The baseline time span for this database is 1999-December 31, 2009 (sixth bimonthly period 2009). The resulting database contained 12,386 (10 years) and 3,541 (2 years) papers. To construct the top 20 papers lists for the past decade and the past two years, the papers were further narrowed down by the title keywords "quantum comput*." This adjustment resulted in the top 20 papers being selected from a pool of 1,422 (10 years) and 243 (2 years) papers.

***Article 1
Total Cites: 93

Article Title: Non-Abelian anyons and topological quantum computation
Authors: Nayak, C, Simon, SH, Stern, A, Freedman, M, Das Sarma, S
Journal: REVIEWS OF MODERN PHYSICS
Volume: 80
Page: 1083-1159
Year: 2008
Addresses:
· Univ Calif Santa Barbara, Microsoft Stn Q, Santa Barbara, CA, USA
· Univ Calif Los Angeles, Dept Phys & Astron, Los Angeles, CA, USA
· Alcatel Lucent, Bell Labs, Murray Hill, NJ, USA
· Weizmann Inst Sci, Dept Condensed Matter Phys, Rehovot, Israel
· Univ Maryland, Dept Phys, College Pk, MD, USA

***Article 2
Total Cites: 37

Article Title: Towards fault-tolerant quantum computing with trapped ions
Authors: Benhelm, J, Kirchmair, G, Roos, CF, Blatt, R
Journal: NAT PHYS
Volume: 4
Page: 463-466
Year: 2008
Addresses:
· Innsbruck Univ, Inst Expt Phys, Innsbruck, Austria
· Austrian Acad Sci, Inst Quantenopt & Quanteninformat, Innsbruck, Austria
· Innsbruck Univ, Inst Expt Phys, Technikerstr 25, Innsbruck, Austria

***Article 3
Total Cites: 16

Article Title: Quantum computing with trapped ions
Authors: Haffner, H, Roos, CF, Blatt, R
Journal: PHYS REP
Volume: 469
Page: 155-203
Year: 2008
Addresses:
· Austrian Acad Sci, Inst Quantenopt & Quanteninformat, Innsbruck, Austria
· Innsbruck Univ, Inst Expt Phys, Innsbruck, Austria
· Univ Calif Berkeley, Dept Phys, Berkeley, CA, USA
· Lawrence Berkeley Natl Lab, Div Mat Sci, Berkeley, CA, USA
· Austrian Acad Sci, Inst Quantenopt & Quanteninformat, Technikerstr 21A, Innsbruck, Austria

***Article 4
Total Cites: 16
Article Title: Active one-way quantum computation with two-photon four-qubit cluster states
Authors: Vallone, G, Pomarico, E, De Martini, F, Mataloni, P
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Page:
Year: 2008
Addresses:
· Univ Roma La Sapienza, Dipartimento Fis, Rome, Italy
· Consorzio Nazl Interuniv Sci Fis Mat, Rome, Italy
· Univ Roma La Sapienza, Dipartimento Fis, Piazzale Aldo Moro 5, Rome, Italy

***Article 5
Total Cites: 15
Article Title: Fault-tolerant linear optical quantum computing with small-amplitude coherent states
Authors: Lund, AP, Ralph, TC, Haselgrove, HL
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Page:
Year: 2008
Addresses:
· Univ Queensland, Dept Phys, Ctr Quantum Comp Technol, St Lucia, Australia
· Def Sci & Technol Org, Div C3I, Canberra, Australia
· Univ New S Wales, Sch Informat Technol & Elect Engn, Canberra, Australia

***Article 6
Total Cites: 11
Article Title: Measurement-based quantum computer in the gapped ground state of a two-body Hamiltonian
Authors: Brennen, GK, Miyake, A
Journal: PHYSICAL REVIEW LETTERS
Volume: 101
Page:
Year: 2008
Addresses:
· Macquarie Univ, Dept Phys, Sydney, Australia
· Austrian Acad Sci, Inst Quantum Opt & Quantum Informat, Innsbruck, Austria
· Innsbruck Univ, Inst Theoret Phys, Innsbruck, Austria

