

In [1]:

3+5

Out[1]:

8

In [58]:

```
# Load data file
import numpy as np
time, disp, disp2, aacc = np.loadtxt('C:/2tri2018/Pezzack.txt', skiprows=6, unpack=True)
#time, disp, disp2, aacc = np.loadtxt('./../Pezzack.txt', skiprows=6, unpack=True)
```

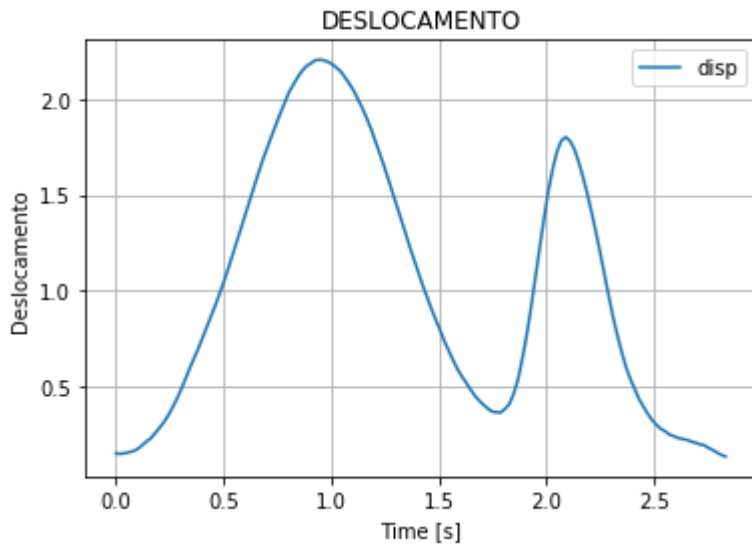
In [59]:

whos

Variable	Type	Data/Info
aacc	ndarray	142: 142 elems, type `float64`, 1136 bytes
acc	ndarray	140: 140 elems, type `float64`, 1120 bytes
axs	ndarray	2: 2 elems, type `object`, 16 bytes
disp	ndarray	142: 142 elems, type `float64`, 1136 bytes
disp2	ndarray	142: 142 elems, type `float64`, 1136 bytes
dt	float64	0.0201
fig	Figure	Figure(576x288)
np	module	<module 'numpy' from 'C:\<...>ges\\numpy__init__.py'>
plt	module	<module 'matplotlib.pyplot' from 'C:\<...>matplotlib\\pyplot.py'>
time	ndarray	142: 142 elems, type `float64`, 1136 bytes
timeA	ndarray	140: 140 elems, type `float64`, 1120 bytes
timeV	ndarray	140: 140 elems, type `float64`, 1120 bytes
v	ndarray	141: 141 elems, type `float64`, 1128 bytes

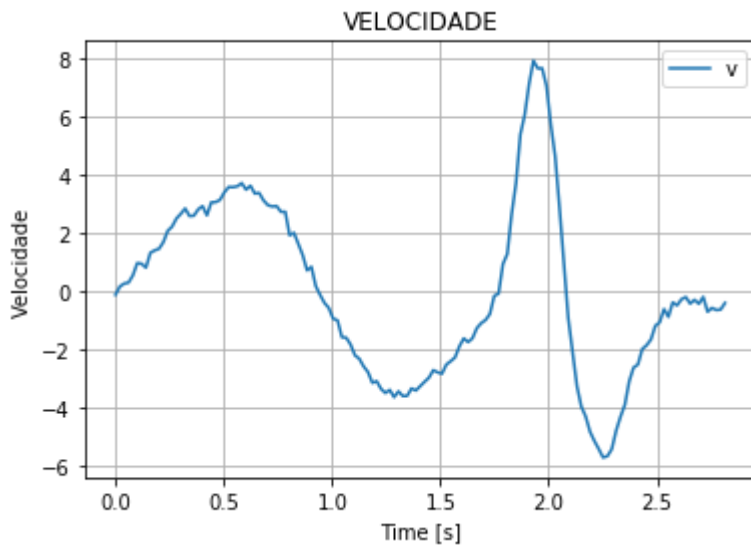
In [27]:

```
import matplotlib.pyplot as plt
plt.plot(time, disp, label='disp')
plt.title('DESLOCAMENTO')
plt.legend()
plt.grid()
plt.xlabel('Time [s]')
plt.ylabel('Deslocamento')
plt.show()
```



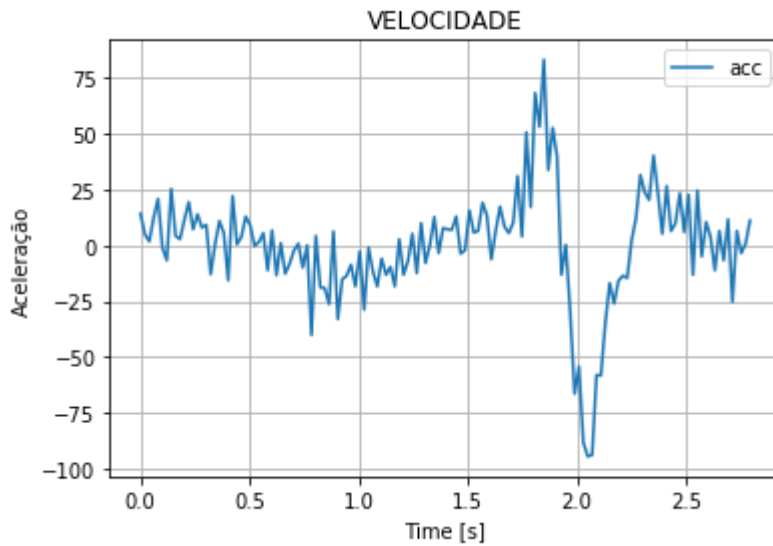
In [30]:

```
dt=time[1]-time[0]  
v=np.diff(displacement)/dt  
timeV=time[0:-1]  
plt.plot(timeV, v, label='v')  
plt.title('VELOCIDADE')  
plt.legend()  
plt.grid()  
plt.xlabel('Time [s]')  
plt.ylabel('Velocidade')  
plt.show()
```



In [34]:

```
acc=np.diff(v)/dt
timeA=time[0:-2]
plt.plot(timeA, acc, label='acc')
plt.title('VELOCIDADE')
plt.legend()
plt.grid()
plt.xlabel('Time [s]')
plt.ylabel('Aceleração')
plt.show()
```



In [71]:

```
fig, axs = plt.subplots(nrows=1, ncols=2, sharex=True, figsize=(15,5), squeeze=True)
#aacc=aacc[0:-2]
axs[0].plot(time, disp, label='disp')
axs[0].legend()
axs[0].grid()
plt.xlabel('Time [s]')
plt.title('Deslocamento')
axs[1].plot(time, aacc, label='aacc')
axs[1].plot(timeA, acc, label='acc')
axs[1].legend()
axs[1].grid()
plt.xlabel('Time [s]')
plt.title('Aceleração')
```

Out[71]:

Text(0.5,1,'Aceleração')

