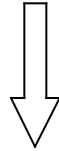
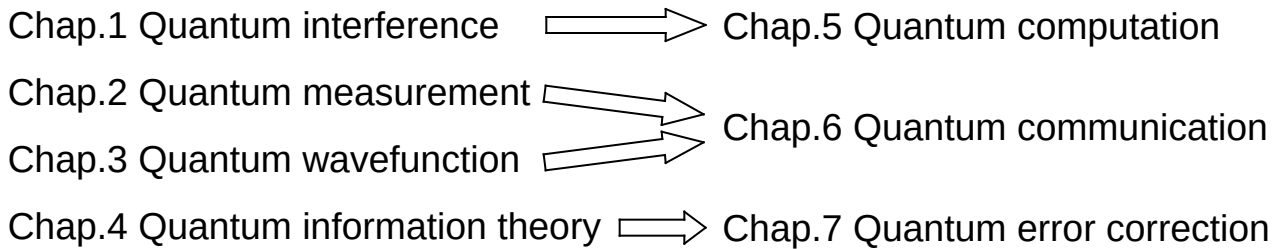


Physics of Quantum Information

Fundamentals

Applications



Quantum Hardware

Chap.8 End quarter project

Homework set: Fundamentals HW#1 ~ HW#7
 Applications HW#1 ~ HW#5

Class homepage: http://www.geocities.com/stanford_ygrp/

Instructor's e-mail address: yamamoto@loki.stanford.edu

Physics of Quantum Information

End-quarter project

(1) Ion trap quantum computers

D. Kielpinski et al., Nature 417, 709 (2002)
S. Gulde et al., Nature 421, 48 (2003)

(2) Cold atom quantum computers

N. Schlosser et al., Nature 411, 1024 (2001)
R. Dumke et al., PRL 89, 097903 (2002)
W. Hänsel et al., Nature 413, 498 (2001)
D. Jaksch et al., PRL 85, 2208 (2000)

(3) Solution NMR quantum computers

N. Gershenfeld et al., Science 275, 350 (1997)
L.M.K. Vandersypen et al., Nature 414, 883 (2001)

(4) Solid state NMR quantum computers

B.E. Kane, Nature 393, 133 (1998)
A.J. Skinner et al., PRL 90, 087901 (2003)
T.D. Ladd et al., PRL 89, 017901 (2002)

(5) Electron spin quantum computers

D. Loss et al., Phys. Rev. A 57, 120 (1998)
T. Fujisawa et al., Nature 419, 278 (2002)
Y. Kato et al., Science 299, 1201 (2003)

(6) Josephson junction quantum computers

Yu.A. Pashkin et al., Nature 421, 823 (2003)
D. Vion et al., Science 296, 886 (2002)
J.M. Martinis et al., PRL 89, 117901 (2002)

(7) Quantum simulation of many body systems

M. Greiner et al., Nature 415, 39 (2002)
G.E. Santoro et al., Science 295, 2427 (2002)

(8) Linear optics quantum computers

E. Knill et al., Nature 409, 46 (2001)
J.D. Franson et al., PRL 89, 137901 (2002); RRL 88, 257902 (2002)

(9) Continuous variable quantum computation

S. Lloyd et al., PRL 82, 1784 (1999)
S.D. Bartlett et al., PRL 88, 097904 (2002); PRL 89, 207903 (2002)
D. Gottesman et al., PRA 64, 12310 (2001)

(10) Atomic ensemble for quantum information processing

M. Fleischhauer et al., PRL 84, 5094 (2000)
C. Liu et al., Nature 409, 490 (2001)
M.D. Lukin et al., PRL 87, 037901 (2001)