***Article 7
Total Cites: 11
Article Title: Quantum Computing with Alkaline-Earth-Metal Atoms
Authors: Daley, AJ, Boyd, MM, Ye, J, Zoller, P
Journal: PHYSICAL REVIEW LETTERS
Volume: 101
Page:
Year: 2008
Addresses:
· CALTECH, Pasadena, CA, USA
· Innsbruck Univ, Inst Theoret Phys, Innsbruck, Austria
· Austrian Acad Sci, Inst Quantum Opt & Quantum Informat, Innsbruck, Austria
· Natl Inst Stand & Technol, JILA, Boulder, CO, USA
· Univ Colorado, Boulder, CO, USA

***Article 8
Total Cites: 11
Article Title: Cavity grid for scalable quantum computation with superconducting circuits
Authors: Helmer, F, Mariantoni, M, Fowler, AG, von Delft, J, Solano, E, Marquardt, F
Journal: EPL-EUROPHYS LETT
Volume: 85
Year: 2009
Addresses:
· Univ Munich, Dept Phys, CENS, Munich, Germany
· Univ Munich, ASC, Munich, Germany
· Bayer Akad Wissensch, Walther Meissner Inst, Garching, Germany
· Tech Univ Munich, Dept Phys, Garching, Germany
· Univ Waterloo, Inst Quantum Comp, Waterloo, Canada
· Univ Pais Vasco, Dept Quim Fis, Bilbao, Spain
· Univ Munich, Dept Phys, CENS, Theresienstr 37, Munich, Germany

***Article 9
Total Cites: 10
Article Title: Thermally assisted adiabatic quantum computation
Authors: Amin, MHS, Love, PJ, Truncik, CJS
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Year: 2008
Addresses:
· D Wave Syst Inc, Burnaby, Canada
· Haverford Coll, Dept Phys, Haverford, PA, USA
· D Wave Syst Inc, 100-4401 Still Creek Dr, Burnaby, Canada

***Article 10
Total Cites: 10
Article Title: Weaving light-matter qubits into a one way quantum computer
Authors: Angelakis, DG, Kay, A
Journal: NEW JOURNAL OF PHYSICS
Volume: 10
Year: 2008
Addresses:
· Univ Cambridge, Dept Appl Math & Theoret Phys, Ctr Quantum Computat, Cambridge, England
· Natl Univ Singapore, Ctr Quantum Technol, Singapore, Singapore
· Tech Univ Crete, Dept Sci, Khania, Greece
· Univ Cambridge, Dept Appl Math & Theoret Phys, Ctr Quantum Computat, Wilberforce Rd, Cambridge, England

***Article 11
Special Topic Interview with: Daniel Lidar
Total Cites: 10
Article Title: Towards fault tolerant adiabatic quantum computation
Authors: Lidar, DA
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Year: 2008
Addresses:
· Univ So Calif, Dept Chem, Ctr Quantum Informat Sci & Technol, Los Angeles, CA, USA
· Univ So Calif, Dept Elect Engn, Ctr Quantum Informat Sci & Technol, Los Angeles, CA, USA
· Univ So Calif, Dept Phys, Ctr Quantum Informat Sci & Technol, Los Angeles, CA, USA

***Article 12
Total Cites: 10
Article Title: One-way quantum computing in the optical frequency comb
Authors: Menicucci, NC, Flammia, ST, Pfister, O
Journal: PHYSICAL REVIEW LETTERS
Volume: 101
Year: 2008
**Article 13**
Total Cites: 10
Article Title: Holographic quantum computing
Authors: Tordrup, K, Negretti, A, Molmer, K
Journal: PHYSICAL REVIEW LETTERS
Volume: 101
Page:
Year: 2008
Addresses:
- AARHUS UNIV, Dept Phys & Astron, Lundbeck Fdn Theoret Ctr Quantum System Res, Aarhus, Denmark
- Univ Aarhus, Dept Phys & Astron, Lundbeck Fdn Theoret Ctr Quantum System Res, Aarhus, Denmark

