

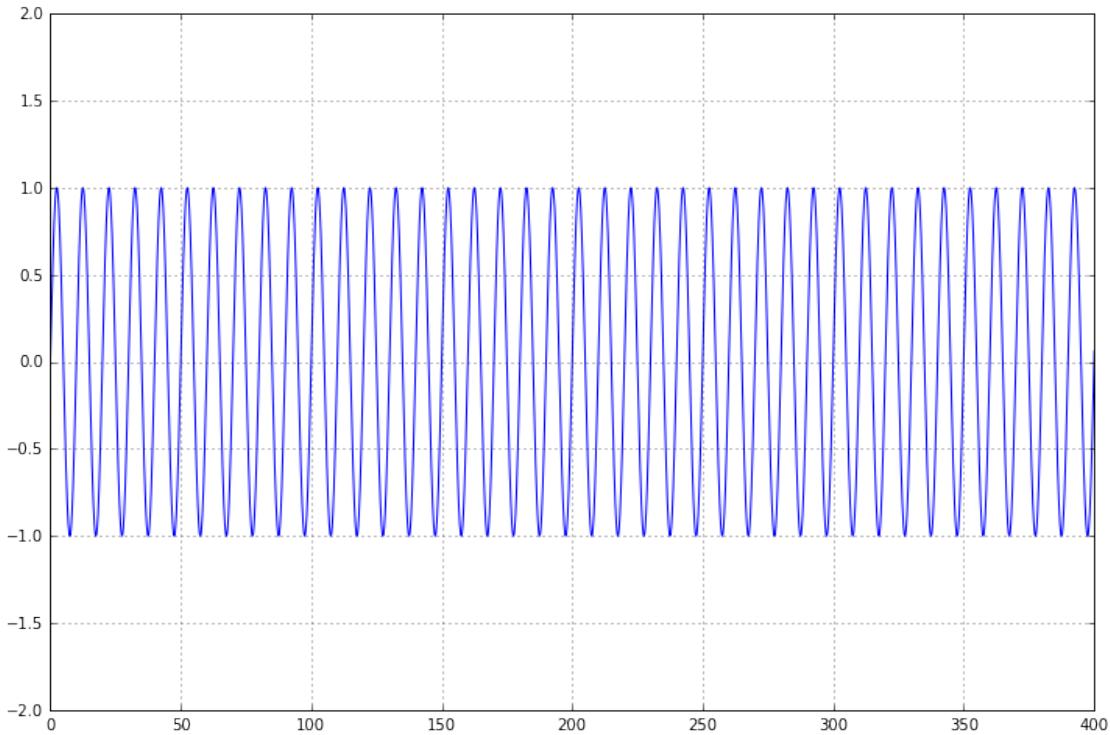
monochrom

February 2, 2016

```
In [78]: %pylab inline
```

Populating the interactive namespace from numpy and matplotlib

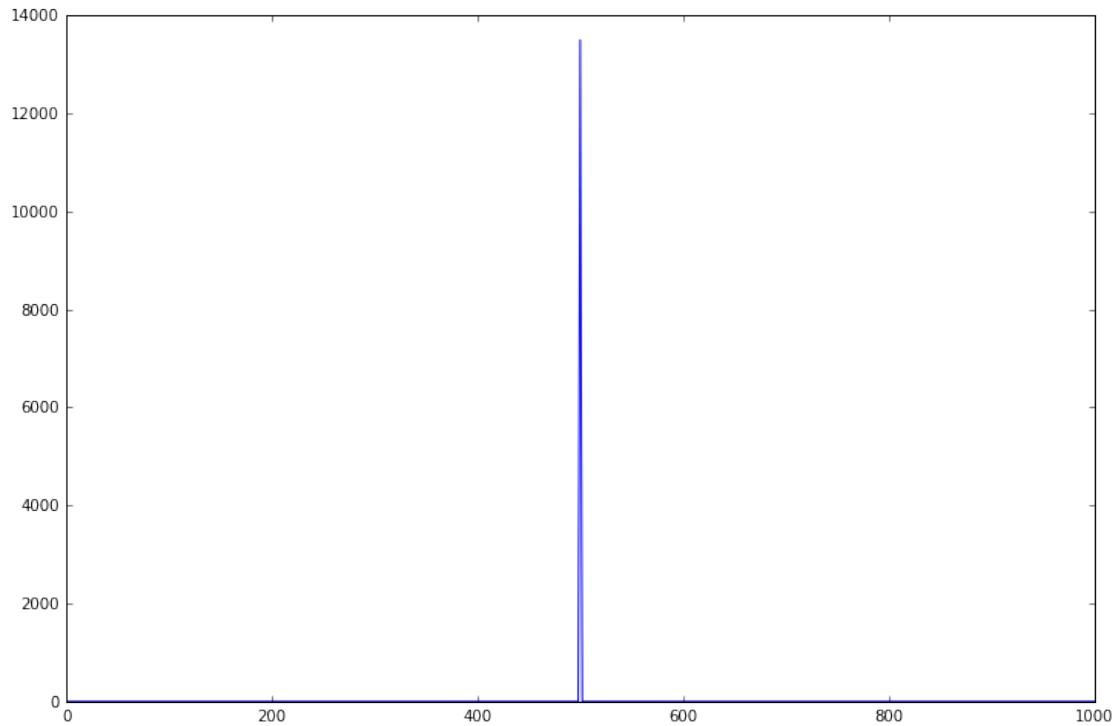
```
In [118]: plt.figure(figsize=(12, 8))
x = np.arange(0, 5000, 0.1)
signal = np.sin(x*2*np.pi/10)
