Example of using FTAN_plot module:

Summary:

The FTAN plot effectively switches the resolution between high resolution in time (for the spectrogram plot) and high resolution in frequency (FTAN plot). Narrowing the centre frequency step increases the apparent resolution, as does increasing the number of centre frequency steps.

1. Get data:

In [2]:

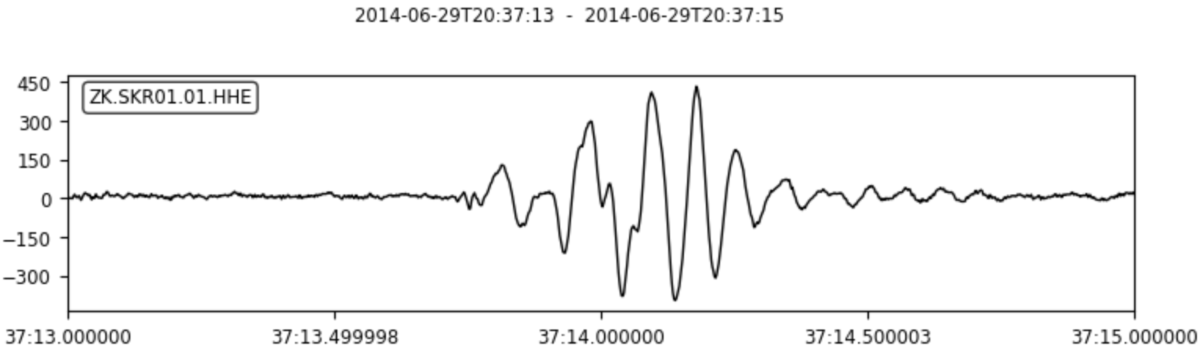
```
# Import neccessary modules:
import FTAN_plot
# Modules used only in this example (not in FTAN_plot):
import obspy
import matplotlib.pyplot as plt

# Import data for example:
st = obspy.read("S_waveform_E_2014_180_2037_event.m")
data = st[0].data # Data associated with trace of real waveform observe
```

2. Plot seismic waveform:

In [3]:

```
# Plot seismic signal:
st.plot()
```

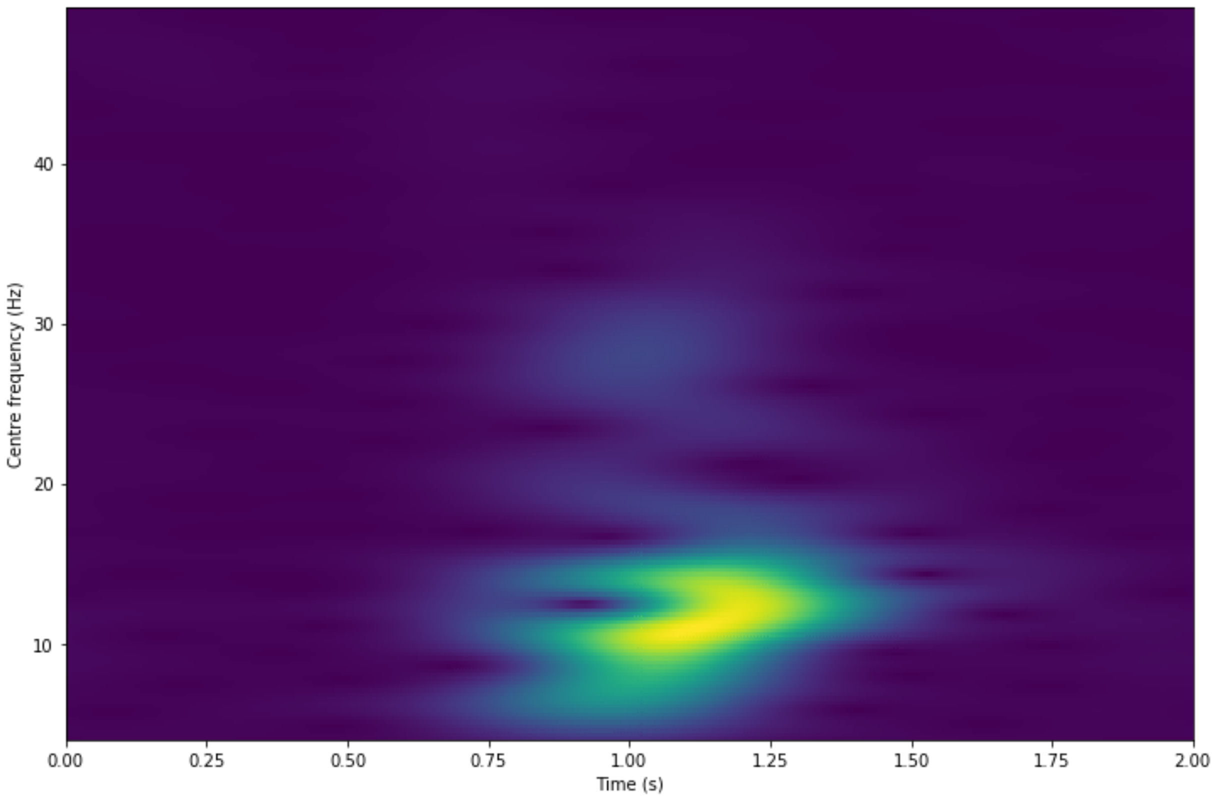
```
/Users/tomhudson/anaconda/lib/python2.7/site-packages/matplotlib/cbo
ok/deprecation.py:106: MatplotlibDeprecationWarning: The axisbg attr
ibute was deprecated in version 2.0. Use facecolor instead.
  warnings.warn(message, mplDeprecation, stacklevel=1)
```



