

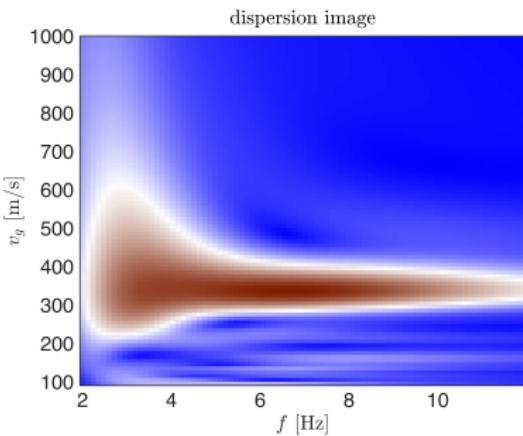
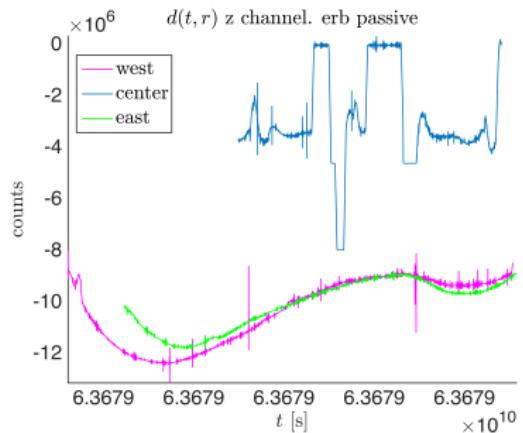
# **Passive seismic outside ERB**

**Diego Domenzain**



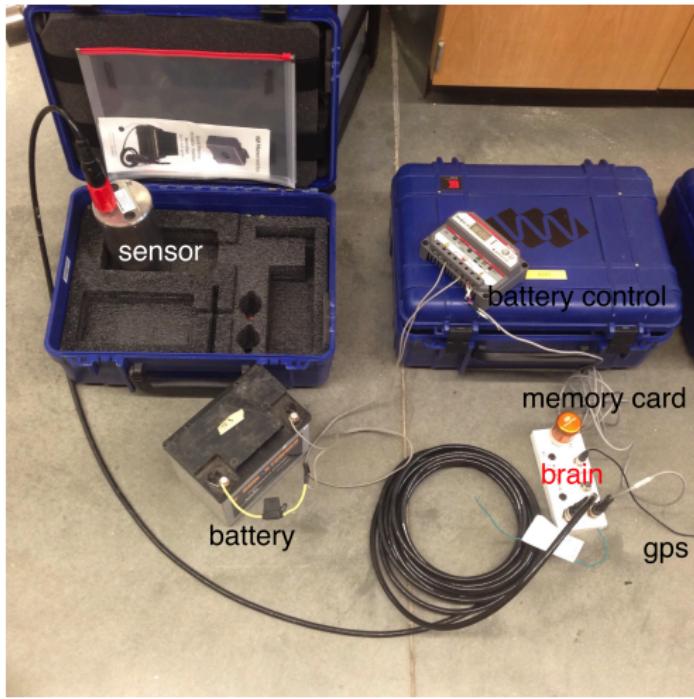
Fall 2017

# Data and imaged result



How to go from data to a dispersion image?

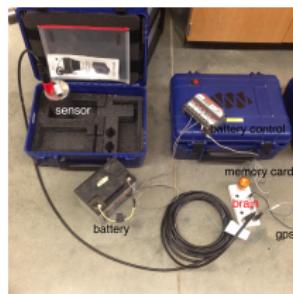
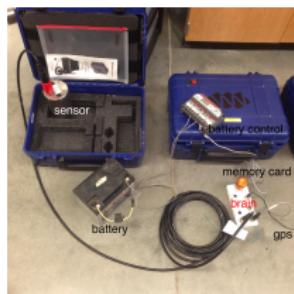
# Equipment



# Data acquisition

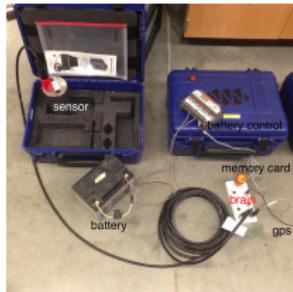
Three sensors (west, center, east) were placed on the sidewalk.

