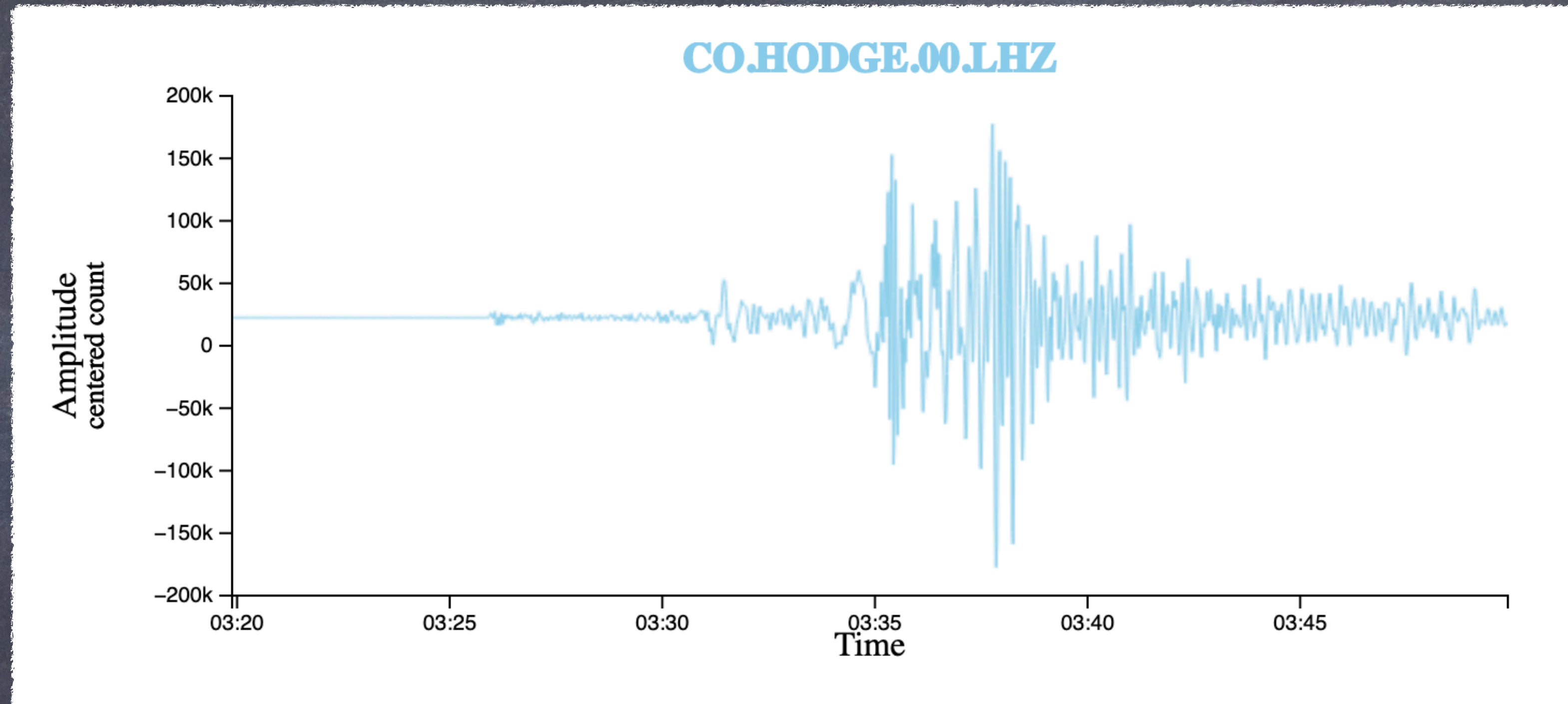


# Seisplotjs

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Seisplotjs...

draws seismograms and..

