

Numerical Methods in Astrophysics

Project 2

Ordinary Differential Equations, Fourier Transforms and Spectral Analysis

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1 Introduction

2 Part 1 - Ordinary Differential Equations

2.1 Methods

2.2 Results

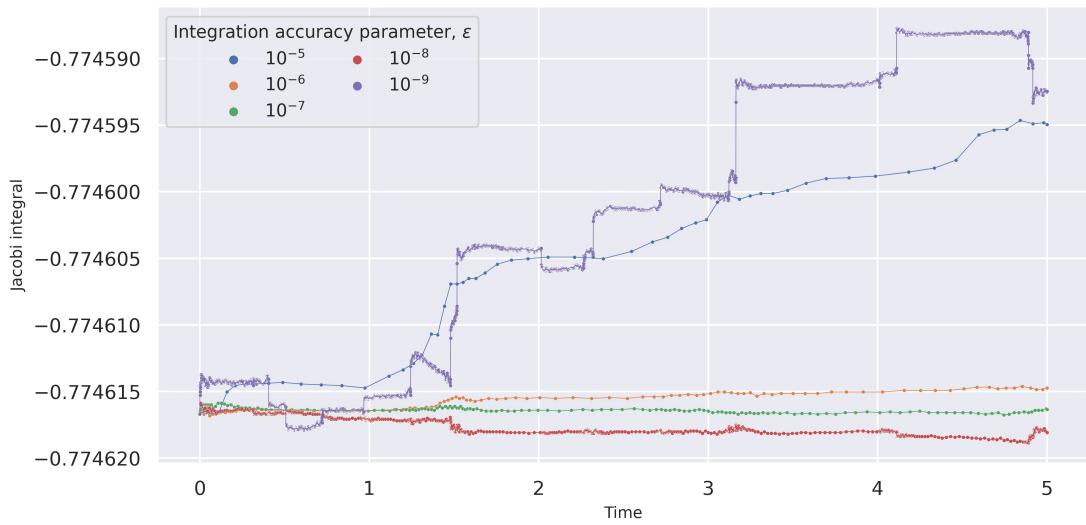


Figure 1: Comparison plot for

ϵ	σ_{E_j}
10^{-5}	7.326×10^{-6}
10^{-6}	6.490×10^{-7}
10^{-7}	1.887×10^{-7}
10^{-8}	6.918×10^{-7}
10^{-9}	1.013×10^{-5}

