, in: Proc. of the 6th International Conference on
Quantum Communication, Measurement and Computing, eds. J. H. Shapiro and O. Hirota (Rinton
Press, Princeton, 2003), pp. 249-252. (QCMC'02, Boston, July 22-26, 2002)
151. *Side-information coding with turbo codes and its application to quantum key distribution*,
K.-C. Nguyen, G. Van Assche, and N. J. Cerf, in Proc. of International Symposium on Information
Theory and its Applications (ISITA), Parma, Italy, October 2004.
152. *Proposal for a loophole-free Bell test using homodyne detection*,
R. Garcia-Patron, J. Fiurasek and N. J. Cerf, in: Proc. of the 7th International Conference on
Quantum Communication, Measurement and Computing, eds. J. H. Shapiro and O. Hirota (Rinton
Press, Princeton, in press). (QCMC'04, Glasgow).
153. *Information transmission via entangled quantum states in Gaussian channels with memory*,
N. J. Cerf, J. Clavareau, J. Roland, and C. Macchiavello, in: Proc. of Workshop on Quantum
entanglement in physical and information sciences, Pisa, December 14-18, 2004.
154. *One-dimensional and multi-dimensional reconciliation using turbo-codes for
quantum key distribution*,
K.-C. Nguyen, G. Van Asche, and N. J. Cerf, in: Proceedings of the 26th Symposium on Information
Theory in the Benelux, (Brussels, May 19-20, 2005), pp. 173-180.
155. *Cloning the entanglement of a pair of d-dimensional quantum systems*,
E. Karpov, P. Navez, and N. J. Cerf, in: Proc. of the 3rd International Workshop Quantum Physics
and Communication QPC-2005 (Dubna, Russia, 30 June - 3 July, 2005);
published in *Particles and Nuclei, Letters*, 4, No 2, 195-207 (2007).
156. *Cloning quantum entanglement in arbitrary dimensions*,
E. Karpov, P. Navez, and N. J. Cerf, in: Abstracts of 4th International Quantum Informal Gathering
(Paris, France, 23-25 July, 2005).

157. *Proposal for a loophole-free Bell test using homodyne detection*,
R. Garcia-Patron, J. Fiurasek, and N. J. Cerf, in: Abstracts of 4th International Quantum Informal Gathering (Paris, France, 23-25 July, 2005).
158. *Entanglement enhanced classical capacity of quantum communication channels with correlated noise in arbitrary dimensions*,
N. Cerf, D. Daems, E. Karpov, in: Abstracts of International Conference on New Trends in Quantum Mechanics: Fundamental Aspects and Applications TQMFA 2005, (Palermo, 11-13 November 2005) p. 39.
159. *Cloning quantum entanglement in arbitrary dimensions*,
E. Karpov, P. Navez, and N. J. Cerf, in: Livre des résumés, Congrès Général de la Société Française de Physique et de la Belgian Physical Society (Lille, 29 août - 2 septembre 2005) p. 235.
160. *Conditional generation of arbitrary single-mode quantum states of light by repeated photon subtractions*,
J. Fiurasek, R. Garcia-Patron, and N. J. Cerf, in: Livre des résumés, Congrès Général de la Société Française de Physique et de la Belgian Physical Society (Lille, 29 août - 2 septembre 2005) p. 236.
161. *Continuous variables nonlocality without entanglement*,
J. Niset, R. Garcia-Patron, and N. J. Cerf, in: Livre des résumés, Congrès Général de la Société Française de Physique et de la Belgian Physical Society (Lille, 29 août - 2 septembre 2005) p. 225.
162. *Entanglement-friendly quantum communication channels*
E. Karpov, D. Daems, and N. Cerf, in: Proceedings of the ICO Topical Meeting on Optoinformatics/Information Photonics' 2006 (Saint-Petersburg, Russia, 4-7 September 2006) pp. 344-346.
163. *Enforcing the tolerance to noise of a quantum key distribution protocol with continuous variables*,
E. Karpov, R. García-Patrón, N. J. Cerf, in: Proceedings of the 28th Symposium on Information Theory in the Benelux, (Enschede, The Netherlands, May 24-25, 2007) pp. 227-234.
164. *Using LDPC codes for Quantum Key Distribution*,
K.-C. Nguyen, and N. J. Cerf, in: Proceedings of the 28th Symposium on Information Theory in the BENELUX, (Enschede, The Netherlands, May 24-25, 2007) pp.251-255
165. *Three topics in quantum communication: error filtration, quantum string flipping, photon pair generation in periodically poled fibers*
S. Massar, K. Phan Huy, E. Brainis, A.-T. Nguyen, M. Haelterman, Ph. Emplit, N.J. Cerf, L.-Ph. Lamoureux, D. Amans, C. Corbari, A. Canagasabey, M. Ibsen, P. G. Kazansky, A. Fotiadi, P. Mégret, O. Deparis, in: Quantum Communication and Security, edited by M. Zukowski, S. Kilin, J. Kowalik (IOS Press, 2007), ISBN 978-1-58603-749-9, pp.3-10.
166. *Uncertainty, entropy, and non-Gaussianity for mixed states*,
A. Mandilara, E. Karpov, and N.J. Cerf, Proc. of SPIE, vol. 7727 (2010) 77270H
167. *Quantum water-filling solution for the capacity of Gaussian information channels*,
J. Schäfer, E. Karpov, and N.J. Cerf, Proc. of SPIE, vol. 7727 (2010) 77270J.
168. *The Holy Grail of Quantum Optical Communication*,
R. García-Patrón, C. Navarrete-Benlloch, S. Lloyd, J. H. Shapiro, and N. J. Cerf, Proceedings of the 11th International Conference on Quantum Communication Measurement and Computing, 2012, edited by J. Schmiedmayer (AIP, New York, to be published).

