

CHAPTER OVERVIEW

6: Elements of Kinetics

This chapter gives a brief introduction to the basic notions of physical kinetics. Its main focus is on the Boltzmann transport equation, especially within the simple relaxation-time approximation (RTA), which allows an approximate but reasonable and simple description of transport phenomena (such as the electric current and thermoelectric effects) in gases, including electron gases in metals and semiconductors.

[6.1: The Liouville Theorem and the Boltzmann Equation](#)

[6.2: The Ohm law and the Drude formula](#)

[6.3: Electrochemical potential and drift-diffusion equation](#)

[6.4: Charge Carriers in Semiconductors - Statics and Kinetics](#)

[6.5: Thermoelectric effects](#)

[6.6: Exercise problems](#)

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