# Contents

## 0.1 test

this is just to test weather or not i did the setup correctly äüß

# Chapter 1

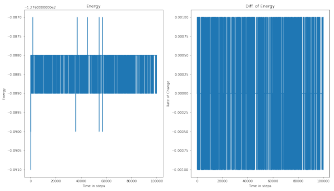
# Milestone 4

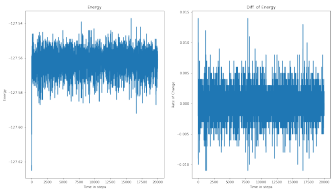
## 1.1 Lenard Jones Derivation

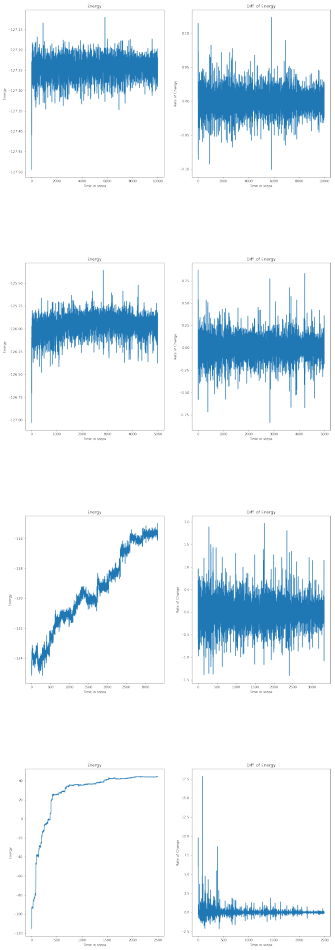
[4]:
```
import sympy as sp
import warnings
warnings.filterwarnings('ignore')
sp.init_printing()
eps = sp.Symbol("e")
sig = sp.Symbol("s")
rad = sp.Symbol("r")
energyRad = 4 * eps * ((sig/rad)**12 - (sig/rad)**6)
energyRad.diff(rad)
```

[4]:
$$4e\left(\frac{6s^{6}}{r^{7}} - \frac{12s^{12}}{r^{13}}\right)$$

## 1.2 Different Time Steps







## 1.3 Simulation Snapshots