

INVITADO: Francesco Ticozzi (University of Padua)

TITULO: Stability of quantum dynamical semigroups: tools for state preparation and information protection

LUGAR: FACULTAD DE CIENCIAS FÍSICAS UCM

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AULA: Seminario Depto. Física Teórica I, Planta 3ª

ABSTRACT

Focusing on finite-dimensional quantum dynamical semigroups, a characterization of invariant and attractive subspaces can be obtained by studying the dynamical structure induced on the Hilbert space by the generator. A standard subspace decomposition allows us to check attractivity, to estimate the speed of convergence, and to assess the potential of Hamiltonian control in its interplay with the noise action. The approach also can be used to design open and/or closed loop controls for stochastic master equations that drive the system state to a target one. Applications to entanglement generation and continuous-time error correction will be presented.