Distance from west to east sensor was 177 m.

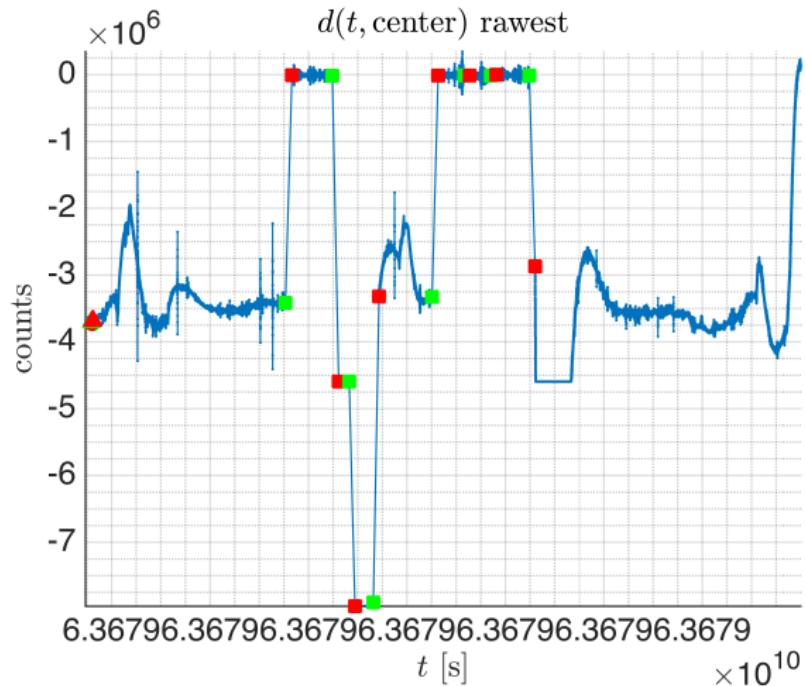


# Data acquisition

A soccer match occurred on the center sensor.

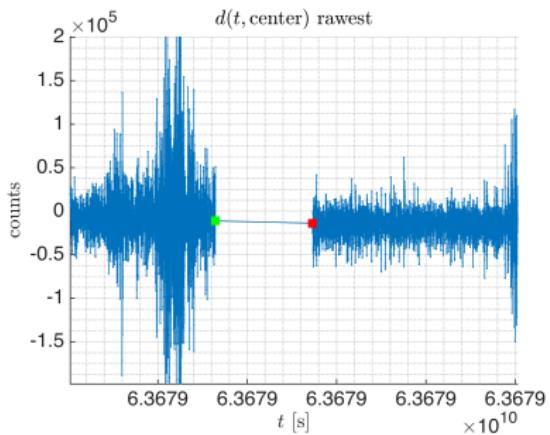
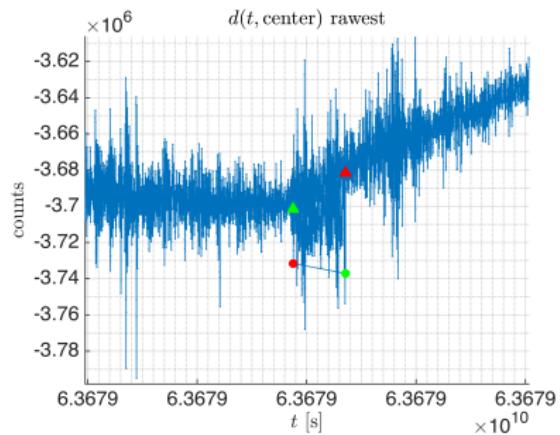


