

Computational Physics, HW 1

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1 Introduction

The purpose of this homework is to describe my background in programming and numerics and detailing my aims for the course and my plans after I graduate, whilst also plotting a Gaussian. In terms of my background in programming I have had quite a lot of experience, for example my Masters thesis was based on the application of chaos theory to fixational eye movements of patients with early stage Parkinson's disease in which I programmed heavily in Python to implement various algorithms such as fast Fourier transforms and nonlinear time series analysis. Furthermore, I also have experience in numerical differentiation, integration and solving differential equations. My plans for after I graduate are quite open at the moment, but I am considering going into law (patent law), finance or continuing onto a postdoc. My GitHub name is bjohnston0309.

2 Methods

In order to plot a normalised Gaussian with standard deviation, σ of 3 and mean, μ of zero, NumPy and Matplotlib were used to implement the and plot the Gaussian function.

3 Results

Figure 1 below shows the plotted Gaussian:

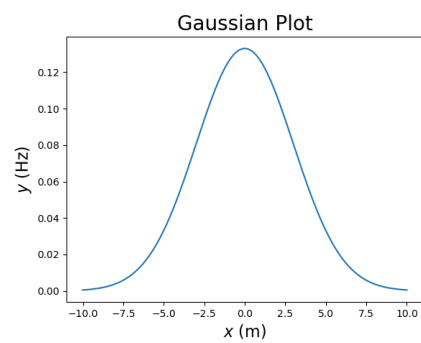


Figure 1: Gaussian Plot