# Queries web services...

- ◉ FDSN Station for metadata
- ◉ FDSN Event for earthquakes
- ◉ FDSN Availability for, well, availability
- ◉ FDSN Datacenters to find web services
- ◉ IRIS FedCatalog to find where data lives
- ◉ IRIS Travelttime to calculate predicted arrivals (TauP)
- ◉ IRIS Ringserver for realtime data via seedlink or datalink

# Reads File Formats...

- Miniseed and MSeed3 (with decompression)
- StationXML
- QuakeML
- FDSN SourceId
- Sac PoleZero

# Speaks Protocols ...

- Seedlink and Seedlink4 (websockets)
- Datalink (websockets from ringserver)

# Calculates...

- Distance, azimuth
- Taper, RMean, RTrend, Gain
- Filtering (Low, Band, High Pass)
- Envelope, Hilbert Transform, differentiate
- FFT
- Full Instrument Deconvolution (transfer)

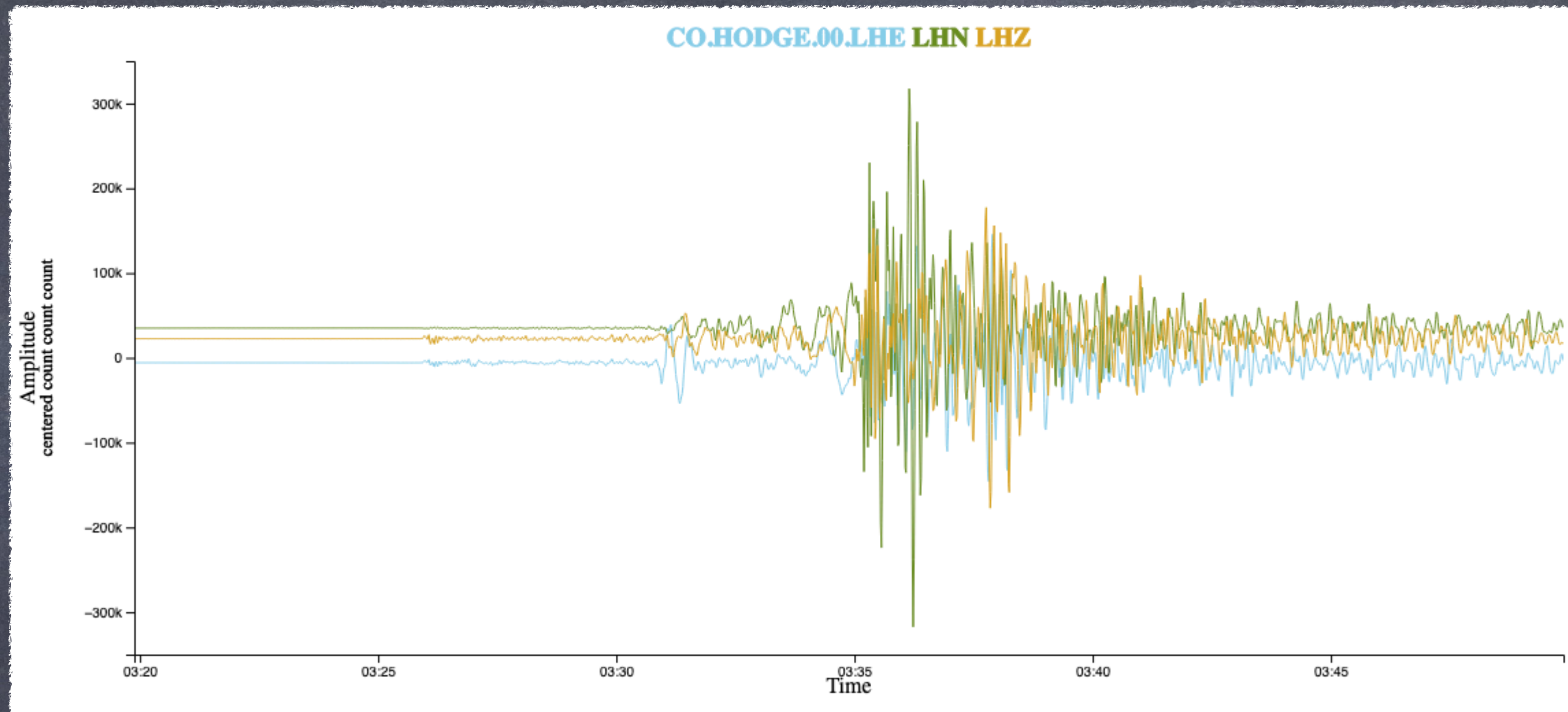
# And of course Plots...

