

## CHAPTER OVERVIEW

### 7: Open Quantum Systems

This chapter discusses the effects of a weak interaction of a quantum system with its environment. Some part of this material is on the fine line between quantum mechanics and (quantum) statistical physics. Here I will only cover those aspects of the latter field <sup>1</sup> that are of key importance for the major goals of this course, including the discussion of quantum measurements in Chapter 10.

- [7.1: Open Systems, and the Density Matrix](#)
- [7.2: Coordinate Representation, and the Wigner Function](#)
- [7.3: Open System Dynamics- Dephasing](#)
- [7.4: Fluctuation-dissipation Theorem](#)
- [7.5: The Heisenberg-Langevin Approach](#)
- [7.6: Density Matrix Approach](#)
- [7.7: Exercise Problems](#)

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