**Article 14**
Total Cites: 9
Article Title: Deterministic optical quantum computer using photonic modules
Authors: Stephens, AM, Evans, ZWE, Devitt, SJ, Greentree, AD, Fowler, AG, Munro, WJ, Obrien, JL, Nemoto, K, Hollenberg, LCL
Journal: PHYSICAL REVIEW A
Volume: 78
Page:
Year: 2008
Addresses:
- Univ Melbourne, Ctr Quantum Comp Technol, Melbourne, Australia
- Res Org Informat & Syst, Natl Inst Informat, Chiyoda Ku, Tokyo, Japan
- Univ Waterloo, Inst Quantum Comp, Waterloo, Canada
- HEWLETT PACKARD CORP, Bristol, England
- Univ Bristol, Ctr Quantum Photon, HH Wills Phys Lab, Bristol, England
- Univ Bristol, Dept Elect & Elect Engn, Bristol, England

**Article 15**
Total Cites: 9
Article Title: Controllable coherent population transfers in superconducting qubits for quantum computing
Authors: Wei, LF, Johansson, JR, Cen, LX, Ashhab, S, Nori, F
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Page:
Year: 2008
Addresses:
- JST, CREST, Kawaguchi, Japan
- SW Jiaotong Univ, Lab Quantum Optelect, Chengdu, Peoples R China
- RIKEN, Inst Phys & Chem Res, Wako, Japan
- Sichuan Univ, Dept Phys, Chengdu, Peoples R China
- Univ Michigan, Dept Phys, CSCS, Ctr Theoret Phys, Ann Arbor, MI, USA
- Japan Sci & Technol Agcy, CREST, Kawaguchi, Japan

**Article 16**
Total Cites: 8
Article Title: Accuracy threshold for postselected quantum computation
Authors: Aliferis, P, Gottesman, D, Preskill, J
Journal: QUANTUM INFORMATION & COMPUTATION
Volume: 8
Page: 181-244
Year: 2008
Addresses:
- CALTECH, Inst Quantum Informat, Pasadena, CA, USA
- Perimeter Inst, Waterloo, Canada
- CALTECH, Inst Quantum Informat, Pasadena, CA, USA
***Article 17
Total Cites: 8
Article Title: Quantum computing with a single molecular ensemble and a Cooper-pair box
Authors: Tordrup, K, Molmer, K
Journal: PHYSICAL REVIEW A
Volume: 77
Page:
Year: 2008
Addresses:
· AARHUS UNIV, Dept Phys & Astron, Lundbeck Fdn Theoret Ctr Quantum Syst Res, Aarhus, Denmark
· Univ Aarhus, Dept Phys & Astron, Lundbeck Fdn Theoret Ctr Quantum Syst Res, Aarhus, Denmark

***Article 18
Total Cites: 8
Article Title: Rovibrational wave-packet manipulation using shaped midinfrared femtosecond pulses toward quantum computation: Optimization of pulse shape by a genetic algorithm
Authors: Tsubouchi, M, Momose, T
Journal: PHYSICAL REVIEW A
Volume: 77
Page:
Year: 2008
Addresses:
· Univ British Columbia, Dept Chem, Vancouver, Canada
· JST, CREST, Kawaguchi, Japan
· Univ British Columbia, Dept Chem, 2036 Main Mall, Vancouver, Canada

***Article 19
Total Cites: 8
Article Title: How good must single photon sources and detectors be for efficient linear optical quantum computation?
Authors: Varnava, M, Browne, DE, Rudolph, T
Journal: PHYSICAL REVIEW LETTERS
Volume: 100
Page:
Year: 2008
Addresses:
· Univ Oxford, Dept Mat, Oxford, England

***Article 20
Total Cites: 7
Article Title: Fault-tolerant quantum computation against biased noise
Authors: Aliferis, P, Preskill, J
Journal: PHYSICAL REVIEW A
Volume: 78
Page:
Year: 2008
Addresses:
· IBM Corp, Thomas J Watson Res Ctr, Yorktown Hts, NY, USA
· CALTECH, Inst Quantum Informat, Pasadena, CA, USA
· IBM Corp, Thomas J Watson Res Ctr, POB 218, Yorktown Hts, NY, USA

Top Papers - 10 years | 2 years