# Center data

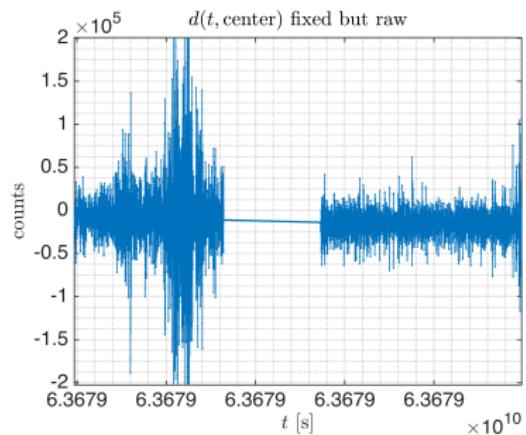
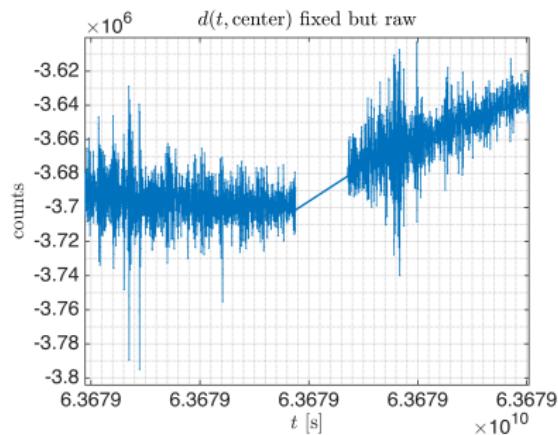


Triangles denote *overlaps* and squares denote *gaps*.

