

## exp\_michelson

June 5, 2023

```
[ ]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sn

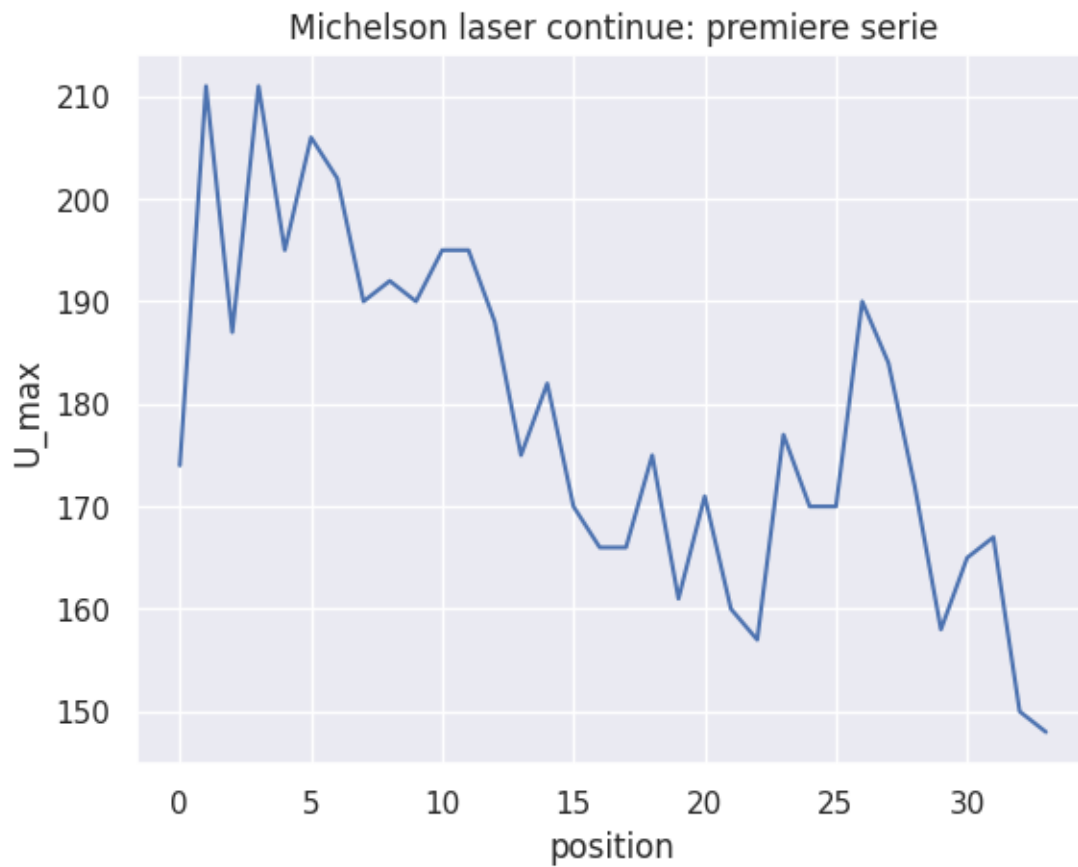
[ ]: continue_data_1 = pd.read_csv("data_HeNe_michelson.csv")
continue_data_2 = pd.read_csv("data2_HeNe_michelson.csv")
pulsed_data = pd.read_csv("data_pulse_michelson.csv")

[ ]: x_1 = continue_data_1["x"]
x_2 = continue_data_2["x"]
x_p = pulsed_data["x"]

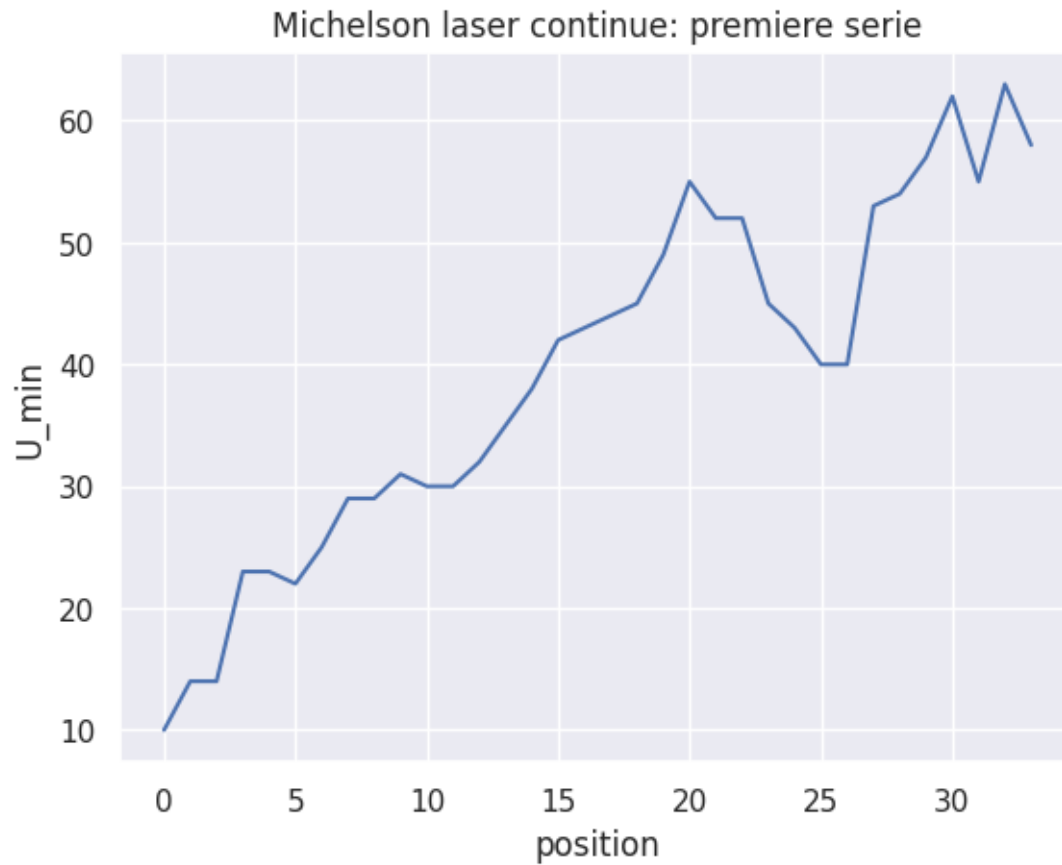
U_max_1 = continue_data_1['Umax']
U_min_1 = continue_data_1['Umin']