- Seismogram
- Helicorder
- Particle Motion
- Spectra
- Maps (Leaflet)
- ~~Record Section~~ (coming soon...)

# Object Model

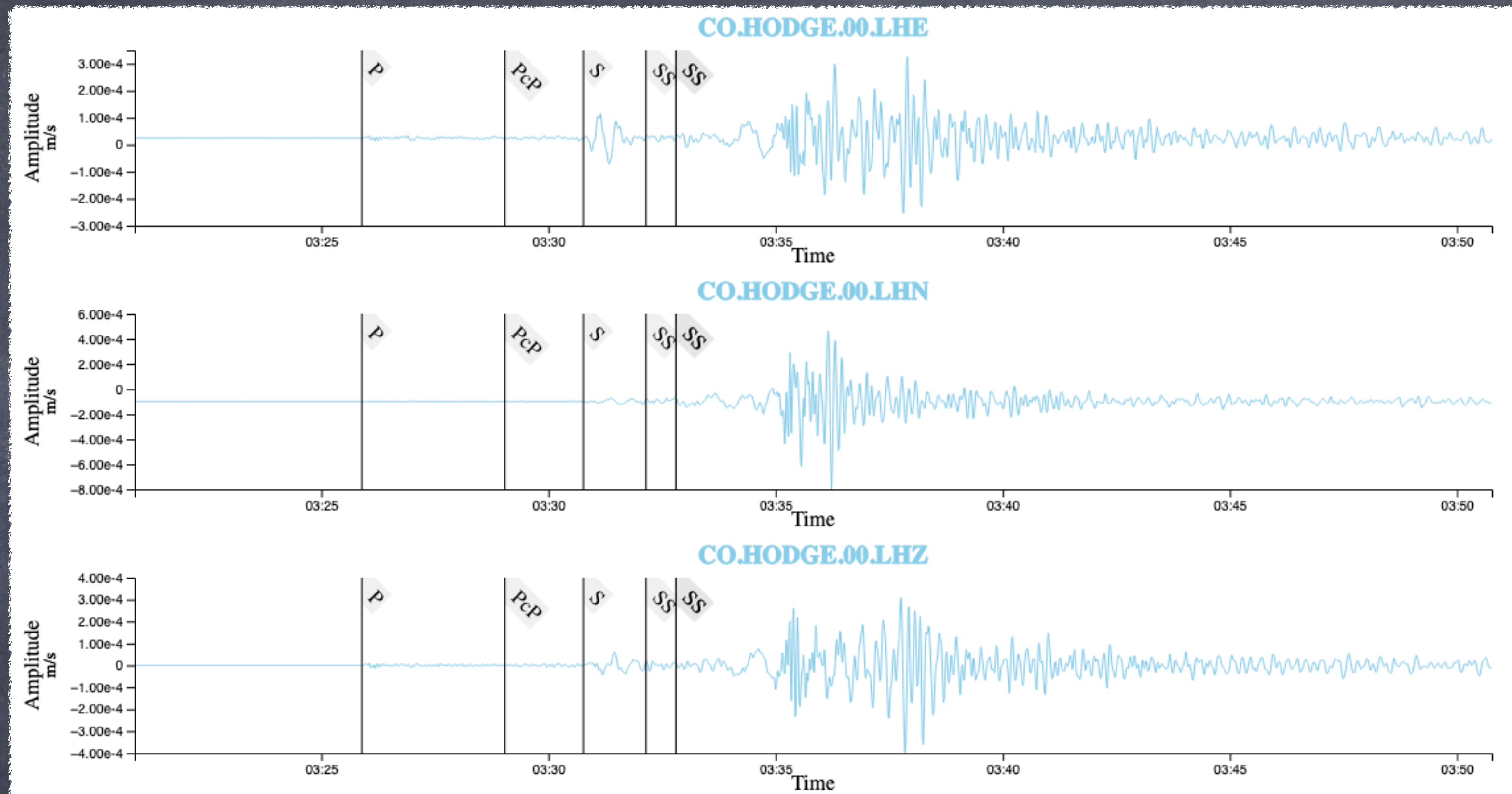
- ◉ SeismogramDisplayData
  - ◉ SourceId/NSLC (channel codes)
  - ◉ Time Range
  - ◉ Seismogram (gappy)
    - ◉ SeismogramSegment (contiguous)
      - ◉ EncodedData or Int32Array or Float32Array
- ◉ Quake
- ◉ Channel
- ◉ Traveltimes
- ◉ Picks



