

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. *Asymmetric quantum cloning in any dimension*,
N.J. Cerf, J. Mod. Opt. 47 (2000), 187-209 (special issue on Quantum Information).
29. *Classical teleportation of a quantum bit*,
N.J. Cerf, N. Gisin, and S. Massar, Phys. Rev. Lett. 84 (2000) 2521-2524.
30. *Generalized quantum search with parallelism*,
R.M. Gingrich, C.P. Williams, and N.J. Cerf, Phys. Rev. A 61 (2000) 052313.
31. *Pauli cloning of a quantum bit*,
N.J. Cerf, Phys. Rev. Lett. 84 (2000) 4497-4500.

32. *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).
33. *Cloning of continuous quantum variables*,
N.J. Cerf, A. Ipe, and X. Rottenberg, Phys. Rev. Lett. 85 (2000) 1754-1757.
34. *Optimal N-to-M cloning of conjugate quantum variables*,
N.J. Cerf and S. Iblisdir, Phys. Rev. A 62 (2000) 040301(R).
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* (invited paper in special issue "Focus on quantum cryptography: Theory and practice")
A. Leverrier, E. Karpov, P. Grangier, and N. J. Cerf, New J. Phys. 11 (2009) 115009.
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.

Review articles and book contributions

125. *Information-theoretic aspects of quantum copying,*
N.J. Cerf, Lect. Notes Comput. Sc. 1509 (1999) 218-234.
126. *Quantum computation with linear optics,*
C. Adami and N.J. Cerf, Lect. Notes Comput. Sc. 1509 (1999) 391-401.
127. *What information theory can tell us about quantum reality,*
C. Adami and N.J. Cerf, Lect. Notes Comput. Sc. 1509 (1999) 258-268.
128. *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.
129. *Optical quantum cloning* [Review Article],
N. J. Cerf and J. Fiurasek,
in: Progress in Optics, 49, edited by E. Wolf, (Elsevier, Amsterdam, 2006), pp. 455-545.
130. *Continuous-variable quantum key distribution,*
F. Grosshans, A. Acín, 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.

131. *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.
132. *From quantum cloning to quantum key distribution with continuous variables: a review*
(invited review in a special issue on "Optical Quantum Information Science")
N. J. Cerf and P. Grangier,
J. Opt. Soc. Am. B 24 (2007) 324-334.
133. *The security of practical quantum key distribution* [Review Article]
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* [Review Article]
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.

Publications in proceedings of international conferences

135. *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.
136. *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.
137. *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.
138. *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.
139. *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.
140. *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.
141. *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)
142. *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)

143. *How robust is the genetic code against mistranslation errors*,
D. Gilis, S. Massar, N.J. Cerf, and M. Roonan, in: Proc. of the XIth Rencontres de Blois, 2000: Frontiers of Life, L.M. Celnikier & J.T. Thanh Van (Eds.), 2001.
144. *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)
145. *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.
146. *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).
147. *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.
148. *One-dimensional and multi-dimensional reconciliation using turbo-codes for quantum key distribution*,
K.-C. Nguyen, G. Van Assche, and N. J. Cerf, in: Proceedings of the 26th Symposium on Information Theory in the Benelux, (Brussels, May 19-20, 2005), pp. 173-180.
149. *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).
150. *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).
151. *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).
152. *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.
153. *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.
154. *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.
155. *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.

156. *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.
157. *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.
158. *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
159. *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.
160. *Uncertainty, entropy, and non-Gaussianity for mixed states*,
A. Mandilara, E. Karpov, and N.J. Cerf, Proc. of SPIE, vol. 7727 (2010) 77270H
161. *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.

Popularizing science publications

162. *Des mirages, il y en a aussi dans le ciel*,
N. Cerf, quotidien Le Soir, 31 juillet 1989.
(paper on gravitational lenses)
163. *Les promesses de l'information quantique*,
N. Cerf et N. Gisin, La Recherche n°327 (janvier 2000), pp. 46-53.
164. *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).
165. *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).
166. *On a téléporté des atomes*,
N. Cerf et N. Gisin, La Recherche n°386 (mai 2005), pp. 35-40 ;
(special column on quantum teleportation).
167. *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).
168. *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.

169. *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

170. *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

171. *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.
172. *High-rate quantum random number generator*,
N.J. Cerf, L.-Ph. Lamoureux, and J. Niset
filed on August 27, 2009.