Popularizing science publications

169. *Des mirages, il y en a aussi dans le ciel*,
N. Cerf, quotidien Le Soir, 31 juillet 1989.
(paper on gravitational lenses)
170. *Les promesses de l'information quantique*,
N. Cerf et N. Gisin, La Recherche n°327 (janvier 2000), pp. 46-53.
171. *A method for secure transmission: Quantum cryptography*,
N. Cerf, P. Navez, and G. Van Assche, IT-scan, special edition 2002, pp. 15-20.
(progress report on quantum cryptography following an invitation by Technopol, editor of the Belgian IT technology magazine IT-scan).
172. *Les étranges pouvoirs de l'intrication quantique*,
N. Cerf et N. Gisin, Les Dossiers de La Recherche n°18 (février 2005), pp. 84-89 ;
(special issue devoted to Einstein's legacy and the year of physics).
173. *On a téléporté des atomes*,
N. Cerf et N. Gisin, La Recherche n°386 (mai 2005), pp. 35-40 ;
(special column on quantum teleportation).
174. *Le téléphone quantique à l'essai*,
N. Gisin et N. Cerf, La Recherche n°386 (mai 2005), pp. 41-43 ;
(special column on quantum teleportation).
175. *Quantum cloning and key distribution with continuous variables*,
N.J. Cerf and P. Grangier, in: "Quantum information processing and communication in Europe",
publication coordinated by FET, European Commission, Nov. 2005, pp. 111-118.
176. *On a téléporté des atomes*,
N. Cerf and N. Gisin, Les Dossiers de La Recherche n° 29 (novembre 2007), pp. 36-44,
(special issue « Le monde quantique : Les nouvelles frontières de la physique »)

Books

177. *Quantum Information with Continuous Variables of Atoms and Light*,
edited by N.J. Cerf, G. Leuchs, and E.S. Polzik, (Imperial College Press, London, 2007).

Patents

178. *High-rate quantum key distribution scheme relying on continuously phase- and amplitude-modulated coherent light pulses*,
N. J. Cerf, R. Brouri, Ph. Grangier, F. Grosshans, G. Van Assche, and J. Wenger
US Patent n°7403623, filed on July 5, 2002, and July 7, 2003, issued on July 22, 2008.
179. *High-rate quantum random number generator*,
N.J. Cerf, L.-Ph. Lamoureux, and J. Niset
filed on August 27, 2009.