

Quantum Computing Sources Mentioned in Colloquium

1. “Quantum Information Science,” NSF Workshop Report NSF-00-101 (Oct. 28-29, 1999), p. 5. [Report available via internet search at <http://www.nsf.gov/search/index.jsp>]. Definition of quantum computer.
2. The cite to Schrodinger can be found in B. Terhal et al, “Quantum Entanglement: A Modern Perspective,” *Physics Today* (April 2003), p. 46.
3. “A Quantum Information Science and Technology Roadmap Part 1: Quantum Computation,” U.S. Army Advanced Research and Development Activity (ARDA) Report (April 2, 2004). For the importance of entanglement see Section 6.9 Theory Component, p. 15.
4. Sarma et al, “Topological quantum computation,” *Physics Today* (July 2006), p. 32. Fractional Hall effect qubits. See also Brennan, arXiv quant-ph/0704.2241, 4/18/07 and Hormozi, arXiv quant-ph/0610111 v2, 4/23/07. Googling “anyons” yields a surprisingly large list of cites.
5. Gershenfeld and Chuang, “Bulk Spin-Resonance Quantum Computation,” *Science* **275** (1997), p. 350; see also the discussion of this paper in *Science* **277** (1997), pp. 1688-90. NMR quantum computing.
6. Nielsen & Chuang, “Quantum Computation and Quantum Information” (Cambridge 2000). A very comprehensive compendium, but far from easy reading unfortunately.
7. Vandersypen et al, “Experimental realization of Shor’s factoring algorithm using NMR,” *Nature* **414** (2001), p. 883.
8. Einstein, Podolsky and Rosen, *Phys. Rev.* **47**, 777 (1935).
9. P. W. Shor, *SIAM J. Comp.* **26** (1997), p. 1484.
10. “RSA-200 is factored!” <http://www.rsasecurity.com/rsalabs/node.asp?id=2879>.
11. Peter Shor, “Progress in Quantum Algorithms” (Sept. 14, 2005). Go to Shor’s home page <http://www-math.mit.edu/~shor/>, click on his papers.
12. M. Nielsen, arXiv quant-ph/004097 v2, 1 July 2005. On cluster state computing.
13. Wootters and Zurek, *Nature* **299**, 802 (1982). First proof of no cloning.
14. Herbert, *Foundations of Physics* **12**, 1171 (1982). Supraluminal messaging
15. Scarani et al, “Quantum Cloning,” *Rev. Mod Phys*, **77** (2005), p. 1225.
16. E. Gerjuoy, “Shor’s factoring algorithm...,” *Am. J. Phys.* **73** (2005), p. 521.
17. E. Farhi et al., quant-ph/0001106, 28 Jan. 2000. On adiabatic computing.
18. O. Hosten et al., *Nature*, **439**, 949 (2006). On counterfactual computation. See also J. Dowling, *Nature*, **439**, 919 (2006) and L. Vaidman, *Phys. Rev. Lett.* **98**, 160403 (4/25/07).

P.S. Bourdon, et al, *Phys. Rev. A* **77**, 022305 (2008), paper on dense coding of which EG is co-author.