

Summer Lecture ANTONIO ACIN 'Quantum Resources for Information Processing'

ANTONIO ACIN

September 07, 2011

Wednesday, September 7, 2011, 15:00. Blue Lecture Room

ANTONIO ACIN

Quantum information theory Group

ICFO-The Institute of Photonic Sciences, SPAIN

Quantum Mechanics is the theory describing the Physics of the microscopic world. It is often seen as paradoxical, since quantum features often contradict our classical intuition. Current progress on information devices miniaturization indicates that information will be soon encoded on quantum particles. Are quantum features going to affect the way information is processed and transmitted? The answer to this question is affirmative: in the last decades new information applications based on quantum laws, and without any classical counterpart,

have been proposed and experimentally demonstrated. This has led to a new research area known as Quantum Information Science (QIS). The purpose of this talk is to give an introduction to this field, with an emphasis on Quantum Computation and Quantum Cryptography.

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