

Oberseminar Theoretische Informatik
Sommersemester 2007

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An Introduction To Quantum Computing

Mo, 04.06.2007 um 14 Uhr (c.t.) im SR 3319 (Ernst-Abbe-Platz 2, 3. Stock).

In 1985, David Deutsch demonstrated for the first time that certain tasks could be performed more efficiently on a quantum computer than possible on a classical computer. Indeed, a number of classically “hard” problems have since been (theoretically) solved efficiently on quantum computers, most notably perhaps the factorization of large integers by Peter Shor in 1994. With the first prototypes of small-scale quantum computers slowly being built in laboratories around the world, we ask the question, what is quantum computing exactly, and how does it compare with classical computing? We present a simplified introduction from a computer scientist’s perspective, with no background in quantum mechanics necessary. Two basic quantum algorithms, Deutsch’s algorithm, and Superdense Coding, will also be covered.

Internetseite der Veranstaltung:

<http://theinf1.informatik.uni-jena.de/teaching/ss07/oberseminar-ss07>