



The Abdus Salam
International Centre for Theoretical Physics



School on
NEW TRENDS IN QUANTUM DYNAMICS AND ENTANGLEMENT
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NON-MARKOVIAN DYNAMICS IN OPEN QUANTUM SYSTEMS

3. Projection Operator Techniques

Bassano VACCHINI
Universita' degli Studi di Milano, Dipt. di Fisica
I-20133 Milano, Italy

Abstract:

We consider a general approach to the non-Markovian dynamics of open quantum systems. This is based on projection operator techniques of non-equilibrium statistical mechanics, which allow to recast the equations of motion of the system as a perturbation expansion. Both the Nakajima-Zwanzig and the time-convolutionless approaches will be considered, focusing on the model of a qubit coupled to a Bosonic reservoir.