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FAKULTÄT FÜR ANGEWANDTE WISSENSCHAFTEN

Fakultäts - Kolloquium

Zeit: Mittwoch, 7. 6. 2000, 16.00 Uhr s.t.
Ort: Raum 036, Geb. 101, Georges-Köhler-Allee

Quantum Computing Challenges

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Tschechische Republik

Abstract

In quantum computing we witness a merge of two of the most important areas of science of 20th century: quantum physics and informatics what is expected to have strong impact on science and technology of the next century.

The following observations point out why quantum information processing is currently so much supported area of research.

Foundations of computing (information processing and communication) have to be built on the basis of the laws and limitations of quantum physics and not of classical physics.

Quantum physics offers powerful methods of encoding, processing and transmitting information that are not available in the classical world. Consequently, quantum information processing and communication systems seem to have potential to be more efficient and secure than classical ones.

Quantum computing may represent the most important technological impact of the fundamental physics in the foreseeable future.

Quantum information processing paradigms, concepts and methods seem to have the potential to contribute to a better understanding of quantum phenomena and thereby to a better comprehension of the laws and limitations of Nature.

The aim of the talk is to present, in a way oriented to informatics community, the backgroud, principles, elements, aims, main outcomes and largest obstacles of quantum information processing and communication.

Gastgeber: Prof. Dr. Hans Burkhardt

Alle Interessenten sind recht herzlich eingeladen.

Organisation : Prof. Dr. B. Becker / F. Schmiedle

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