

# Gravitational N-body Problem

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# Proposal

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## Abstract

The  $n$ -body problem aims to solve for the motion of  $n$  particles that influence each other gravitationally. The mutual influence(s) is determined by the gravitational law(s) that the system obeys. The 2-body problem has a complete analytic solution for classical systems, systems that abide by the rules of classical mechanics. However, things get more complicated for  $n \geq 3$ , these only have analytic solutions for special cases and have to be approached numerically otherwise.

## Strategy