plt.plot(x, signal)
plt.xlim(0, 400)
plt.ylim(-2, 2)
plt.grid()
```



```
In [119]: # Das Spektrum.
```

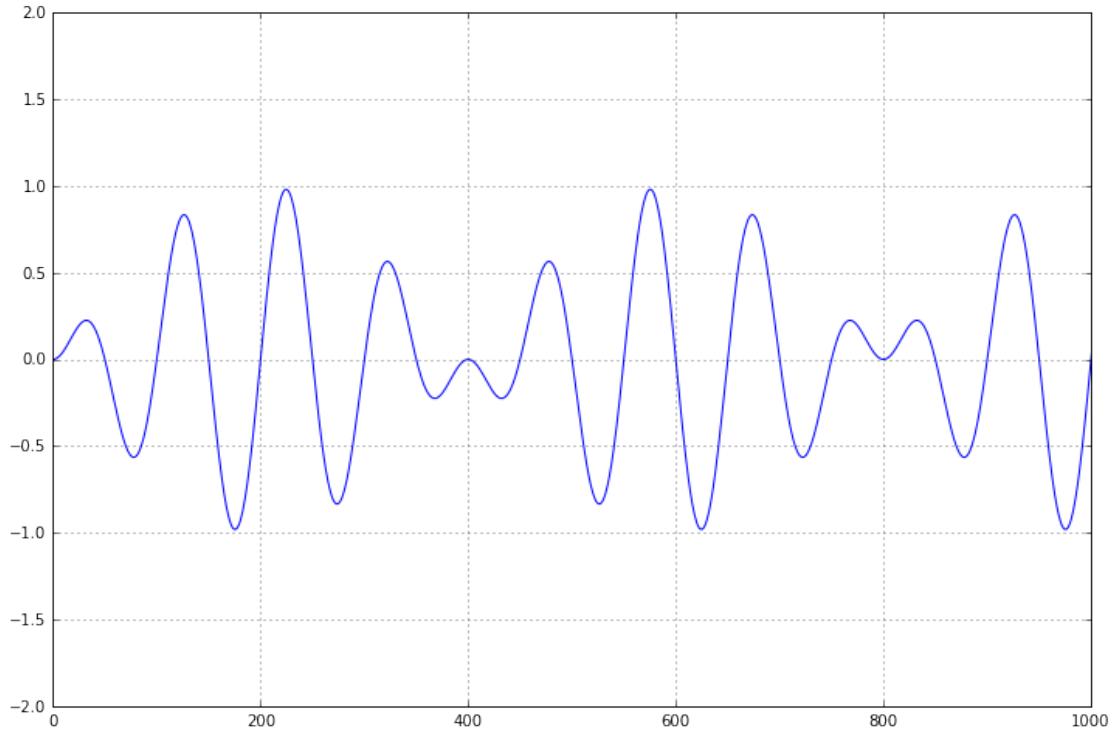
```
plt.figure(figsize=(12, 8))
window = np.hamming(signal.shape[0])
plt.plot(np.abs(np.fft.rfft(signal*window)))
plt.xlim(0, 1000)
```

