

33-658, 758 Quantum Computation and Information Spring Semester, 2014  
Assignment No. 12. Due Tuesday, April 15

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READING:

Links to Prof. Daley's lectures on April 3 and 8 are available on the course web page.

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READING AHEAD:

Communication complexity (lectures of April 15 and 17): H. Buhrman, R. Cleve, S. Massar, R. de Wolf, "Nonlocality and communication complexity", Rev. Mod. Phys. 82, pp. 665-698, Sec. III; specifically, subsections A, B, E, and G within section III.

Quantum cryptography (beginning on April 17): QCQI Secs. 12.6.1, 12.6.2, 12.6.3. (The discussion continues on in Secs. 12.6.4 and 12.6.5, but these are rather difficult.)

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EXERCISES:

1. Write a one or two page summary of Prof. Daley's lectures in your own words. You can discuss the entire lecture, or focus on one of the topics that you find most interesting. You will find the links on the course web page, and you can supplement these with additional reading on the internet if you want to. (Ions in traps are discussed in QCQI Sec. 7.6, but optical lattices are a later development.)

1b. Only for students enrolled in 33-758: Summarize in half a page to a page what you learned from the most recent seminar.