U_max_2 = continue_data_2['Umax']
U_min_2 = continue_data_2['Umin']
U_max_p = pulsed_data['Umax']
U_min_p = pulsed_data['Umin']

[ ]: n = 1

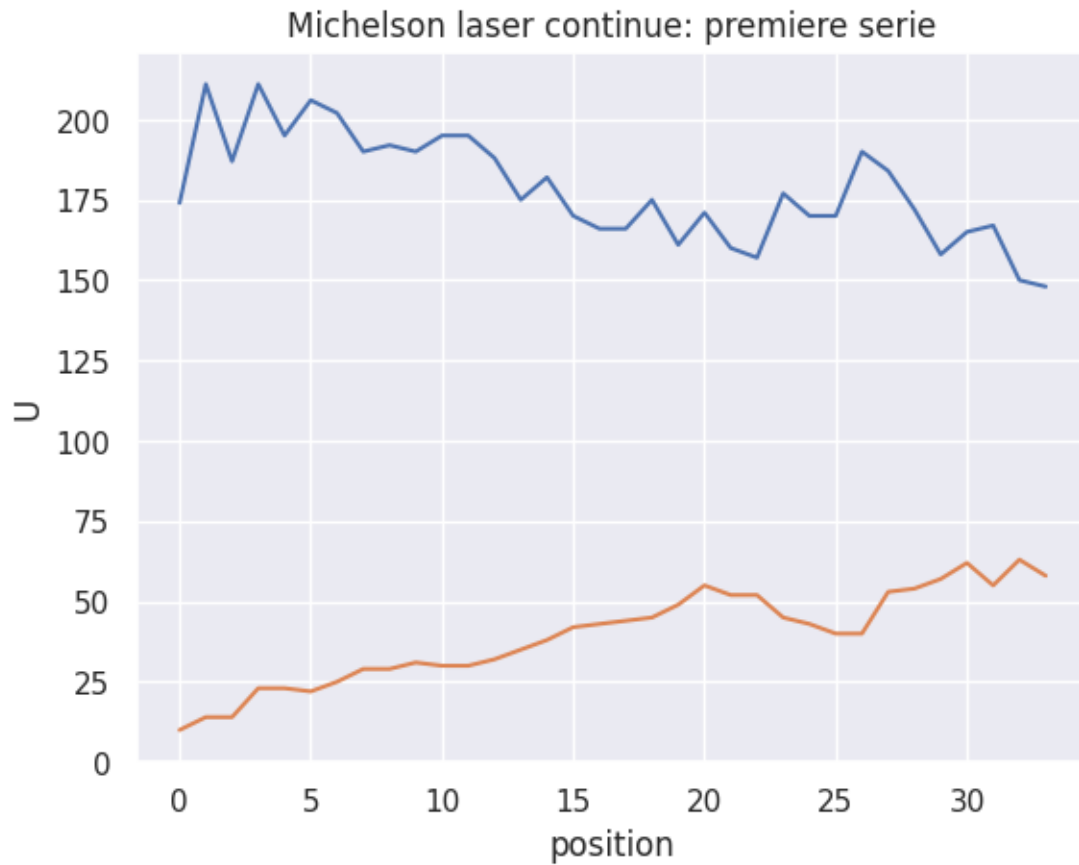
sn.set()
plt.figure(n)
plt.plot(x_1, U_max_1)
plt.title('Michelson laser continue: premiere serie')
plt.xlabel('position')
plt.ylabel('U_max')
plt.show()
sn.set_style("white")
n=n+1
```



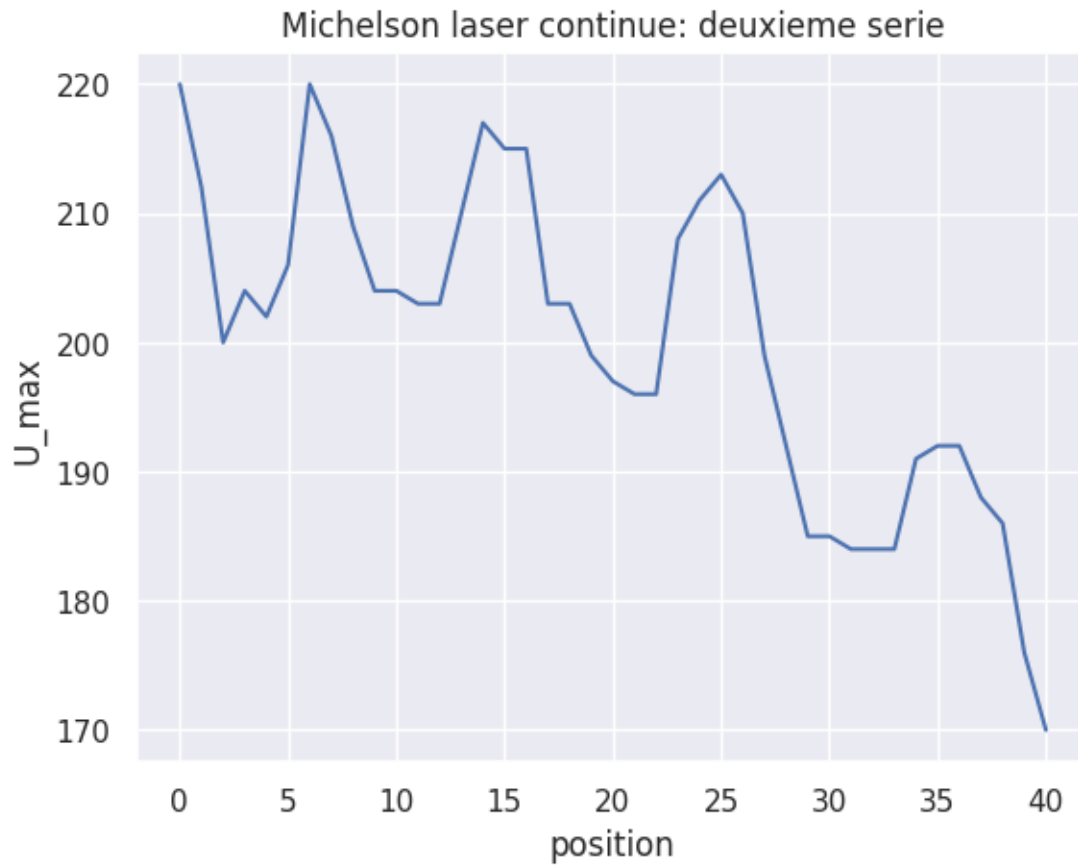
```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_1, U_min_1)
