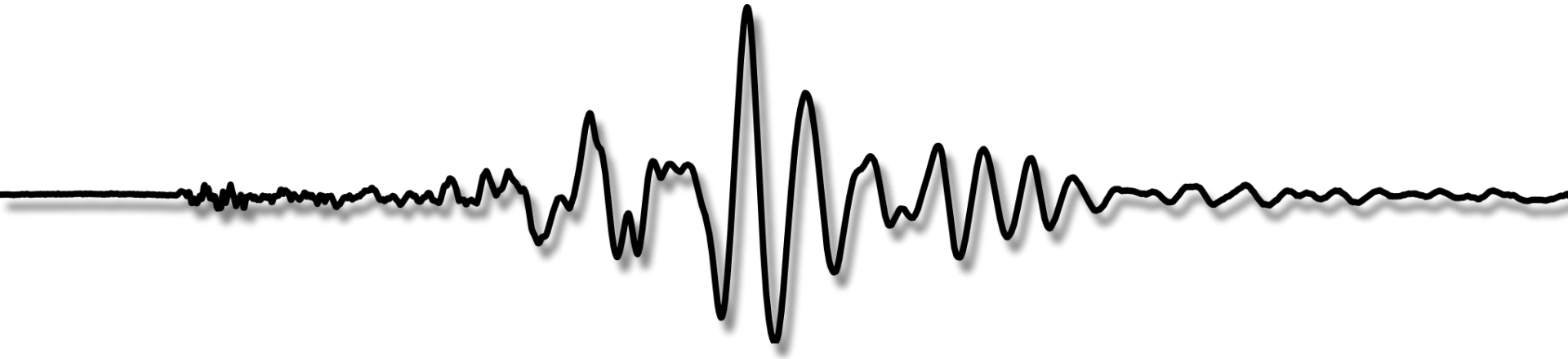
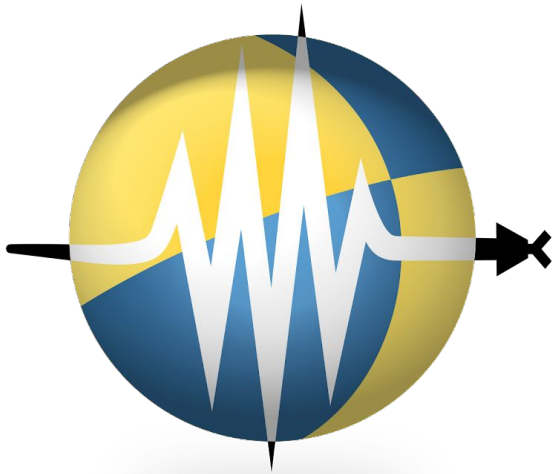
Waveforms, stations, events an' all that stuff



Easy!

and



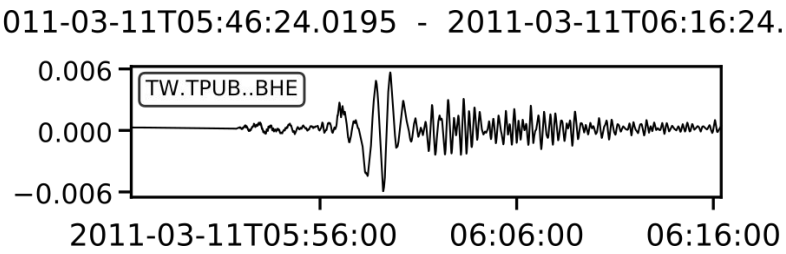
ObsPy

A Python Framework for Seismology

Waveforms, stations, events an' all that stuff

Waveform data:

- SAC
- Miniseed
-



Station informations:

- StationXML
- (old) PAZ

robs.xml

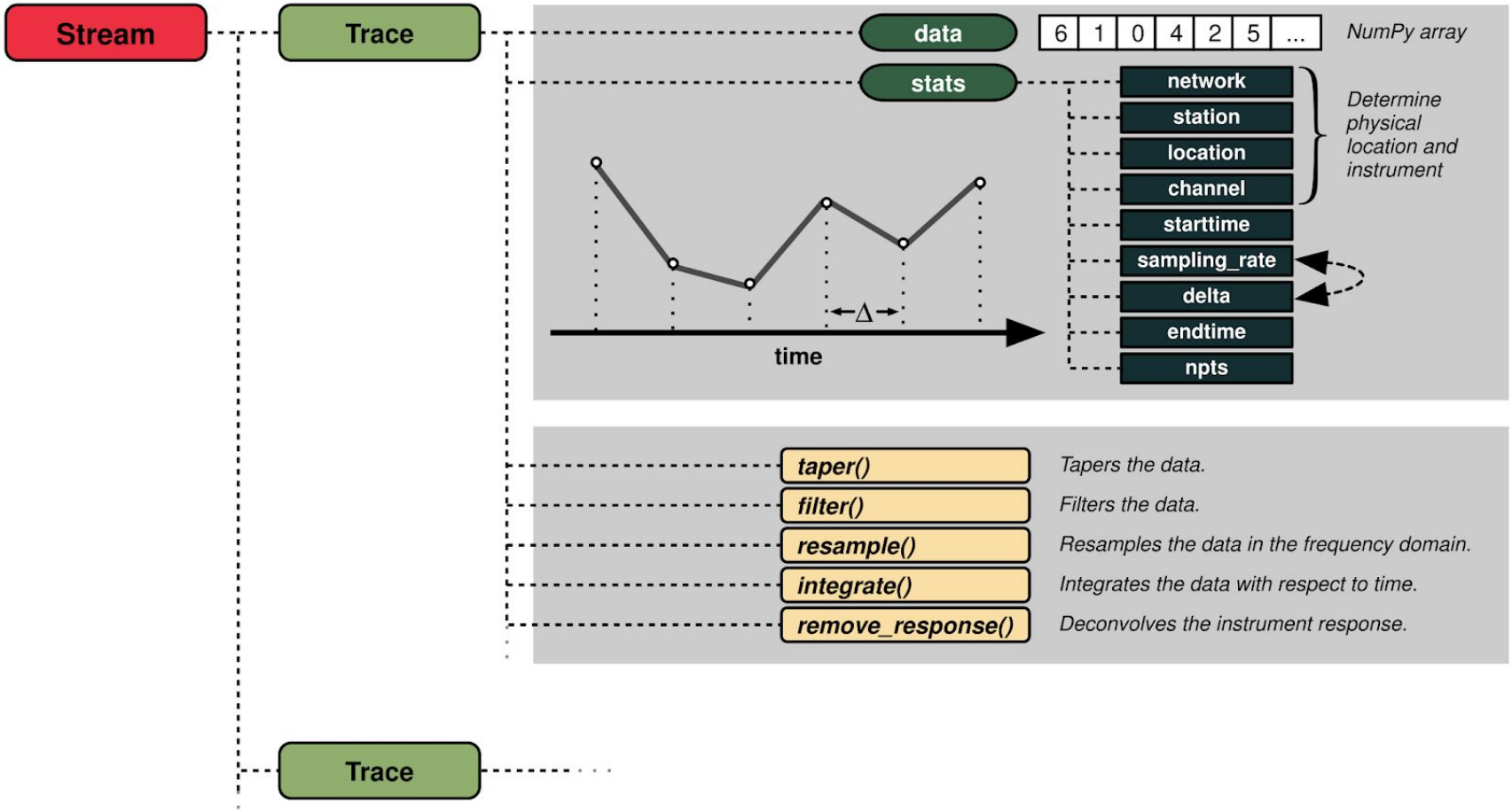
```
<?xml version="1.0" encoding="utf-8"?>
<ns0:inventory xmlns:ns0="http://geofon.gfz-potsdam.de/ns/Inventory/1.0/">
    <ns0:network archive="ODC" code="SL" description="SEISMIC NETWORK OF THE REPUBLIC OF SLOVENIA" en…nstitutions="" netClass="p" publicID="Network/SL" region=
    "" restricted="false" shared="true" start="1980-01-01T00:00:00.0000Z" type="BB">
        <ns0:remark />
        <ns0:station affiliation="SEISMIC NETWORK OF THE REPUBLIC OF SLOVENIA" archive="ODC" archiveNetworkCode="" code="ROBS" country="SL" description="ROBIC, SL"
        elevation="245.0" end="" latitude="46.2445" longitude="13.5094" place="ROBIC" publicID="Station/SL/ROBS/2002-11-20T00:00:00.0000Z" restricted="false" shared
        ="true" start="2002-11-20T00:00:00.0000Z" type="">
            <ns0:remark />
            <ns0:sensorLocation code="" elevation="245.0" end="" latitude="46.2445" longitude="13.5094" publicID="SensorLocation#20121207100909.196244.3802" start="
            2002-11-20T00:00:00.0000Z">
                <ns0:stream azimuth="0.0" clockSerialNumber="" code="HHZ" datalogger="Datalogger#20121207102415.11962.14259" dataloggerChannel="0"
                dataloggerSerialNumber="xxxx" depth="0.0" dip="-90.0" end="" flags="G" format="Steim2" gain="1056260000.0" gainFrequency="0.5" gainUnit="M/S"
                publicID="Stream/20170913200300.508912958" restricted="false" sampleRateDenominator="1" sampleRateNumerator="200" sensor="
                Sensor#20121207102415.150611.14276" sensorChannel="0" sensorSerialNumber="yyyy" shared="false" start="2011-08-10T11:00:00.0000Z" />
                <ns0:stream azimuth="0.0" clockSerialNumber="" code="HHN" datalogger="Datalogger#20121207102415.11962.14259" dataloggerChannel="1"
                dataloggerSerialNumber="xxxx" depth="0.0" dip="0.0" end="" flags="G" format="Steim2" gain="1061380000.0" gainFrequency="0.5" gainUnit="M/S" publicID
                ="Stream/20170913200300.508912962" restricted="false" sampleRateDenominator="1" sampleRateNumerator="200" sensor="Sensor#20121207102415.139989.14270