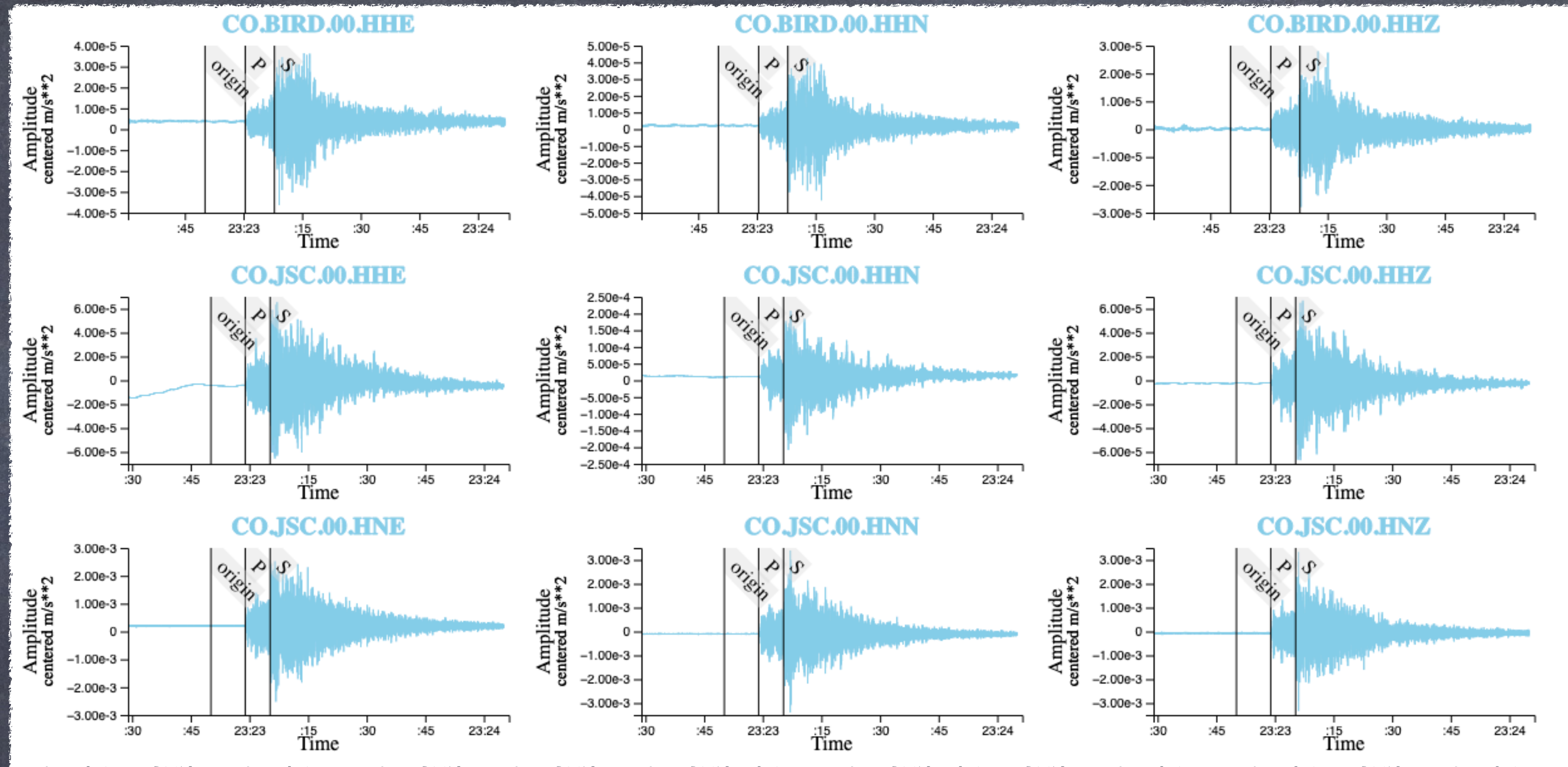


Seismograph...