plt.title('Michelson laser continue: premiere serie')
plt.xlabel('position')
plt.ylabel('U_min')
plt.show()
sn.set_style("white")
n=n+1
```



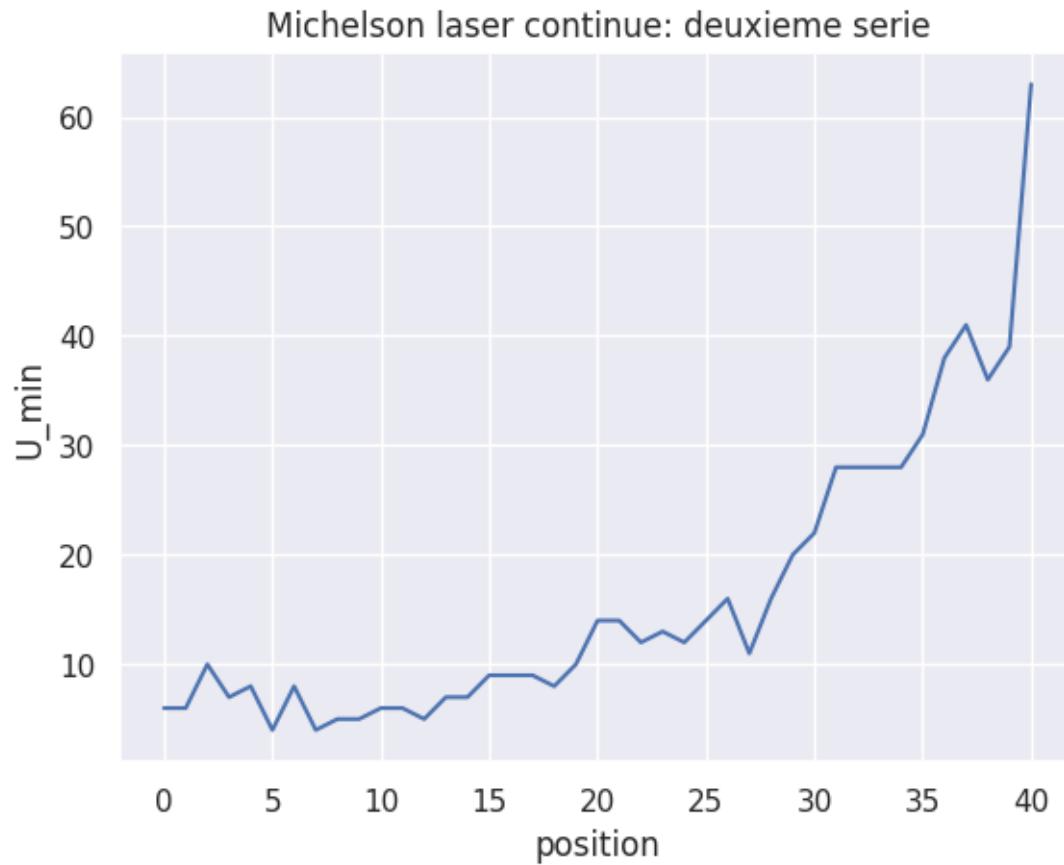
```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_1, U_max_1)
plt.plot(x_1, U_min_1)
plt.title('Michelson laser continue: premiere serie')
plt.xlabel('position')
plt.ylabel('U')
plt.show()
sn.set_style("white")
n=n+1
```



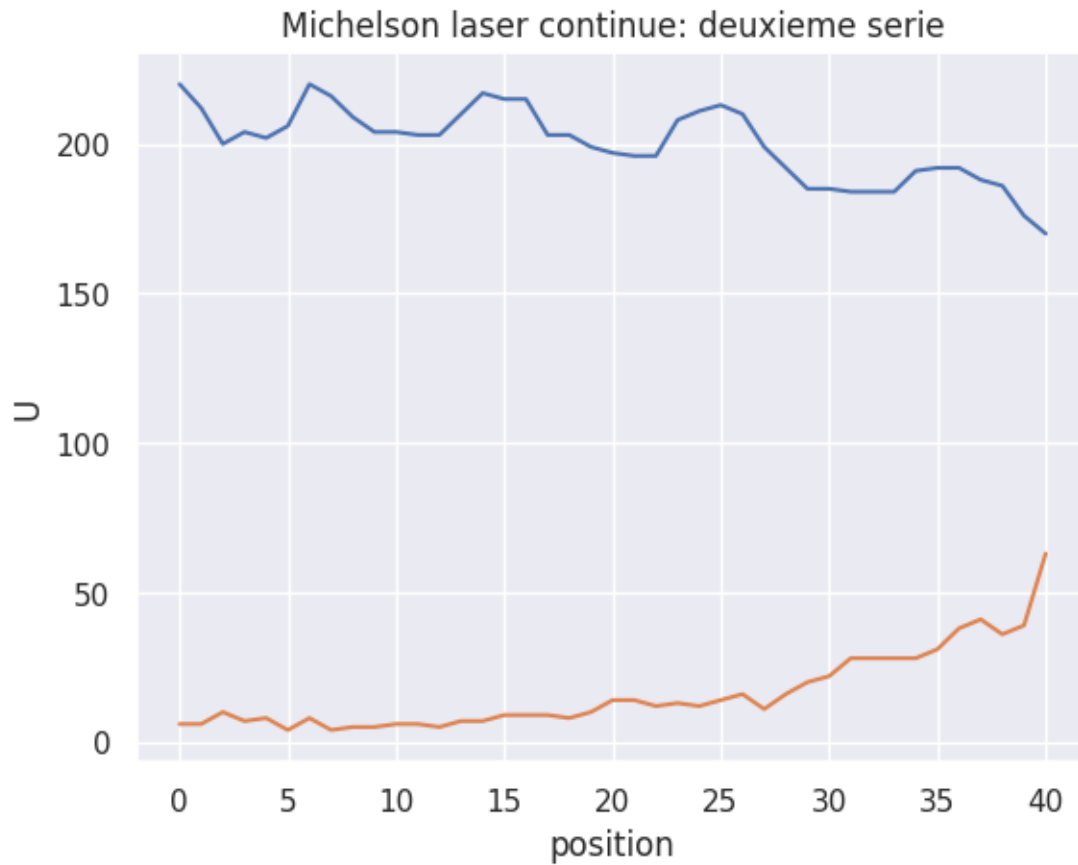
```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_2, U_max_2)
