knife-edge

June 2, 2023

```python
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
import pandas as pd
sb.set()
```

```python
#laser continue HeNe
wavelength = 633e-9
power_max = 4e-3

continue_laser = pd.read_csv("knife-edge-laser-continue.csv")
pulsed_laser = pd.read_csv("knife-edge-laser-pulse.csv")
```

```python
continue_laser
```

```
    distance  intensity_max
0       0.0           58.0
1       0.5           55.6
2       1.0           58.0
3       1.5           54.0
4       2.0           54.0
5       2.5           54.0
6       3.0           54.0
7       3.5           58.4
8       4.0           58.4
9       4.5           54.4
10      5.0           54.4
11      5.2           56.0
12      5.4           52.8
13      5.6           52.4
14      5.8           50.0
15      6.0           46.4
16      6.2           43.6
17      6.4           38.4
18      6.6           28.4
19      6.8           20.0
20      7.0           14.0
21      7.2           10.0
```

```
22      7.4             8.0
23      7.6             7.5
24      7.8             6.4
25      8.0             6.4
```

[ ]: pulsed_laser

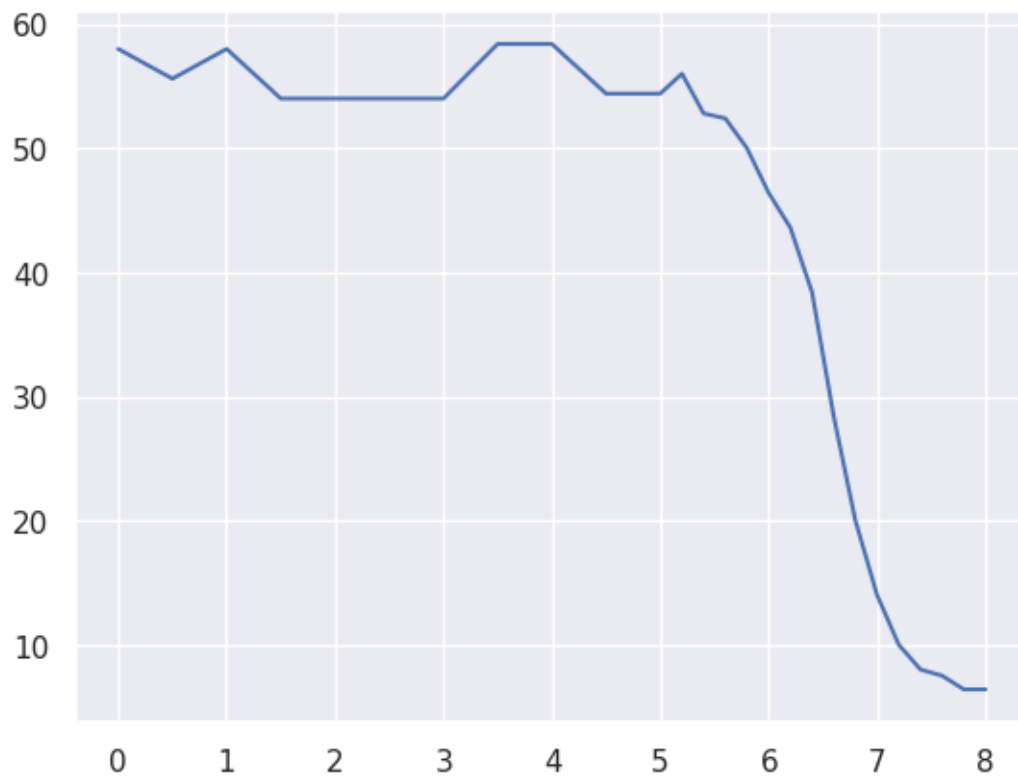[ ]:   distance   Intensity
     0   0.0   68.0
     1   0.5   68.0
     2   1.0   68.0
     3   1.5   66.4
     4   2.0   60.8
     5   2.2   57.6
     6   2.4   54.4