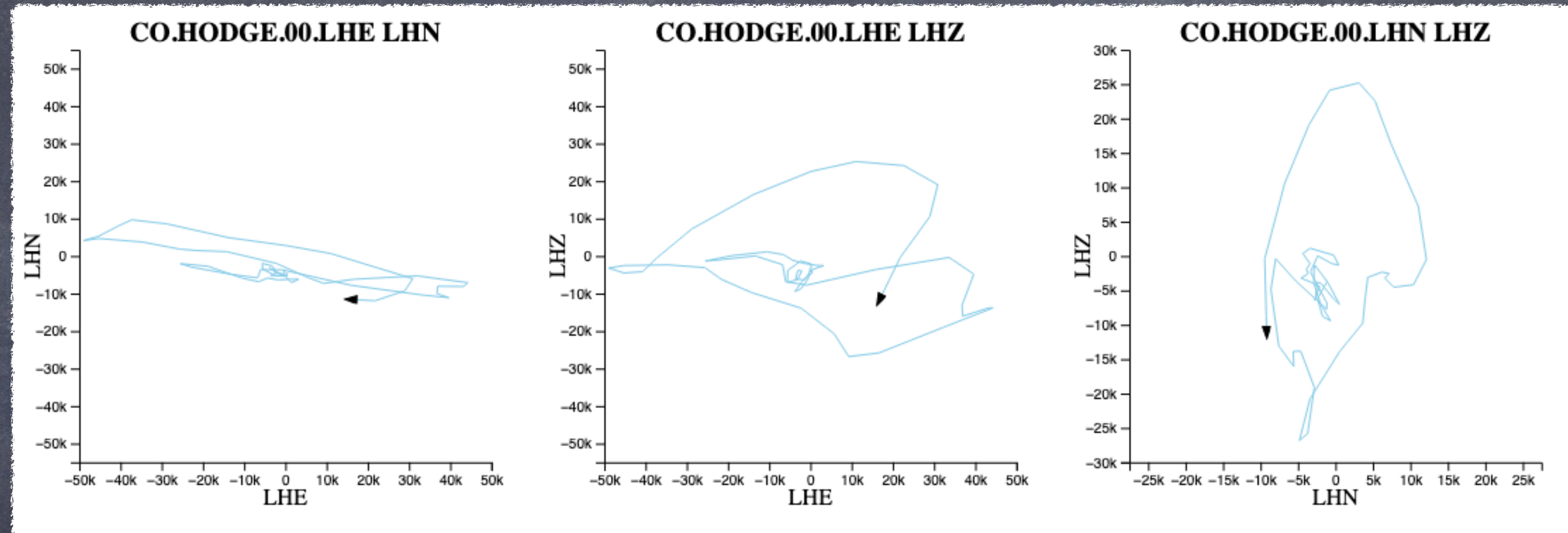
<sp-seismograph>



with travel times...