                " sensorChannel="1" sensorSerialNumber="yyyy" shared="false" start="2011-08-10T11:00:00.0000Z" />
                <ns0:stream azimuth="90.0" clockSerialNumber="" code="HHE" datalogger="Datalogger#20121207102415.11962.14259" dataloggerChannel="2"
                dataloggerSerialNumber="xxxx" depth="0.0" dip="0.0" end="" flags="G" format="Steim2" gain="1018950000.0" gainFrequency="0.5" gainUnit="M/S" publicID
                ="Stream/20170913200300.508912966" restricted="false" sampleRateDenominator="1" sampleRateNumerator="200" sensor="Sensor#20121207102415.129021.14264
                " sensorChannel="2" sensorSerialNumber="yyyy" shared="false" start="2011-08-10T11:00:00.0000Z" />
            </ns0:sensorLocation>
        </ns0:station>
    </ns0:network>
    <ns0:datalogger clockManufacturer="" clockModel="" clockType="" description="ROBS.2011.222.H" digitizerManufacturer="" digitizerModel="" gain="531140.0"
    maxClockDrift="0.01" name="ROBS.2011.222.H" publicID="Datalogger#20121207102415.11962.14259" recorderManufacturer="" recorderModel="">
        <ns0:remark />
        <ns0:decimation sampleRateDenominator="1" sampleRateNumerator="200">
            <ns0:analogueFilterChain />
            <ns0:digitalFilterChain>ResponseFIR#20121207102415.16594.14282 ResponseFIR#20121207102415.169205.14283</ns0:digitalFilterChain>
        </ns0:decimation>
    </ns0:datalogger>
    <ns0:sensor description="CMG3ESP_120SEC/QUANTERRA" highFrequency="" lowFrequency="" manufacturer="GURALP" model="CMG3ESP_120SEC/QUANTERRA" name="
    ROBS.2011.222.HE" publicID="Sensor#20121207102415.129021.14264" response="ResponsePAZ#20121207102415.129379.14265" type="" unit="M/S">
        <ns0:remark />
    </ns0:sensor>
    <ns0:sensor description="CMG3ESP_120SEC/QUANTERRA" highFrequency="" lowFrequency="" manufacturer="GURALP" model="CMG3ESP_120SEC/QUANTERRA" name="
    ROBS.2011.222.HZ" publicID="Sensor#20121207102415.150611.14276" response="ResponsePAZ#20121207102415.150977.14277" type="" unit="M/S">
        <ns0:remark />
```