plt.title('Michelson laser continue: deuxieme serie')
plt.xlabel('position')
plt.ylabel('U_max')
plt.show()
sn.set_style("white")
n=n+1
```



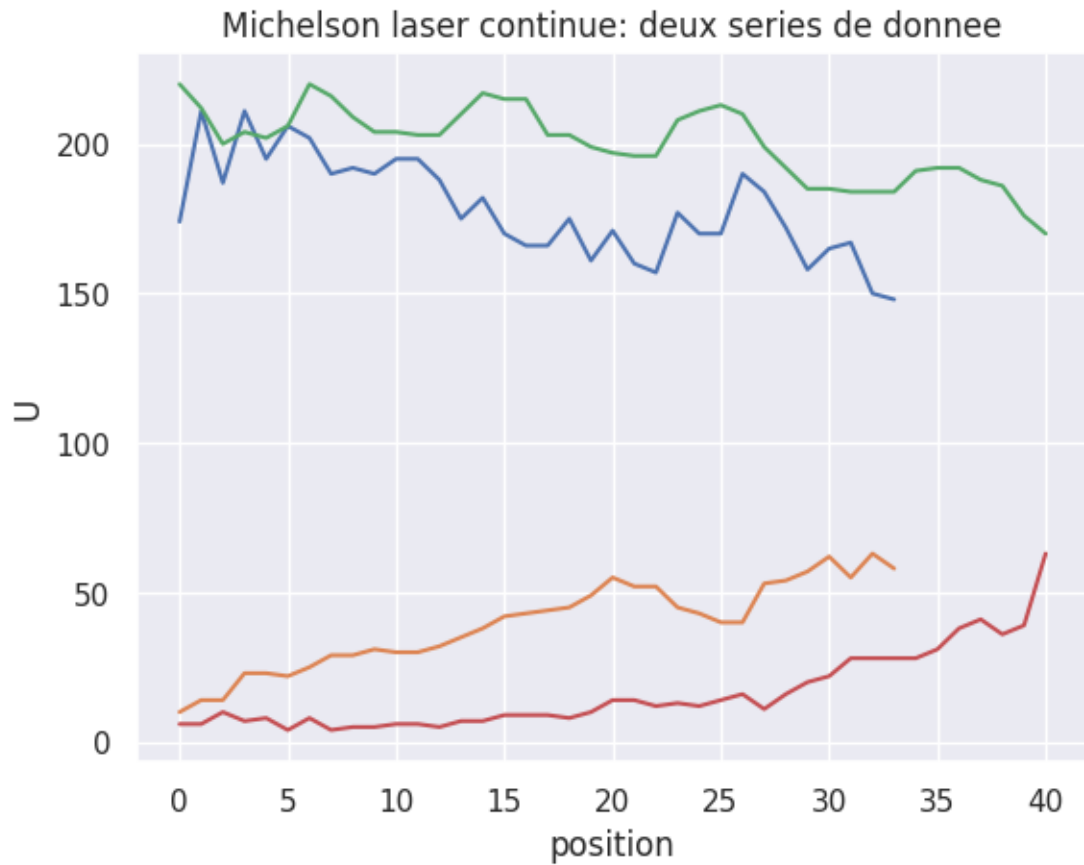
```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_2, U_min_2)
plt.title('Michelson laser continue: deuxieme serie')
plt.xlabel('position')
plt.ylabel('U_min')
plt.show()
sn.set_style("white")
n=n+1
```



```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_2, U_max_2)
plt.plot(x_2, U_min_2)