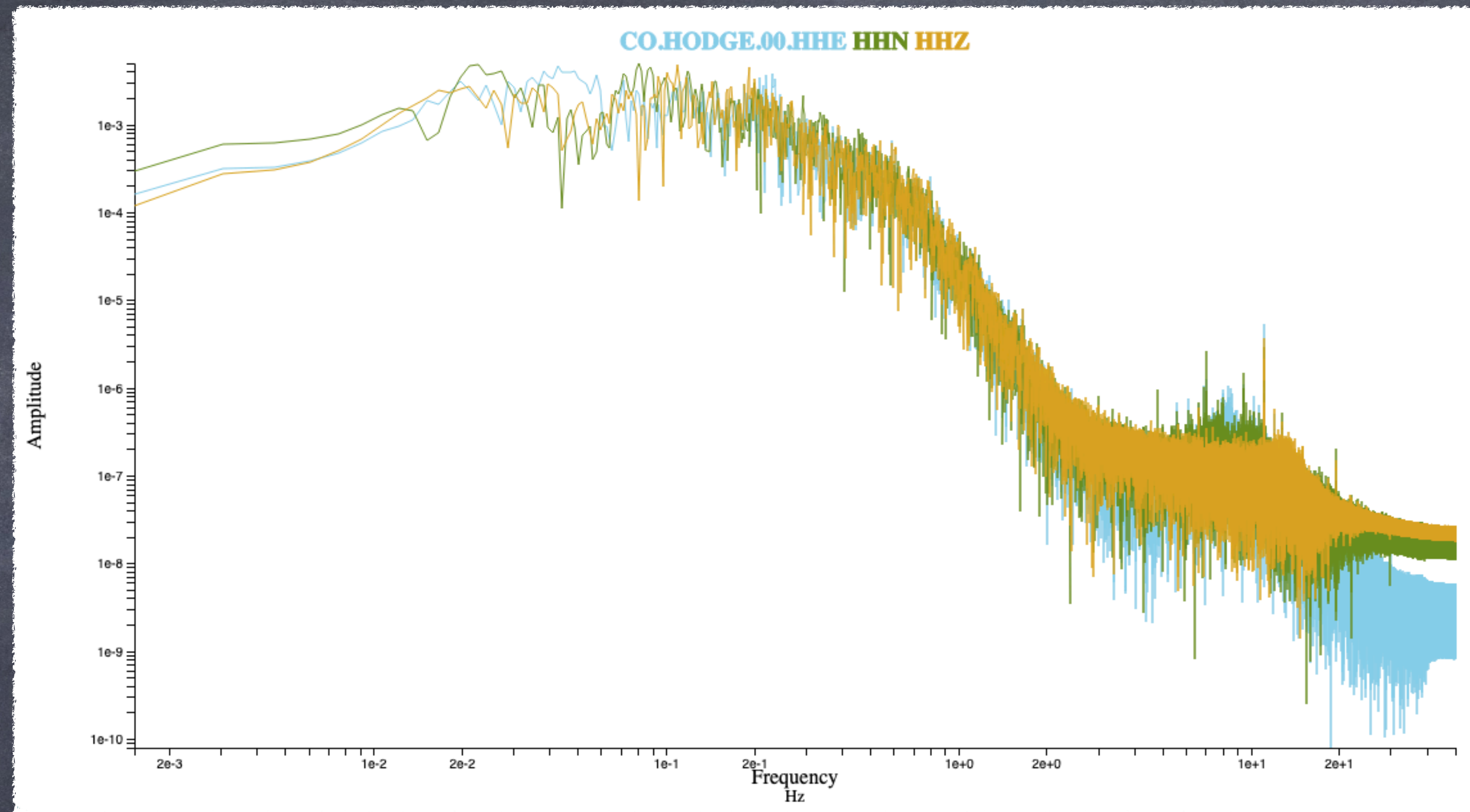


Maybe lots at a time...



