

Optimal control in quantum systems

Introduce:

Prof. Gabriele Ferrini

Direttore ILAMP, Università Cattolica del Sacro Cuore

Interviene:

Prof. Rosario FAZIO

The Abdus Salam International Centre for Theoretical Physics - Trieste (Italy)

Abstract

The ability to accurately control a quantum system is a fundamental requirement in many areas of modern science such as quantum information processing and the coherent manipulation of molecular systems. It is usually necessary to realize these quantum manipulations in the shortest possible time in order to minimize decoherence, and with a large stability against fluctuations of the control parameters. Controlling a quantum system is for example crucial if we want to realise accurate quantum gates. Recently it has become clear that it might be of great importance in the dynamics of many-body quantum systems. After a brief intro to ways to manipulate quantum systems for emerging quantum technologies, I will try to present an overview of the present situation with emphasis on the use of optimal quantum control.

Seminario

Venerdì 16 giugno 2017

Sala Riunioni, ore 12.00

Via dei Musei 41 - Brescia

I-LAMP

Interdisciplinary Laboratories
for Advanced Materials Physics



**UNIVERSITÀ
CATTOLICA**
del Sacro Cuore