

Karl Hess

Quantum Information vs. Analog/Digital Information



This talk was part of the ACM Reflections Projections 2005 Student Computing Conference.

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<http://www.acm.uiuc.edu/conference>

Quantum Computers that eclipse the performance of conventional digital computers represent the holy grail of many current research goals. Quantum entanglement is basic to their operation and was the subject of a famous debate between Einstein and Bohr. This presentation deals with the questions: What is quantum entanglement and what is quantum information? Is it something entirely new and fantastic or is it just a combination of analog and digital information as we already know it?

The presentation will not supply any definite answer to these questions but will show that the area of quantum information is as interesting and challenging as it was at the time of the Einstein/Bohr debate and that the attempts to build quantum computers may provide at least some insights into the nature of quantum information.

The scientific interests of Karl Hess are in the area of solid state electronics and optoelectronics. He has made major contributions to the simulation of electronic transport (quantum transport) in solids and has received several major awards including membership in the National Academy of Engineering and National Academy of Sciences. His recent interests are in the area of quantum transport, quantum computing and quantum information.



Watch the video online!

<http://www.acm.uiuc.edu/conference/2005/webcast.php>