plt.title('Michelson laser continue: deuxieme serie')
plt.xlabel('position')
plt.ylabel('U')
plt.show()
sn.set_style("white")
n=n+1
```



```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_1, U_max_1)
plt.plot(x_1, U_min_1)
plt.plot(x_2, U_max_2)
plt.plot(x_2, U_min_2)
plt.title('Michelson laser continue: deux series de donnee')
plt.xlabel('position')
plt.ylabel('U')
plt.show()
sn.set_style("white")
n=n+1
```

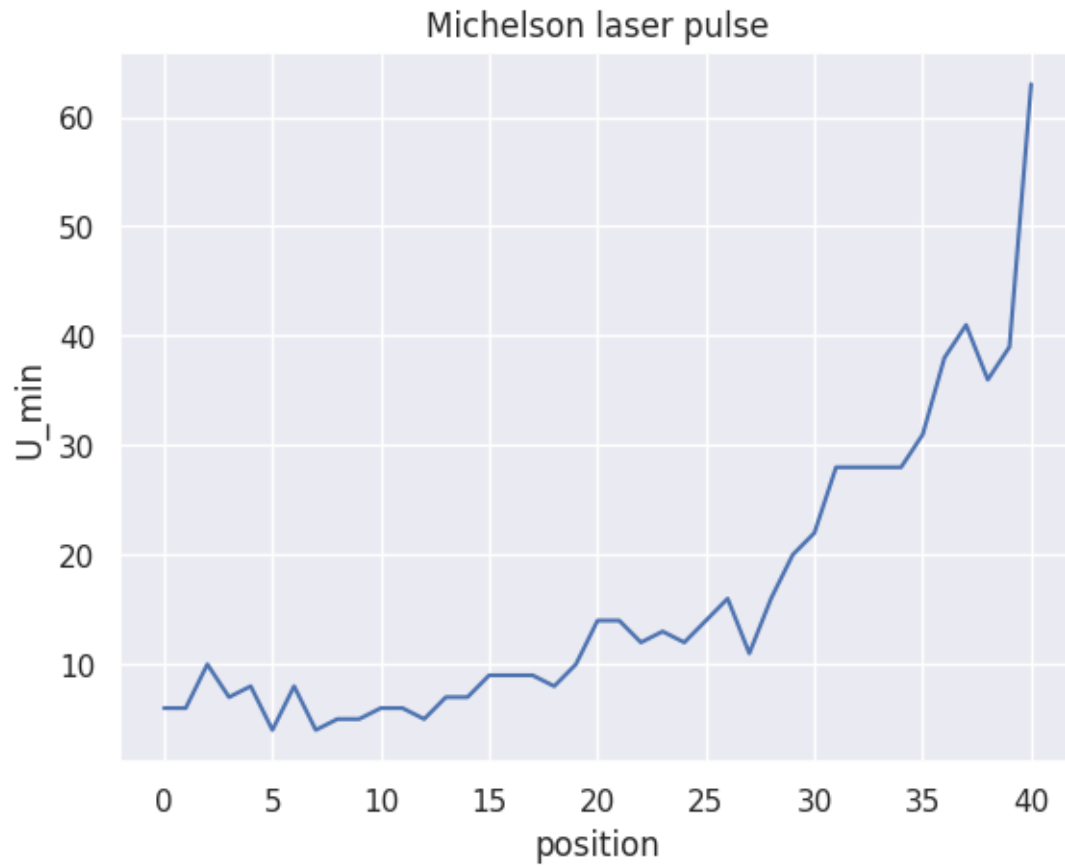


```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_p, U_max_p)