Event data:

- QuakeML

Waveforms

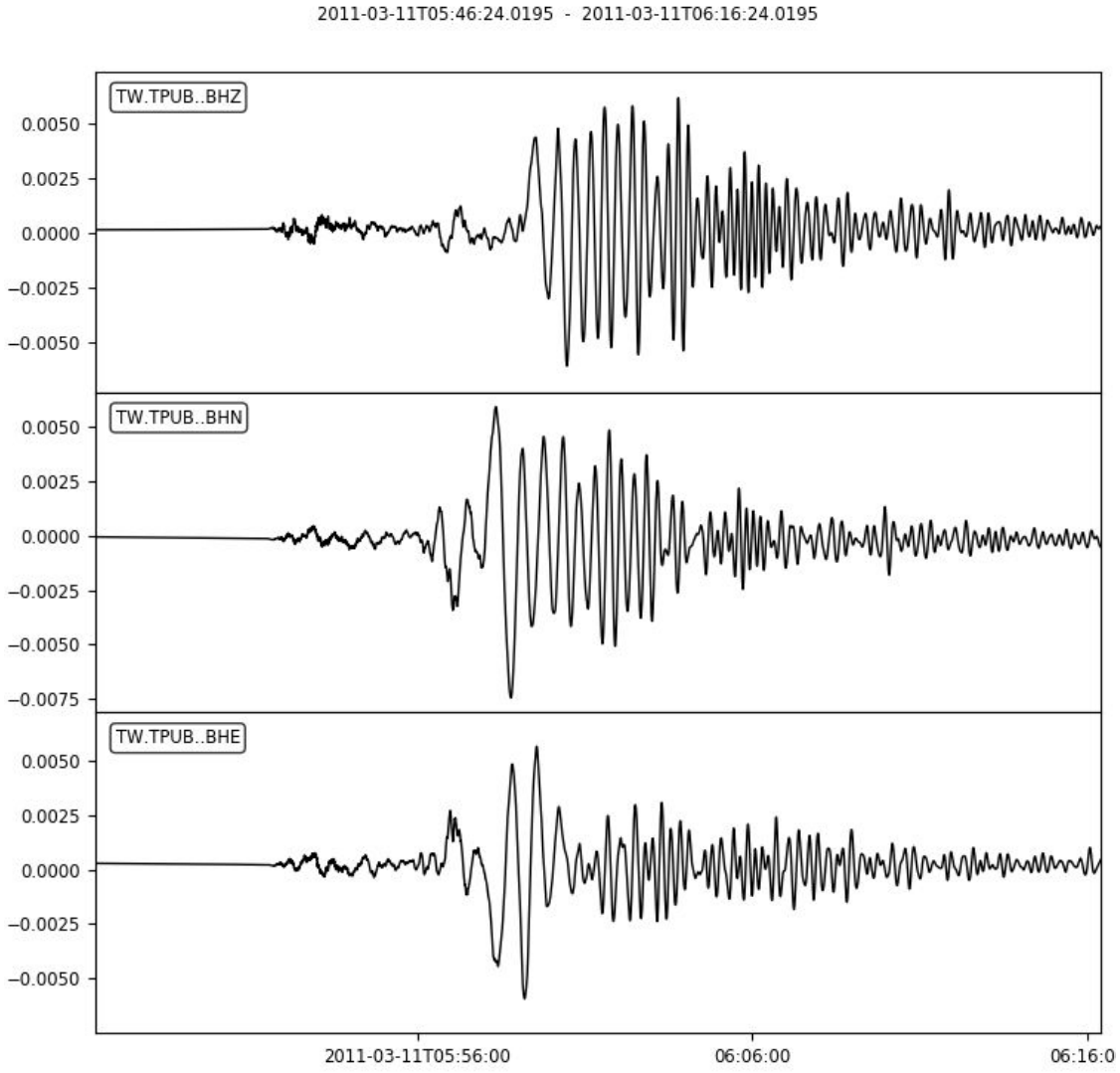
- **Miniseed**



Waveforms

