

# Homework 8 - Physics 240

## Comet Extraordinair

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### 1 Introduction

This is an exersices to calculate and plot the orbit of the Earth in the comic in 3D, as well write the data to a file then plot them together. For the comet I picked comet Encke as my comet and calculate its circular velocity, from that I obtained the plot below.

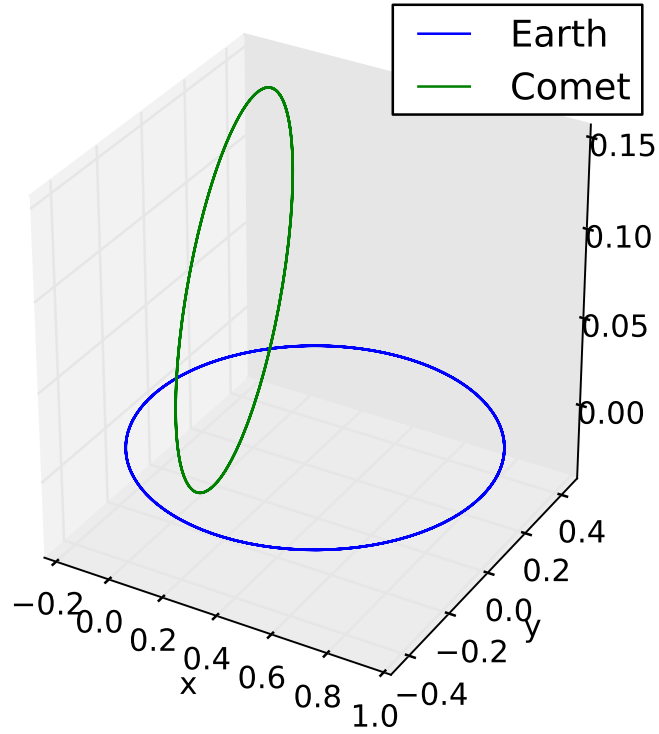


Figure 1: Trajectory of the Earth and Comet

After that I added the drag force  $F_d$  that I calculated from the equation  $|F_g(r_1)| = 100|F_d(v_1)|$  and from that I got the plot below

## 2 Introduction

This is an exercise to calculate and plot the orbit of the Earth in the comet in 3D, as well write the data to a file then plot them together. For the comet I picked comet Encke as my comet and calculate its circular velocity, from that I obtained the plot below.

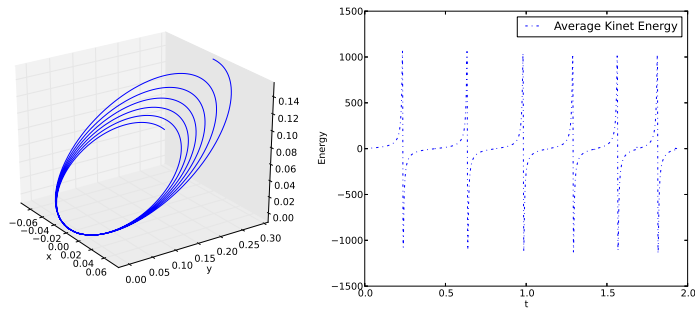


Figure 2: Comet trajectory with drag force

This makes sense to me because the plot shows that for each orbit, the average kinetic energy over an orbit increases with time.