plt.title('Michelson laser pulse')
plt.xlabel('position')
plt.ylabel('U_max')
plt.show()
sn.set_style("white")
n=n+1
```





```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_p, U_min_p)
plt.title('Michelson laser pulse')
plt.xlabel('position')
plt.ylabel('U_min')
plt.show()
sn.set_style("white")
n=n+1
```

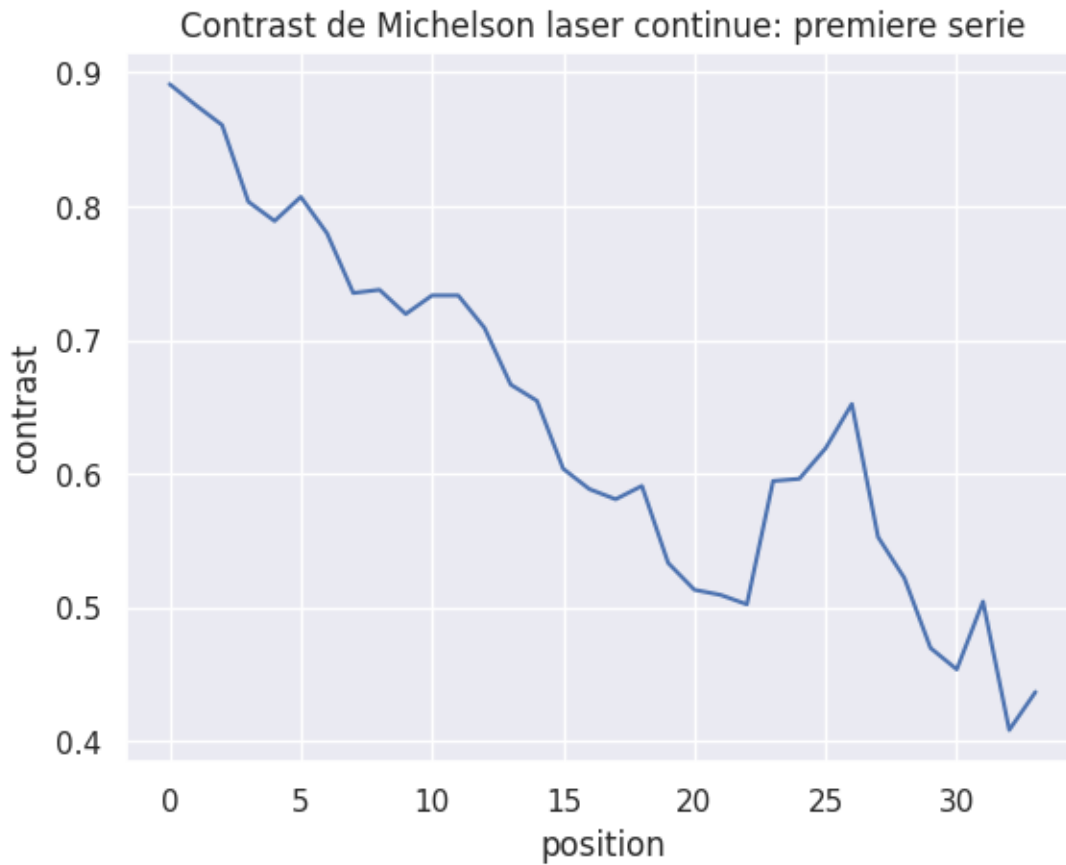


```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_p, U_max_p)
plt.plot(x_p, U_min_p)
plt.title('Michelson laser pulse')
plt.xlabel('position')