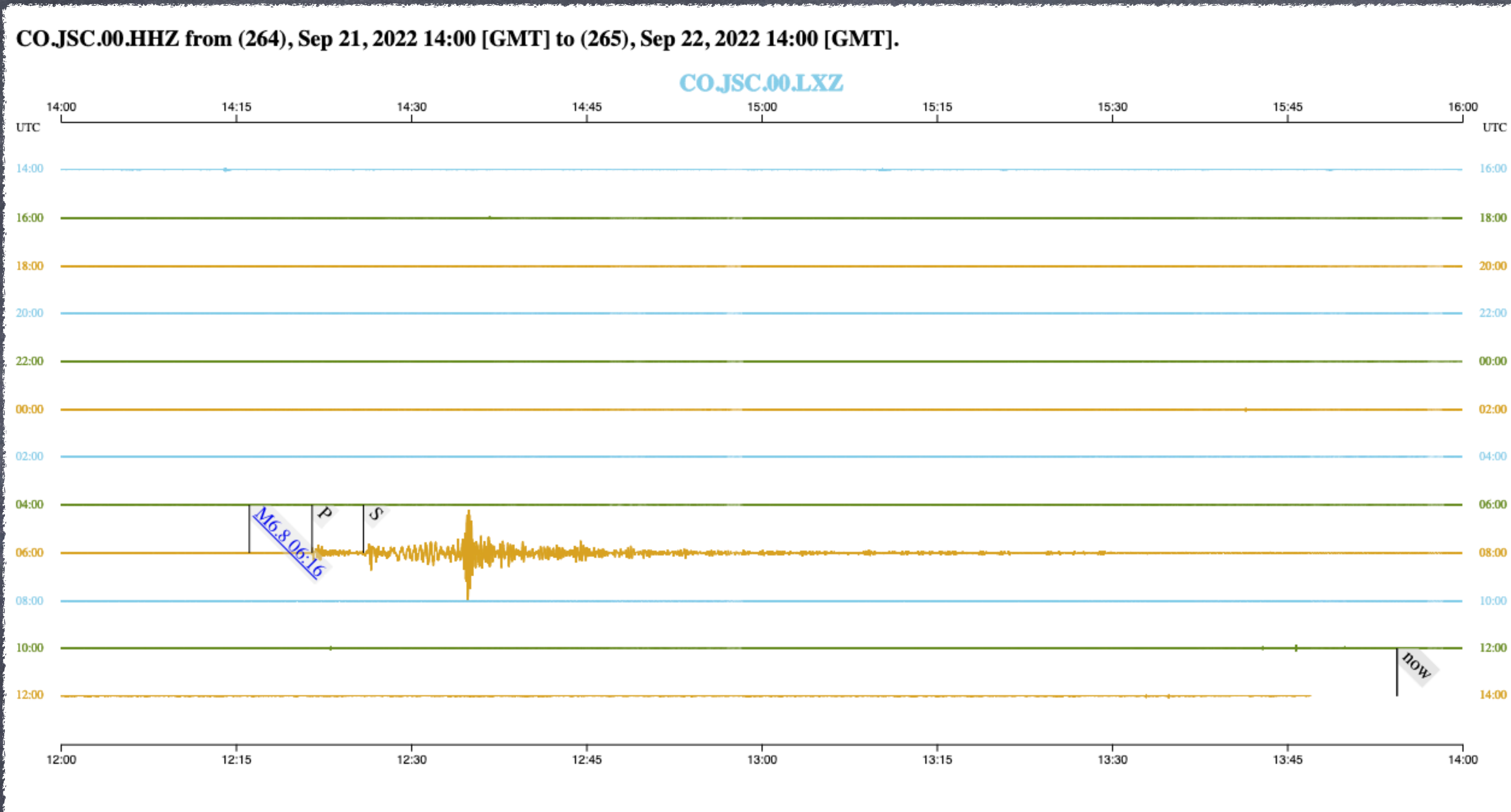
Particle Motion...