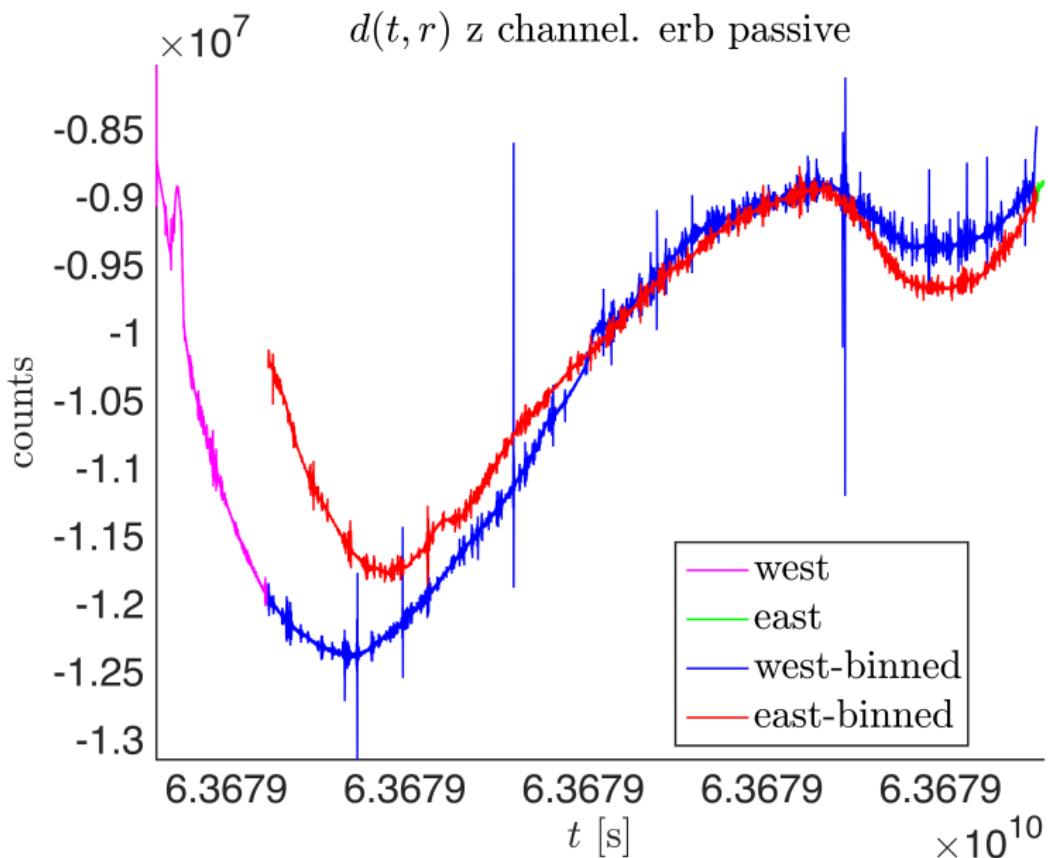
# Overlaps and gaps - raw



# Overlaps and gaps - corrected

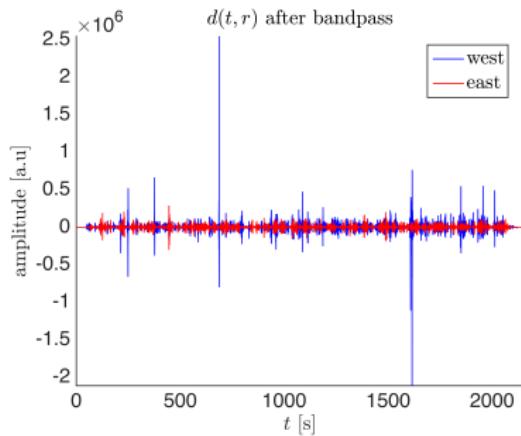
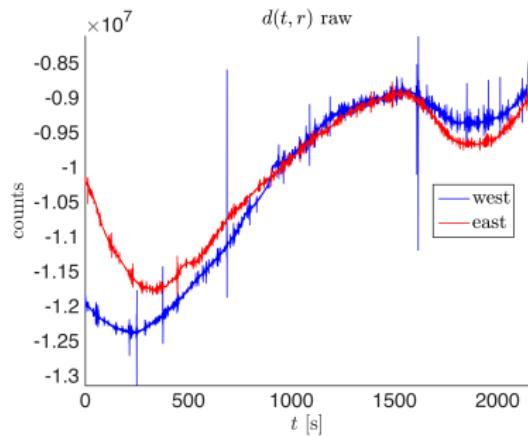


## Binning in time



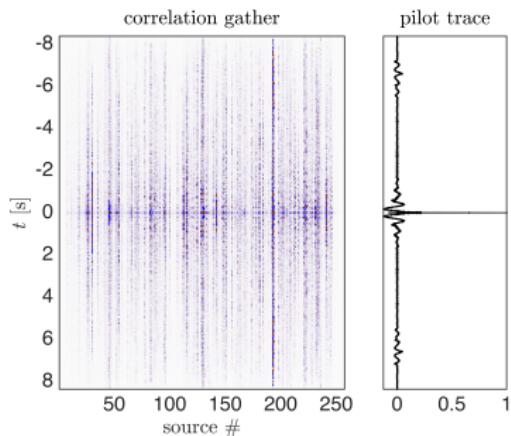
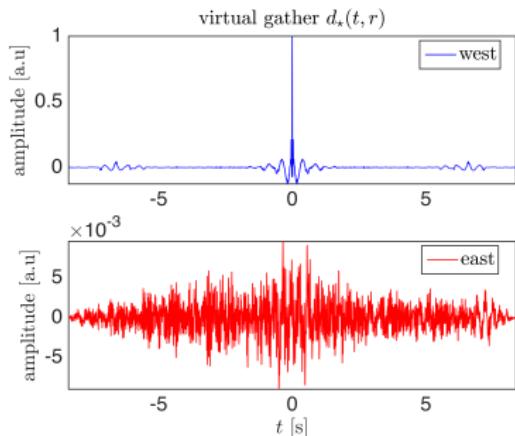
# Now we filter

Used a bandpass filter between 1 and 10 Hz.



