

CHAPTER OVERVIEW

3: A Few Simple Problems

The objective of this chapter is to solve a few simple but very important particle dynamics problems that may be reduced to $1D$ motion. They notably include the famous "planetary" problem of two particles interacting via a spherically-symmetric potential, and the classical particle scattering problem. In the process of solution, several methods that will be very essential for the analysis of more complex systems are also discussed.

[3.1: One-dimensional and 1D-reducible Systems](#)

[3.2: Equilibrium and Stability](#)

[3.3: Hamiltonian 1D Systems](#)

[3.4: Planetary Problems](#)

[3.5: Elastic Scattering](#)

[3.6: Exercise Problems](#)

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