


Python and Gravitational Waves

← → ↻ https://www.gw-openscience.org/software/



Gravitational Wave Open Science Center

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Software for Gravitational Wave Data

Many of these packages can be installed through [LSCSoft Conda](#). See installation suggestions on the [software setup page](#).

GWpy

GWpy is a python package for gravitational-wave astrophysics.

- [GWpy Home Page](#)

PyCBC

PyCBC is a software package used to explore astrophysical sources of gravitational waves. It is a python package that provides functionality to analyze gravitational-wave data, detect the signatures of compact binary mergers, and estimate the parameters of a potential source.

- [Home Page](#)
- [Online Notebooks](#)
- [Docker container](#)

Data and Python code can be freely downloaded

https://www.gw-openscience.org/GW150914data/GW150914_tutorial.html

```
plt.figure()
spec_H1, freqs, bins, im = plt.specgram(strain_L1_whiten[indxt], NFFT=NFFT, Fs=fs, window=window,
                                         noverlap=NOVL, cmap=spec_cmap, xextent=[-deltat,deltat])
plt.xlabel('time (s) since '+str(tevent))
plt.ylabel('Frequency (Hz)')
plt.colorbar()
plt.axis([-0.5, 0.5, 0, 500])
plt.title('aLIGO L1 strain data near GW150914')
plt.savefig('GW150914_L1_spectrogram_whitened.png')
```