plt.ylabel('U')
plt.show()
sn.set_style("white")
n=n+1
```

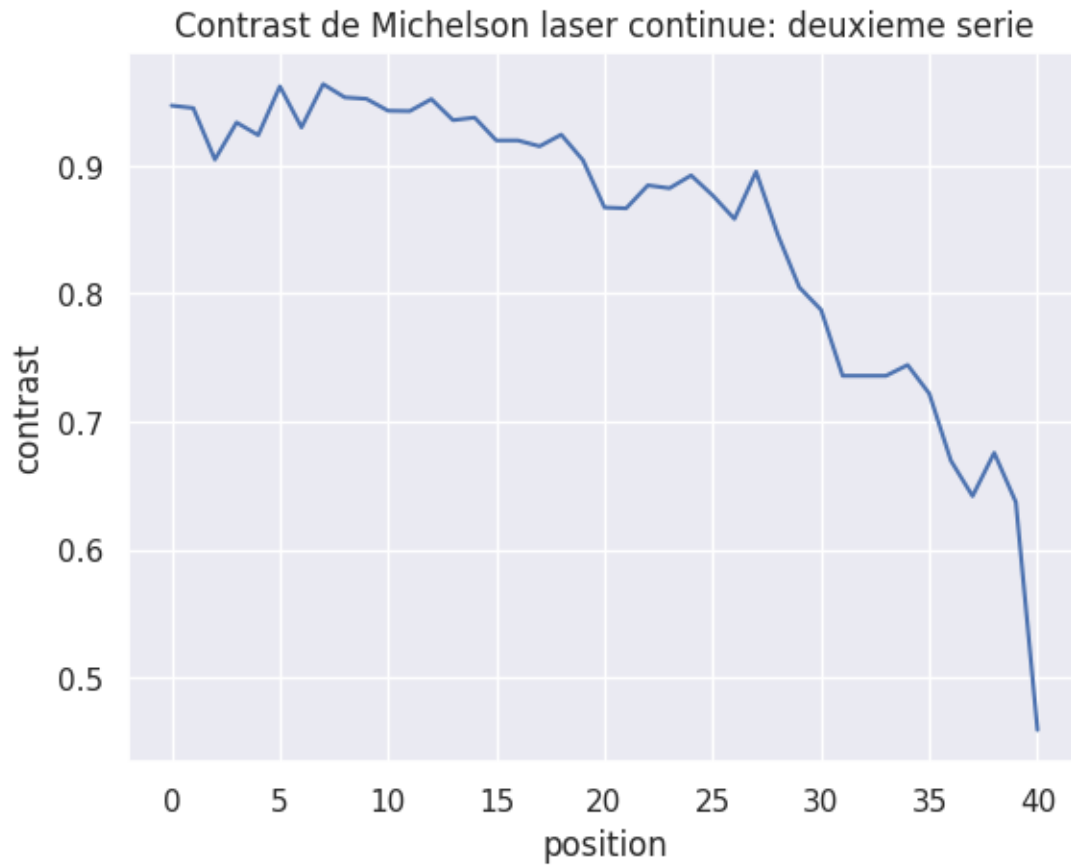


```
[ ]: contrast_cont_1 = (U_max_1 - U_min_1)/(U_max_1+U_min_1)
      contrast_cont_2 = (U_max_2 - U_min_2)/(U_max_2+U_min_2)
      contrast_cont_p = (U_max_p - U_min_p)/(U_max_p+U_min_p)
```

```
[ ]: sn.set()
      plt.figure(n)
      plt.plot(x_1, contrast_cont_1)
      plt.title('Contrast de Michelson laser continue: premiere serie')
      plt.xlabel('position')
      plt.ylabel('contrast')
      plt.show()
      sn.set_style("white")
      n=n+1
```



```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_2, contrast_cont_2)
plt.title('Contrast de Michelson laser continue: deuxieme serie')
plt.xlabel('position')
plt.ylabel('contrast')
plt.show()
sn.set_style("white")
n=n+1
```



```
[ ]: sn.set()
plt.figure(n)
plt.plot(x_p, contrast_cont_p)
plt.title('Contrast de Michelson laser pulse')
plt.xlabel('position')
plt.ylabel('contrast')
plt.show()
sn.set_style("white")
n=n+1
```