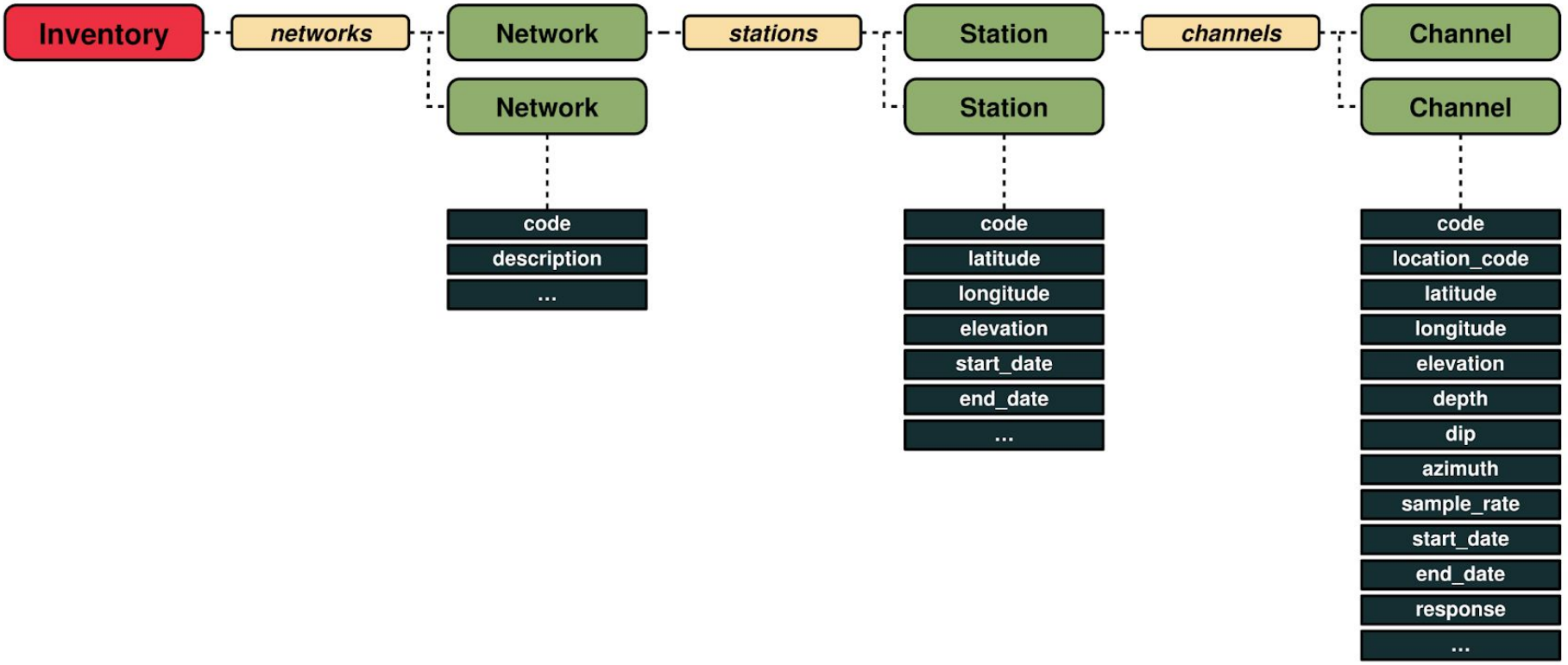
Simple as:

```
>>> from obspy import read
>>> st = read(files)
>>> st.plot()
```



