

Some basics of quantum control: introduction and application

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February 25, 2011

The goal of this talk is to give a simple introduction to some specificities of “quantum control”, that is the design and analysis of systems evolving according to the laws of quantum dynamics. The essence of this subject is in fact relatively simple to formulate in a system-theoretic framework: a major success of quantum mechanics is its elegant mathematical formulation. Recently, experimental systems with simple enough quantum dynamics have been built, allowing engineers to join the research domain. After introducing basic aspects of quantum dynamics in detail, our research results on actual systems will be used for illustration.