Plot FTAN style plot:

In [4]:

```
# Plot FTAN style plot for signal:
fig = plt.figure(figsize=(12,8))
ax = fig.add_subplot(111)
FTAN_plot.ftan_plot(data, samp_rate=500.0, centre_freq_range=[4.0,50.0
```



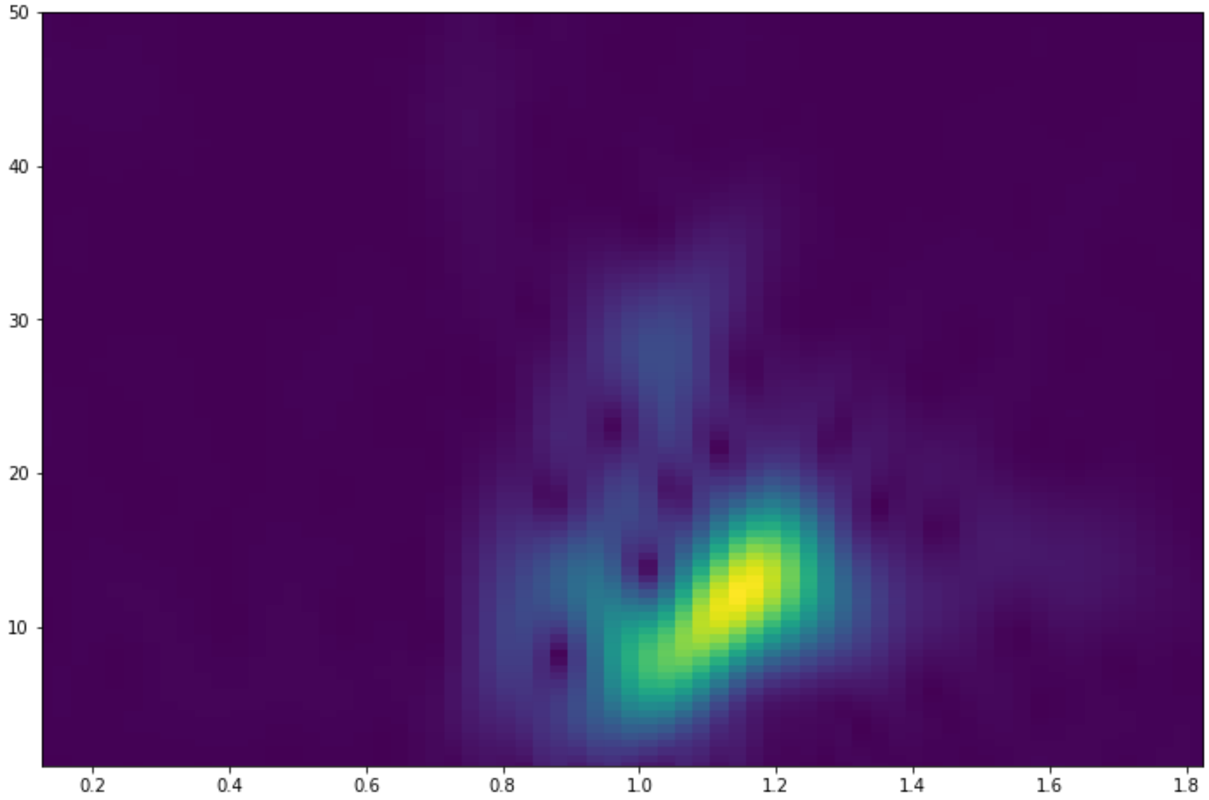
Out[4]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x116aac250>
```

Plot spectrogram for comparison:

In [5]:

```
fig = plt.figure(figsize=(12,8))
ax = fig.add_subplot(111)
st[0].spectrogram(axes=ax)
ax.set_ylim([1.,50.])
ax.set_xlim([0.125,1.825])
plt.show()
```



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