PHYS 484 – 584 Quantum Computation and Quantum Information

Spring 2023

We may have to revise the course plan according to the countrywide reassessment to be made regarding higher education. This is expected to happen at the beginning of April. The content to be delivered is certain but the method of course delivery, the number and dates of exams, and some other details are subject to change.

Schedule: Thursday 13:40 – 16:30, FENS G025

Zoom Meeting ID: 940 8614 1084

Passcode: 122336

Textbook: M. A. Nielsen and I. L. Chuang, Quantum Computation and Quantum Information, Cambridge University Press (2000). ISBN 978-1-107-00217-3.

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Grading

- Homework (1/3)
- Midterm (1/3)
- Project (1/3)

Important Dates

- Midterm: 25 May
- Project Presentations: 1 June

Topics

- Introduction to quantum mechanics
- Quantum information
- Quantum cryptography
- Quantum computation
- Quantum algorithms
- Error and error correction
- Quantum computers