

OOIPY

An open-sourced python package for accessing OOI data

PRESENTER:

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PURPOSE

Open-source python library for accessing and processing data from OOI with a specific focus on hydrophone data.

Get OOI data into the python scientific computing ecosystem

CAPABILITIES

- Broadband hydrophone data download
- Low-frequency hydrophone data download
- Frequency Calibration
- PSD calculation
- Spectrogram Calculation
- CTD data download (from raw data server)
- Data visualization (built on top of matplotlib)



Quickly download and analyze data:

Broadband Hydrophone Data:

```
import ooipy
import datetime

# Define start and end times for acoustic data
start_time = datetime.datetime(2019,1,12,3,1,10)
end_time = datetime.datetime(2019,1,12,3,1,30)
hdata = ooipy.get_acoustic_data(start_time, end_time, 'LJ01C')

# calculate PSD and Spectrogram
psd = hdata.compute_psd_welch()
spec = hdata.compute_spectrogram(L=2048, avg_time=0.1)

# Plot PSD and Spectrogram
psd.plot()
spec.plot()
```

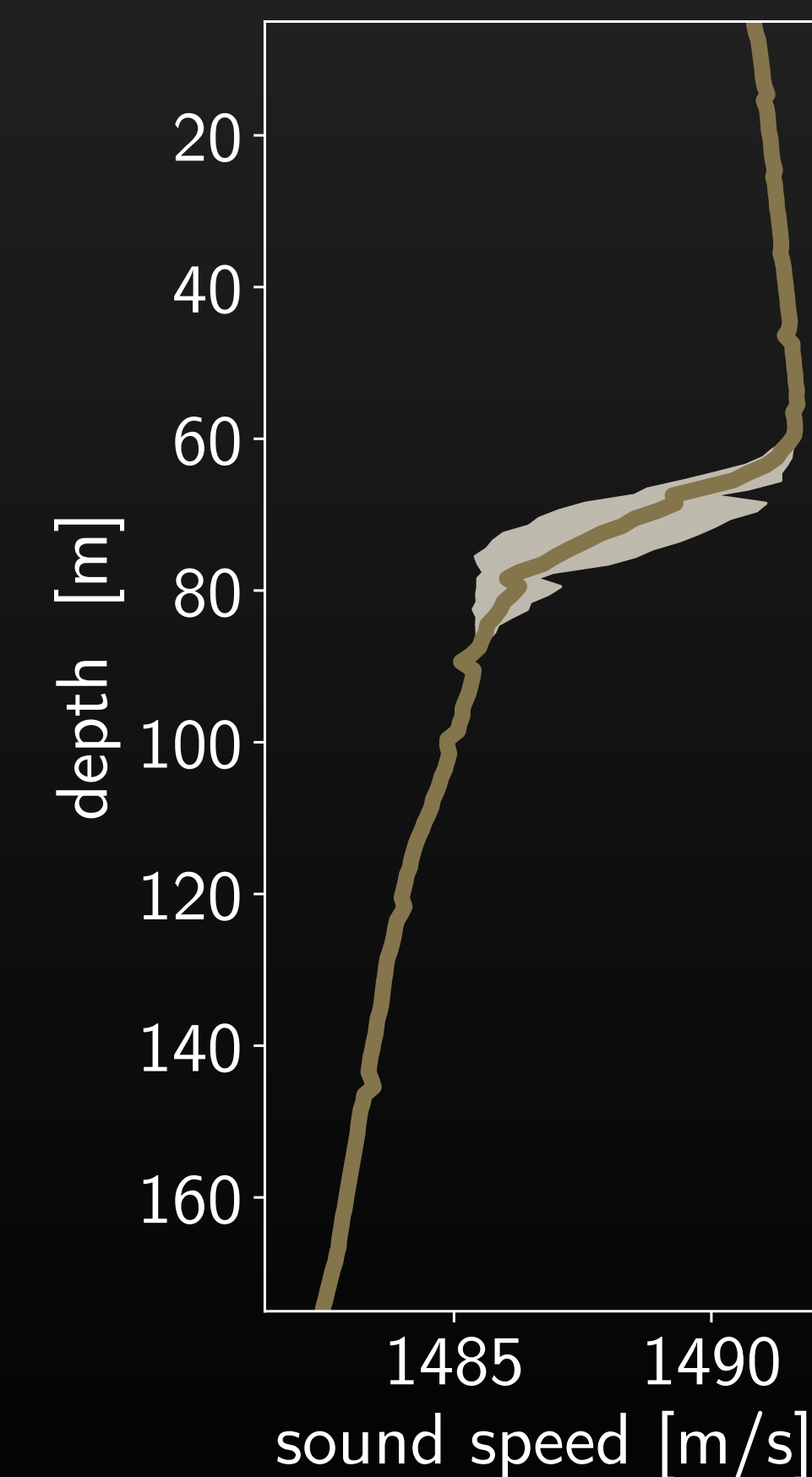
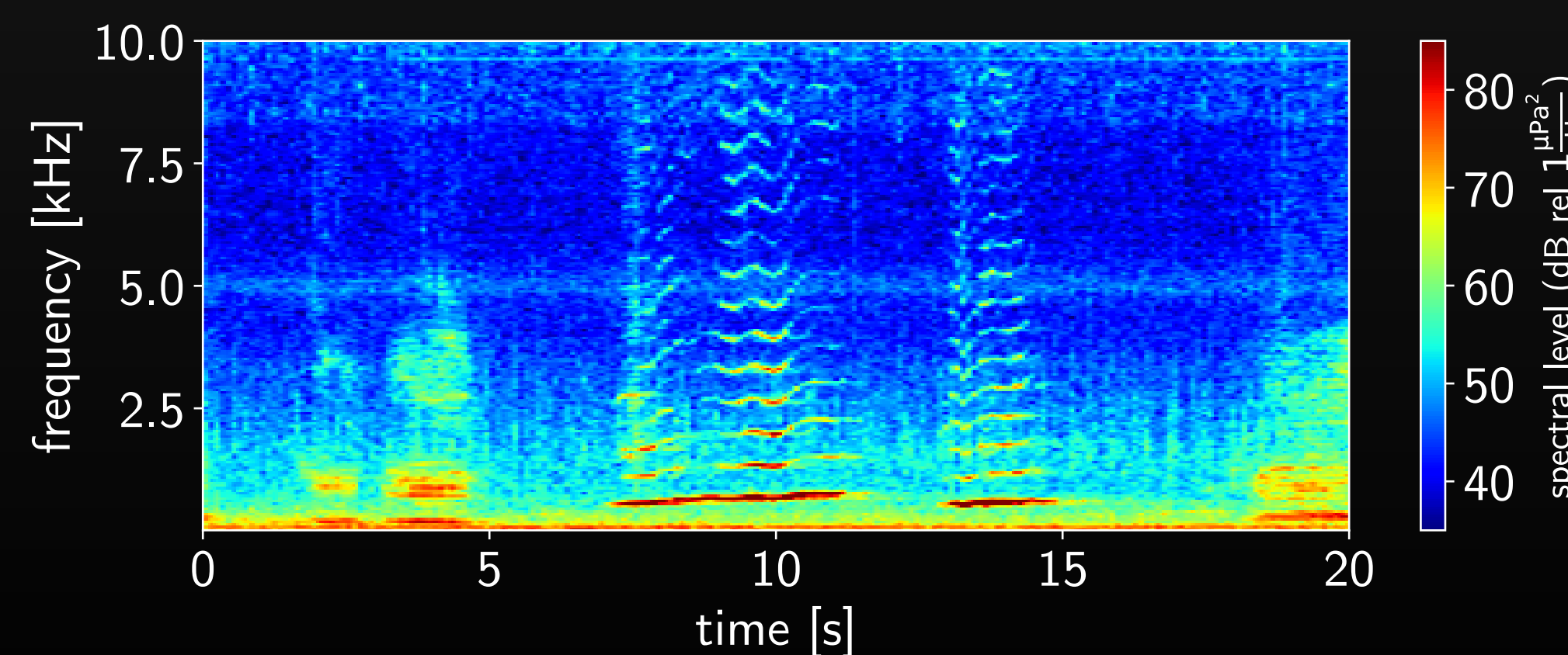
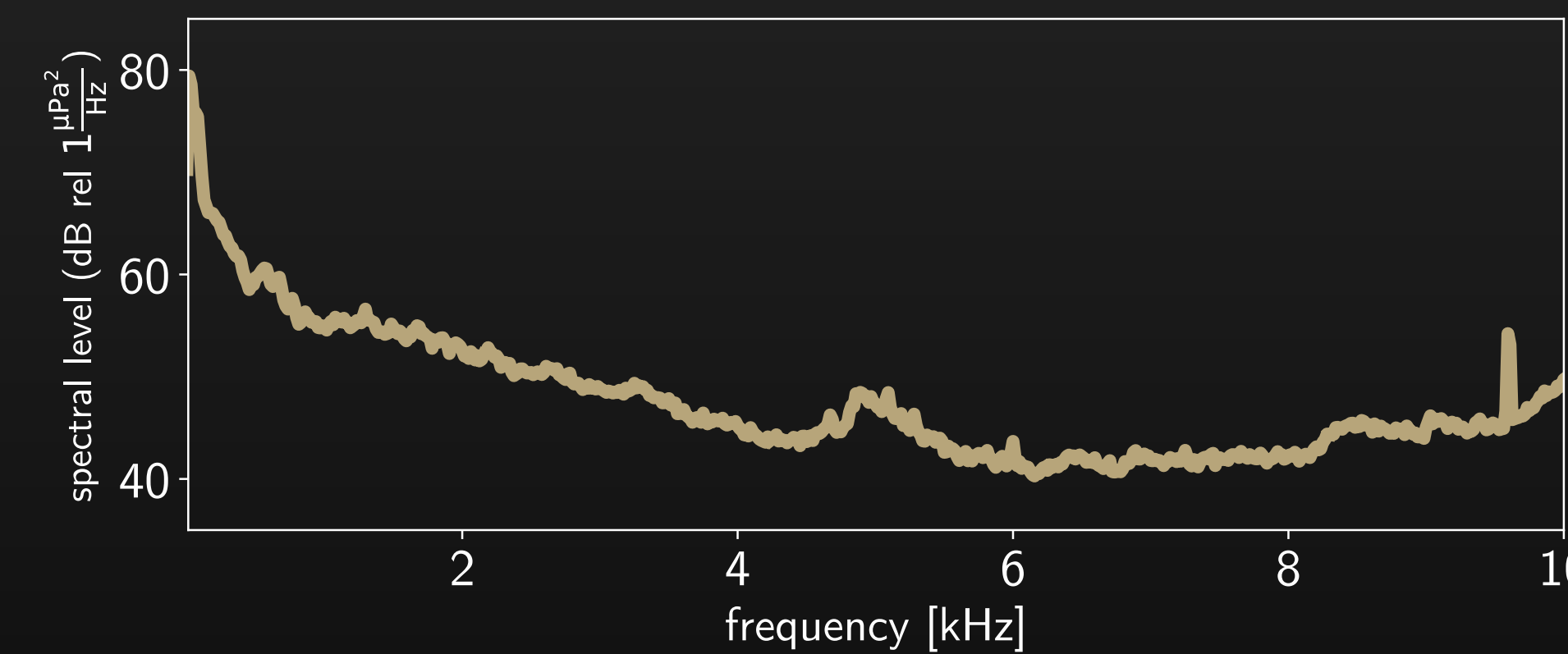
CTD Profiler Data:

```
# Set up API information
USERNAME = 'YOUR USERNAME'
TOKEN = 'YOUR PASSWORD'
ooipy.request.authentication.set_authentication(
    USERNAME,
    TOKEN
)

# define day
day = datetime.datetime(2016,12,12)

# download data, calculate PSD, visualize
ctd_data = ooipy.request.ctd_request.get_ctd_data_daily(
    day,
    'axial_base'
)

profile = ctd_data.get_profile(200, 'sound_speed')
profile.plot()
```



OPEN-SOURCED



We want to create a community derived toolset for accessing and processing OOI data

Are there any features that you want to see implemented?