Table 1

3 Part 2 - Fourier Transform and Spectral Analysis

3.1 Methods

3.2 Results

4 Conclusions

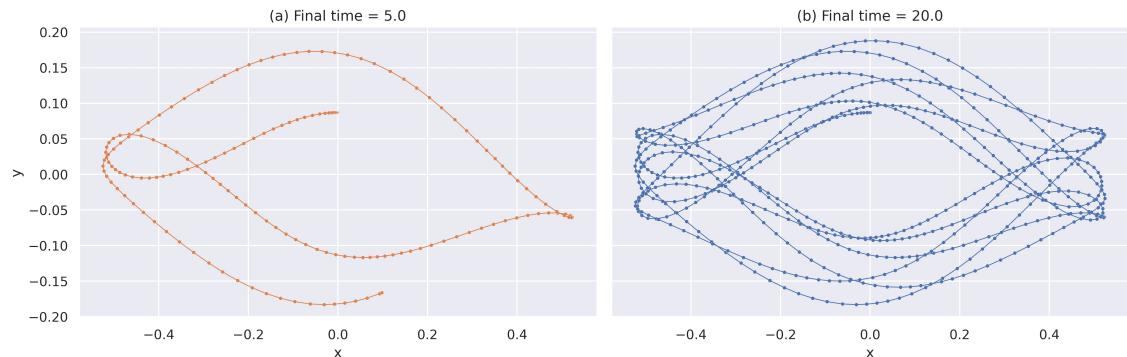


Figure 2

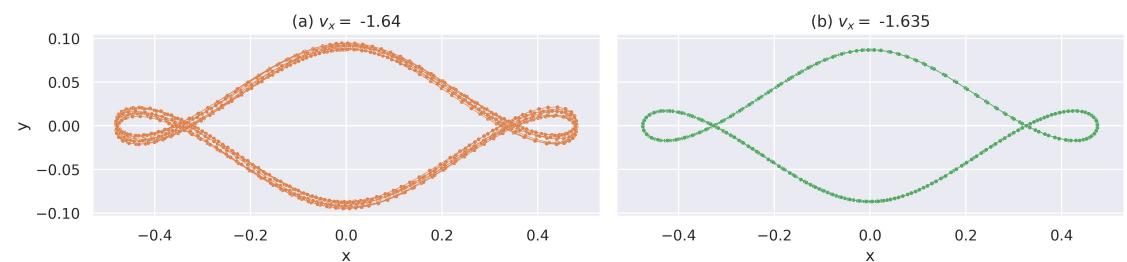
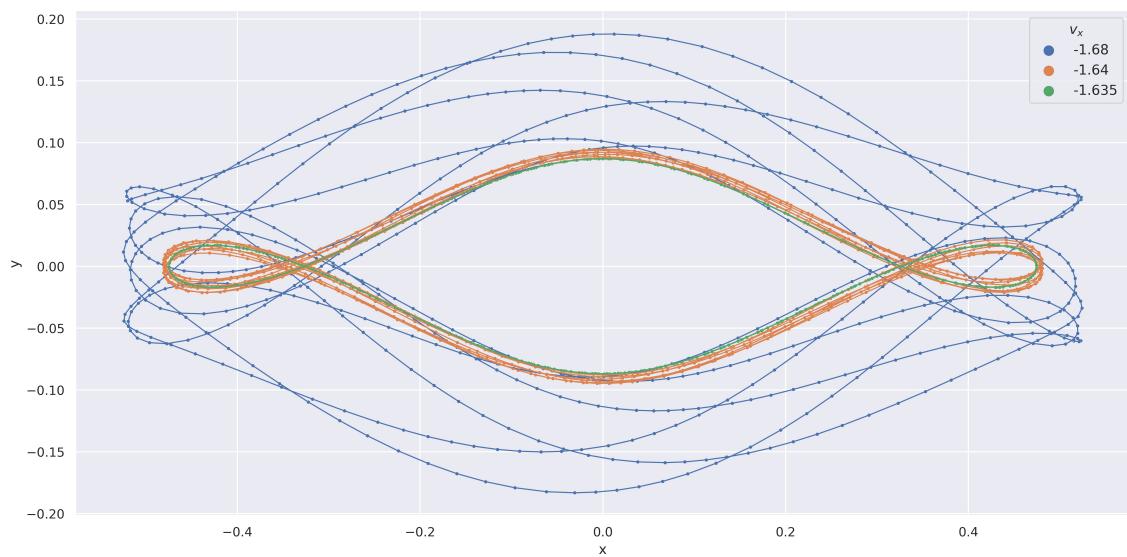