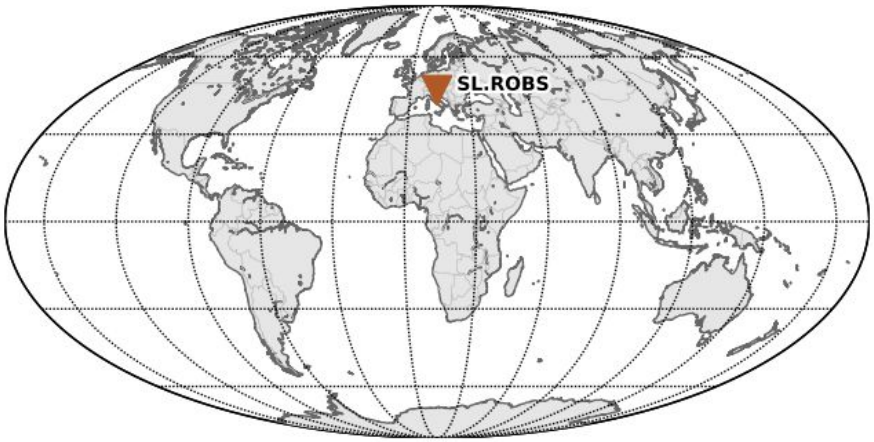
Stations

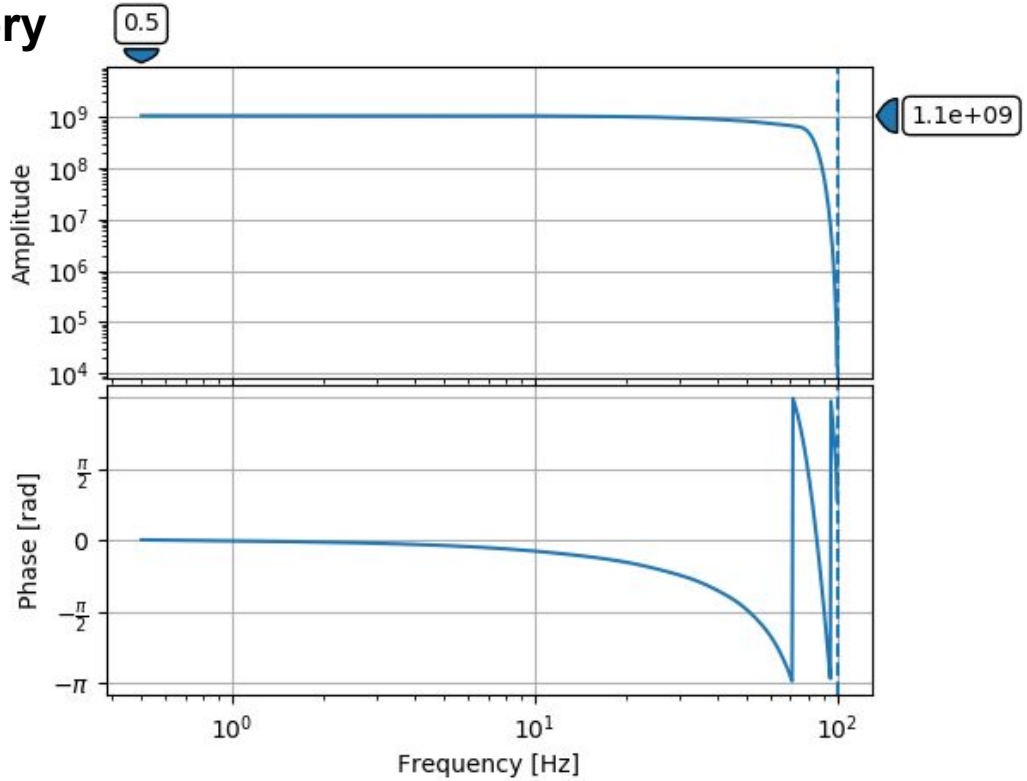
- StationXML



Stations

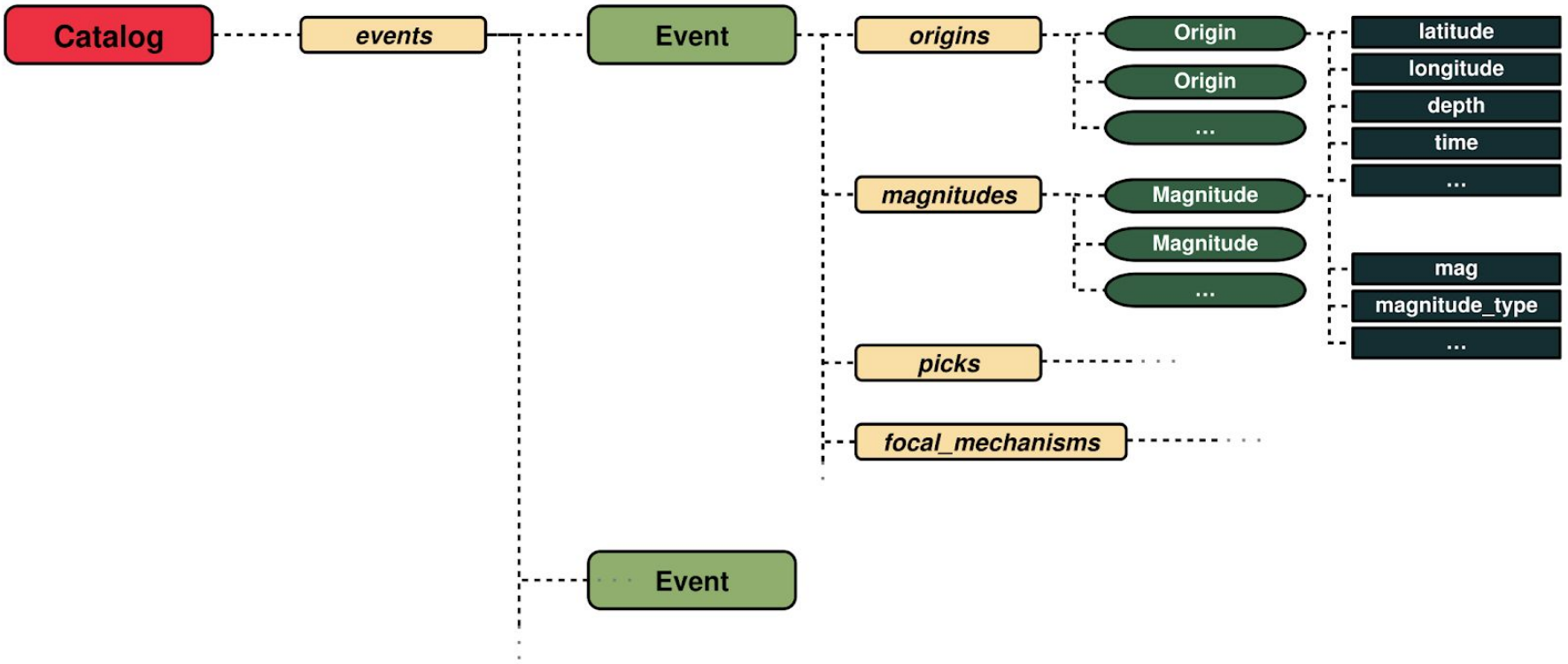
```
>>> from obspy import read_inventory
>>> inv = read_inventory(files)
>>> inv.plot()
>>> inv[0][0][0].response.plot()
```





Events

- QuakeML



Events

```
>>> from obspy import read_events
>>> cat = read_events(file)
>>> cat.plot()
```