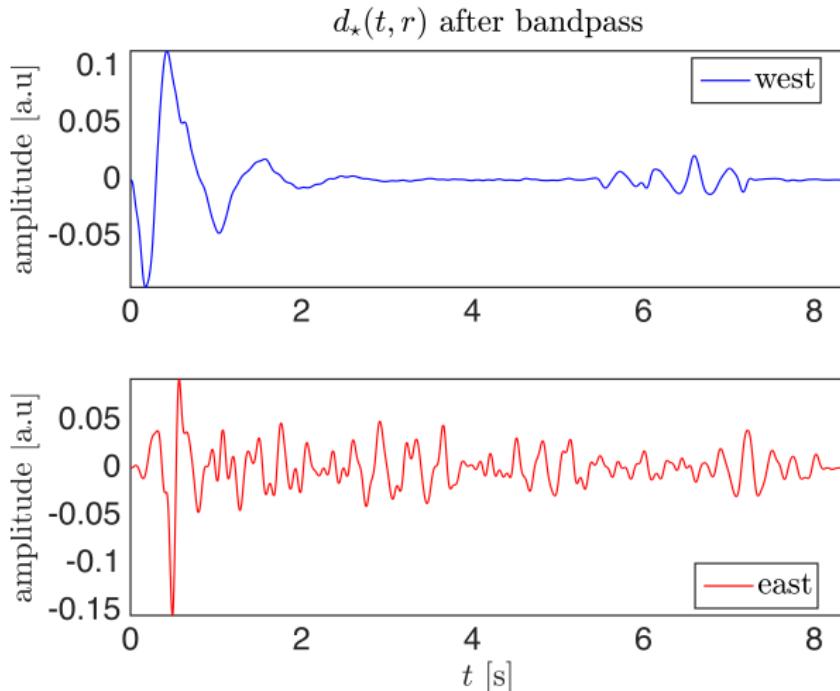
# Now we interfere - WEST as virtual source

Used time windows of  $t_s = 8.3 \text{ s}$ .



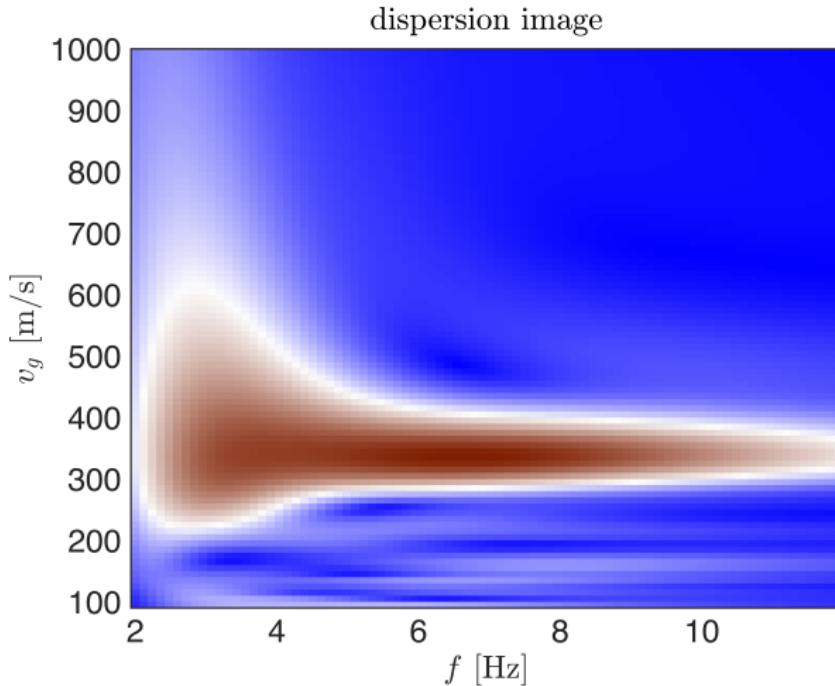
## Now we fold and bandpass again

Used a bandpass filter between 1 and 10 Hz.



## Now we FTAN the EAST trace

Got SNR ranging from 4.4 to 9.5 on  $f$ .



# Conclusions

Real data is hard to process!