Out[119]: (0, 1000)



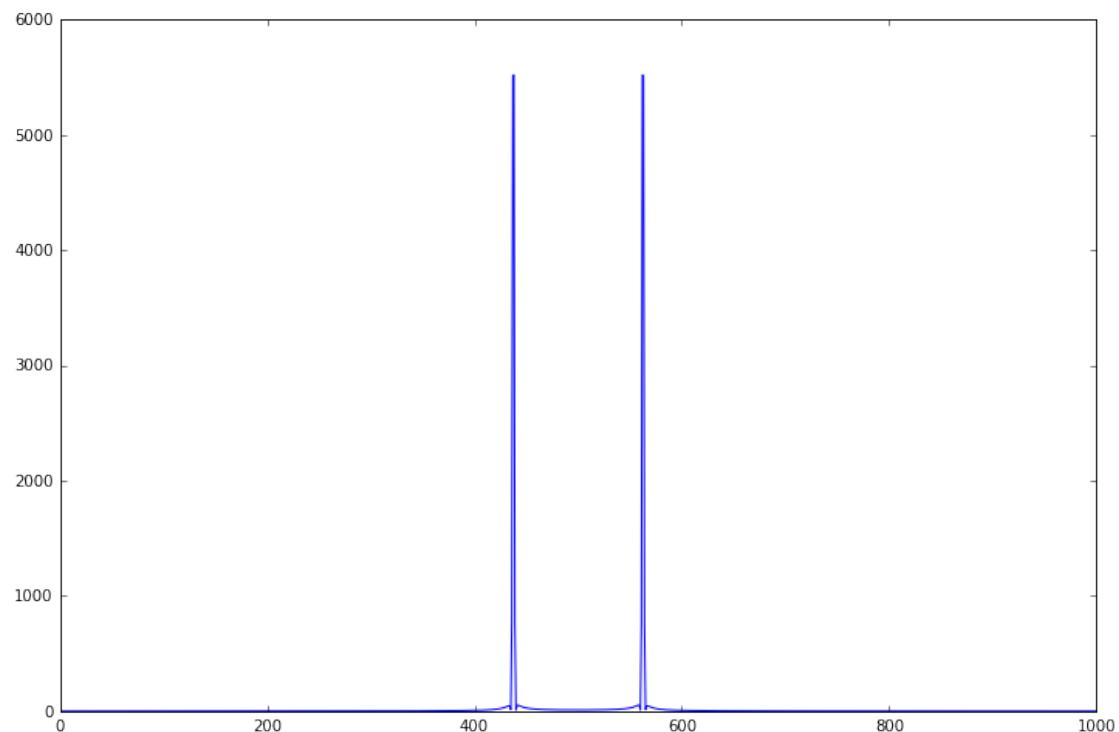
In [120]: # Ooooh, eine Modulation. Die Nullstellen bleiben wo sie waren

```
plt.figure(figsize=(12, 8))
signal_mod = signal * np.sin(x*2*np.pi/80)
plt.plot(signal_mod)
plt.xlim(0, 1000)
plt.ylim(-2, 2)
plt.grid()
```



```
In [121]: # Das Spektrum. 00000000000000000000000000000000H ES IST
# NICHT MEHR MONOCHROMATISCH WHAT THE FUCK
plt.figure(figsize=(12, 8))
window = np.hamming(signal_mod.shape[0])
plt.plot(np.abs(np.fft.rfft(signal_mod*window)))
plt.xlim(0, 1000)
```

Out[121]: (0, 1000)



In []: