

alpha_calc

October 16, 2022

0.1 Calcul de alpha

```
[1]: import matplotlib.pyplot as plt
import numpy as np
from math import *
```

```
[3]: f = 50
T = 1/(50*2*128)
```

```
[2]: def p(alpha):
    return (np.cos(2*pi*f*alpha*T) - 1)/(np.cos(2*pi*f*128*T) - 1)
```

```
[21]: x, y = [], []
for i in range(1,129):
    x.append(i)
    y.append(p(i)*100)
```

```
[23]: import pandas as pd
d = {'%': y, 'alpha': x }
df = pd.DataFrame(data=d)
df
```

```
[23]:      %  alpha
0      0.015059    1
1      0.060227    2
2      0.135477    3
3      0.240764    4
4      0.376023    5
..      ...    ...
123    99.759236   124
124    99.864523   125
125    99.939773   126
126    99.984941   127
127   100.000000   128
```

[128 rows x 2 columns]

```
[18]: import matplotlib.pyplot as plt  
plt.plot(x, y)
```

```
[18]: [<matplotlib.lines.Line2D at 0x7fbbc6b3be80>]
```