Figure 3

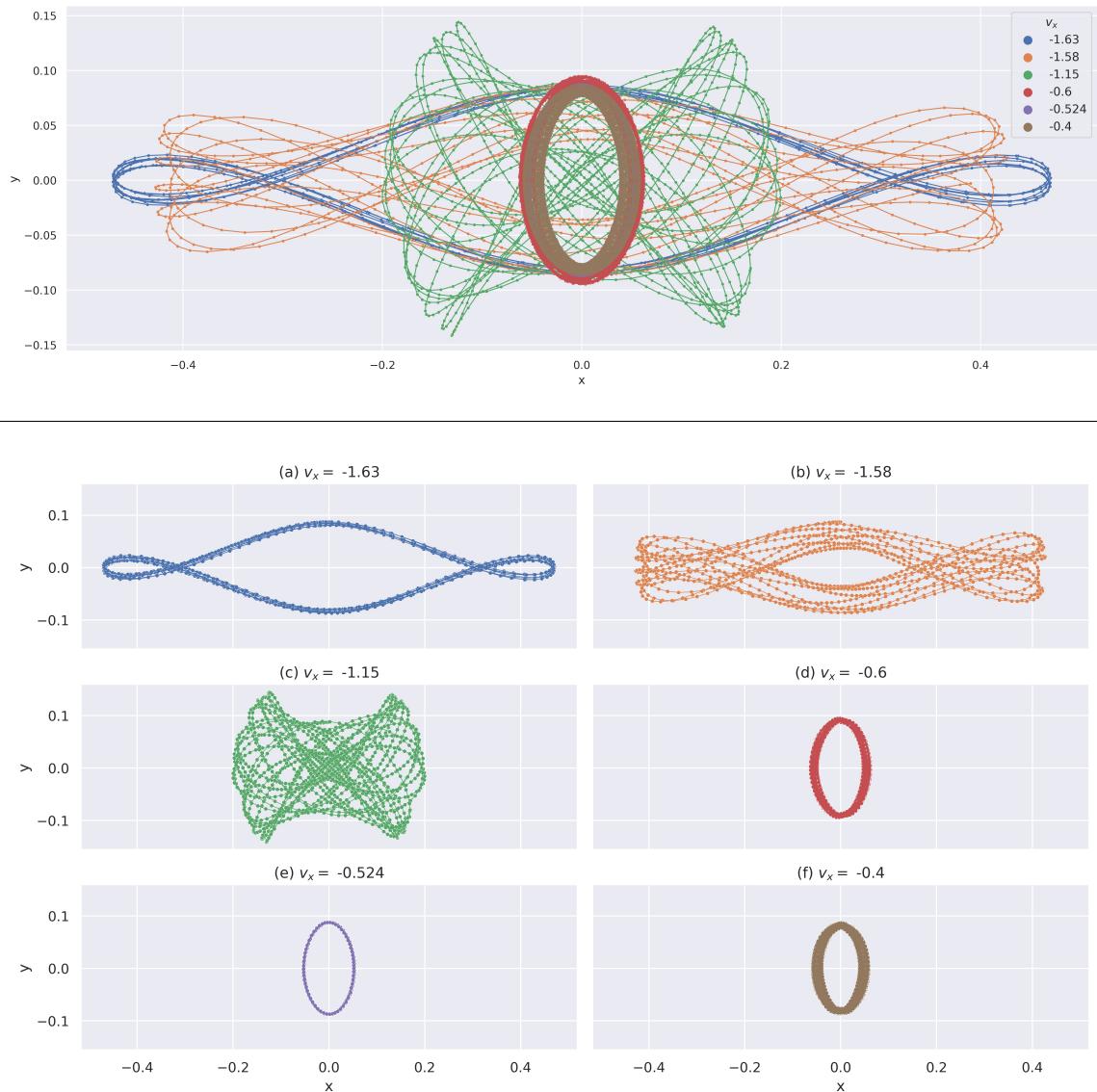


Figure 4

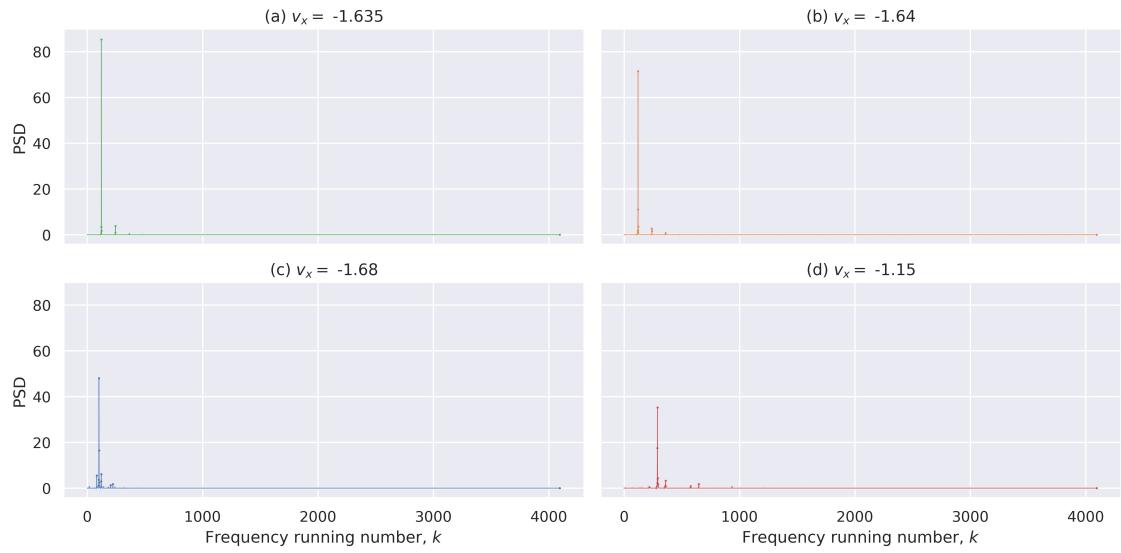


Figure 5