<sp-particle-motion>



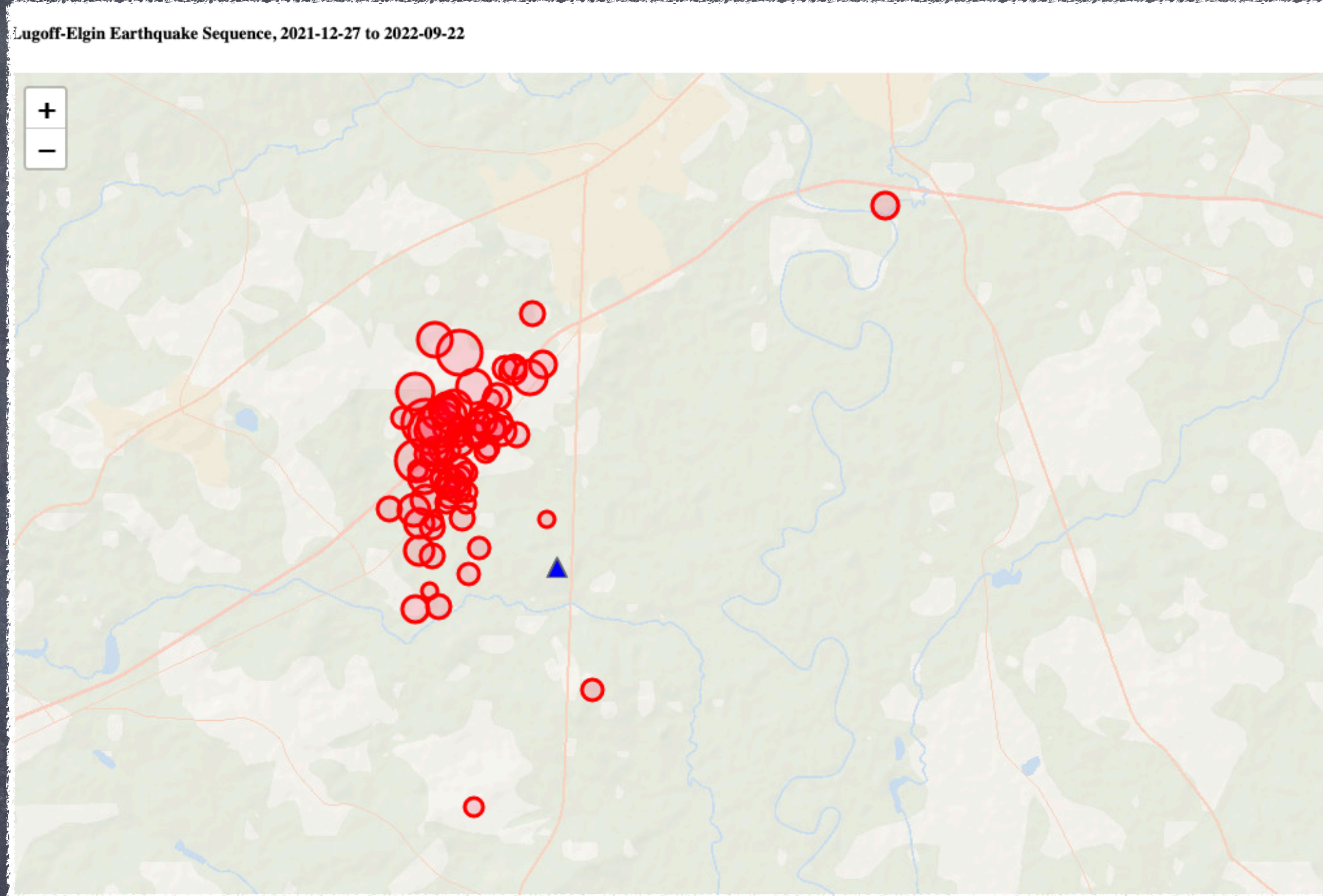
Spectra...

<sp-spectra>



Helicorder...

<sp-helicorder>



Maps,

`<sp-station-event-map>`  
because we all love maps...

?

Record Section

is on the ToDo List..





# Built with...

- Vanilla Javascript (mostly)
- Custom Web Components
- NPM, Typescript, ESBuild, Babel
- luxon (does anybody know what time it is?)
- D3 (graphs)
- Leaflet (maps)
- OregonDSP js port (fft, filters, ...)

# Philosophy

- Web browsers are freakin crazy powerful for anything GUI related
- Standards (protocols and formats).
  - If it ain't a standard, we ain't talkin'
- Vanilla JS (mostly).
  - So you can use whatever framework you want

# Where is it?

- <https://github.com/crotwell/seisplotjs>
- version3 branch
- <https://github.com/crotwell/seisplotjs/releases/tag/v3.0.0-alpha.0>
- `npm i seisplotjs@3.0.0-alpha.0`
- <http://crotwell.github.io/seisplotjs/>
- <http://www.seis.sc.edu/~crotwell/UW2022/>

# Other Stuff I Done Did...

- TauP: seismic travel times
- SOD: Standing Order for Data
- SeisFile: seismic file formats in Java
  - SeedCodec: decompression
- SimpleDali: datalink (ringserver) in Python
- Q3302dali: Q330 to ringserver via datalink

And now for something  
completely different...