

Exact solution of simple models for quantum information:

As preparation for this, students should familiarise themselves with the Jaynes-Cummings model of a two-level system (qubit) coupled to a single-mode boson field. However, this is no strict prerequisite and the speaker will introduce the model to some extent. The Jaynes-Cummings model is treated in many books on Quantum Optics, a rather nice exposition can be found in chapter 12 of Garrison and Chiao: Quantum Optics. This book can also be profitably used for background reading on cavity quantum electrodynamics.