The aim of this course is to provide students with theoretical skills and insight into the dynamics of quantum systems in the presence of classical and quantum noise, i.e. quantum open systems. The theory of quantum open systems is not only a requisite to describe realistic (non-isolated) quantum systems, but it also provides interesting ways of manipulating quantum information through the action of quantum measurements and possibly feedback. The course will introduce basic elements of quantum noise and will also cover advanced topics and tools that will expose students to current research problems. Basic knowledge of quantum mechanics is required.
The students will hand in exercises weekly and present them at the blackboard by turns. A final examination will take place which form will be fixed depending on the number of attendees.

**Sistema de qualificació**

The usual in University teaching
Bibliografia

Bàsica:


Complementària:


Mölmer, K. Lectures at the Winter School on Quantum Optics. Trieste, Italy: ICTP (International Centre for Theoretical Physics), 1994.