School of PHYSICS
Condensed Matter and Statistical Physics Group

IPM
پژوهشگاه دانش‌های بنیادی

Lecture Series in Condensed Matter and Statistical Physics II

Nonequilibrium Transport in Open Quantum Systems

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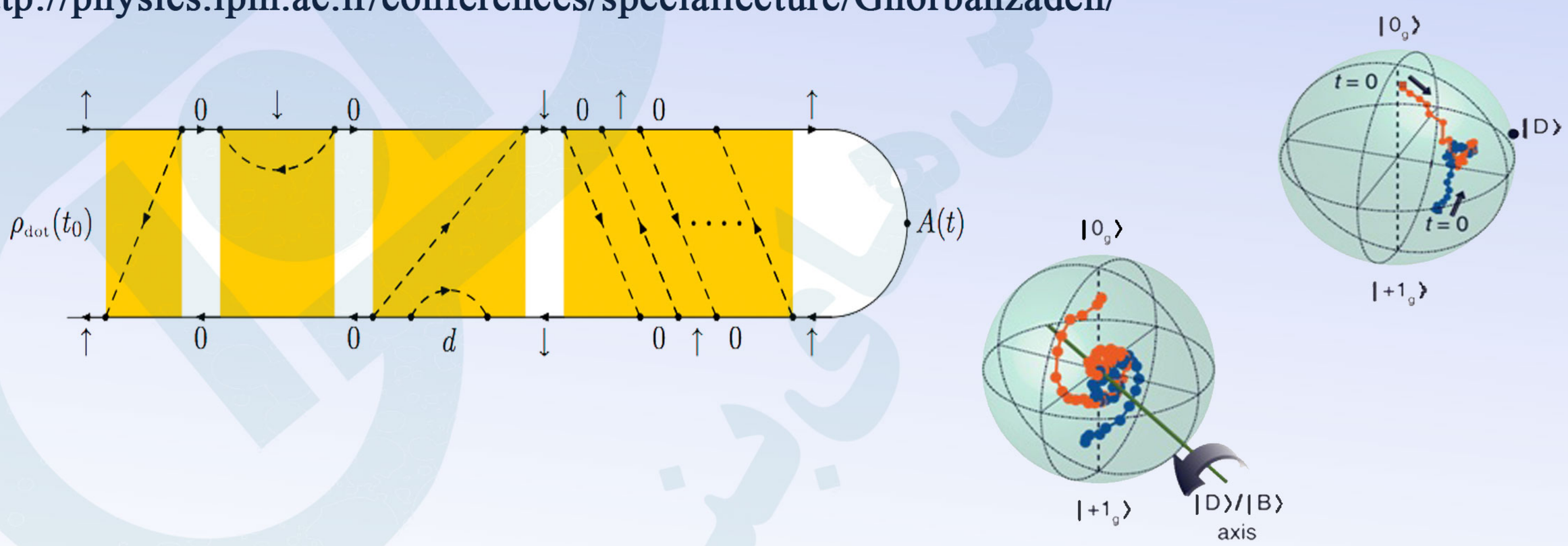
Date: 21 Aban 1393 (12 Nov 2014)

11:00-12:30 and 14:00-16:00

School of Physics, IPM, Tehran

When a quantum system interacts with an external system (the environment) its dynamics is not governed by unitary evolution in contrast to closed quantum systems and the so-called decoherence and dissipation effects come into play. The theory of open quantum systems addresses the problems of damping and dephasing in quantum systems by the assertion that all real systems of interest are "open" systems, surrounded by their environments. One of the main lines of the theory is to study transport phenomena in optical or electronic systems which are driven out of equilibrium. In these series of lectures, with special focus on solid state systems, an introduction about the theory of open quantum systems will be presented first. Then, we discuss the generalized master equation and approximation schemes in order to obtain the dynamics of system's density matrix. The question of what information we can obtain about the system's dynamics and how that is achieved will be answered in detail.

For the schedule of the course and other information, please visit:
http://physics.ipm.ac.ir/conferences/speciallecture/Ghorbanzadeh/



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