     7   2.6   51.6
     8   2.8   49.2
     9   3.0   46.8
     10   3.2   45.2
     11   3.4   43.6
     12   3.6   41.6
     13   3.8   41.6
     14   4.0   40.8
     15   4.2   40.8
     16   4.4   40.0
     17   4.6   39.6
     18   4.8   39.2
     19   5.0   38.8
     20   5.2   38.4
     21   5.4   37.6
     22   5.6   37.2
     23   5.8   36.0
     24   6.0   35.2
     25   6.2   34.4
     26   6.4   33.2
     27   6.6   32.0
     28   6.8   32.0
     29   7.0   31.6
     30   7.2   31.2
     31   7.4   30.8
     32   7.6   30.4
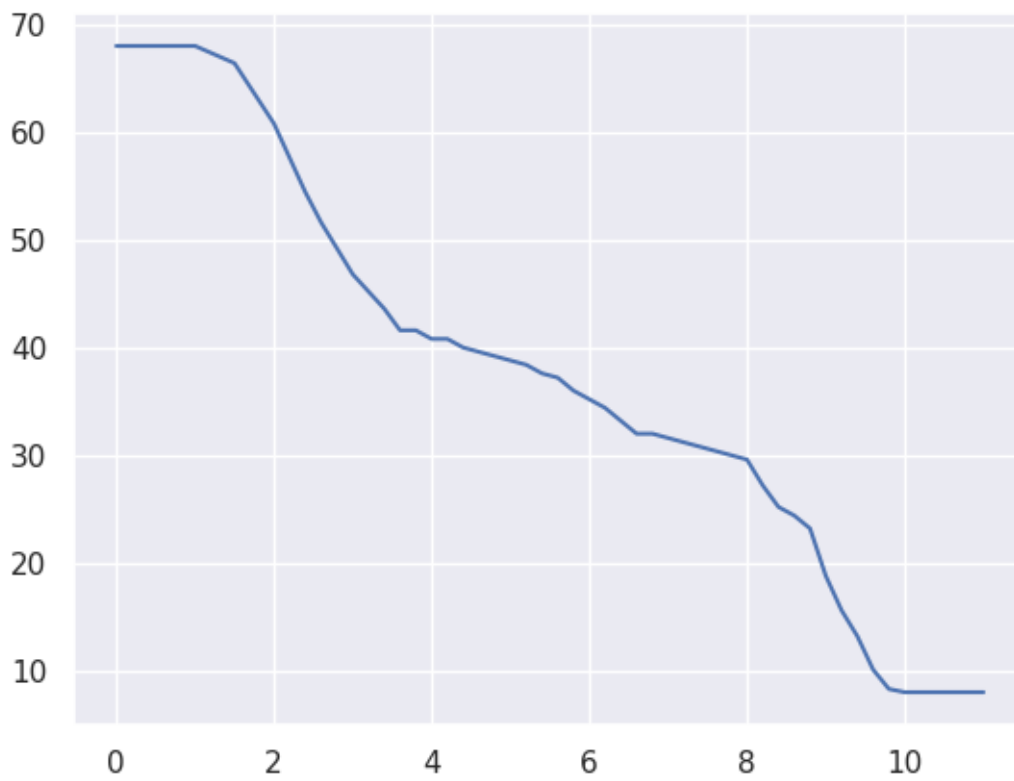   33   7.8   30.0
     34   8.0   29.6
     35   8.2   27.2
     36   8.4   25.2
     37   8.6   24.4
     38   8.8   23.2

```
39        9.0        18.8
40        9.2        15.6
41        9.4        13.2
42        9.6        10.1
43        9.8         8.3
44       10.0         8.0
45       10.2         8.0
46       10.4         8.0
47       10.6         8.0
48       10.8         8.0
49       11.0         8.0
```

```python
x = continue_laser["distance"]
I_max = continue_laser["intensity_max"]

plt.figure()
plt.plot(x, I_max)
sb.set_style("white")
plt.show()
```

```
x_p = pulsed_laser["distance"]
I_max_p = pulsed_laser["Intensity"]
sb.set()
plt.figure()
plt.plot(x_p, I_max_p)
sb.set_style("white")
plt.show()
```


[ ]: