

GW200129_065458

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Motivation

Using LIGO and their data they have observed, we can visualize the moment a merger event happens. Doing this is hard when you have an interferometer sensitive enough to react when someone closes a door.

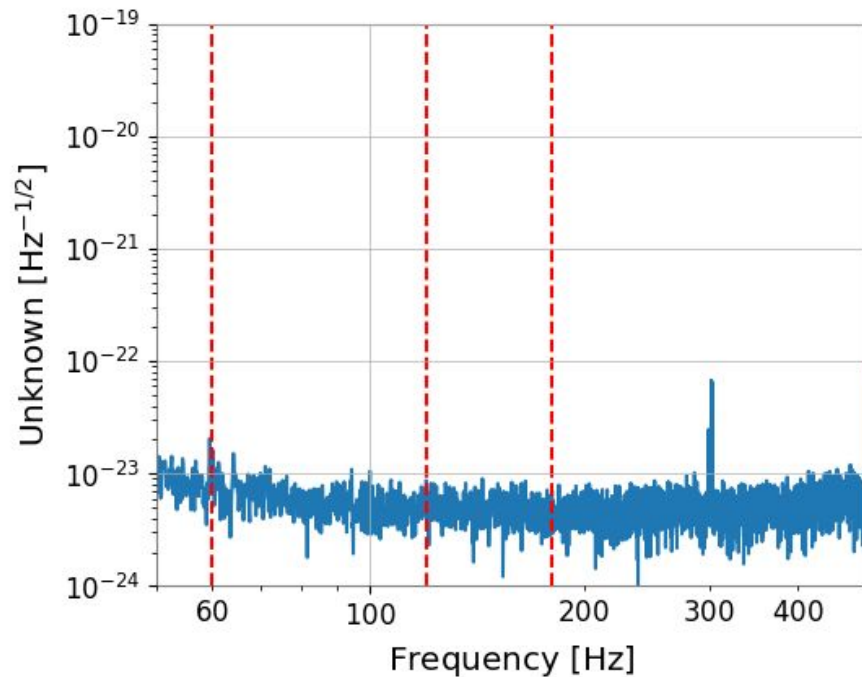
Solutions we use

- Filtering out unwanted signals/noise
- Stretching out data to clearly see spike
- Comparing data to the other LIGO station.

Data

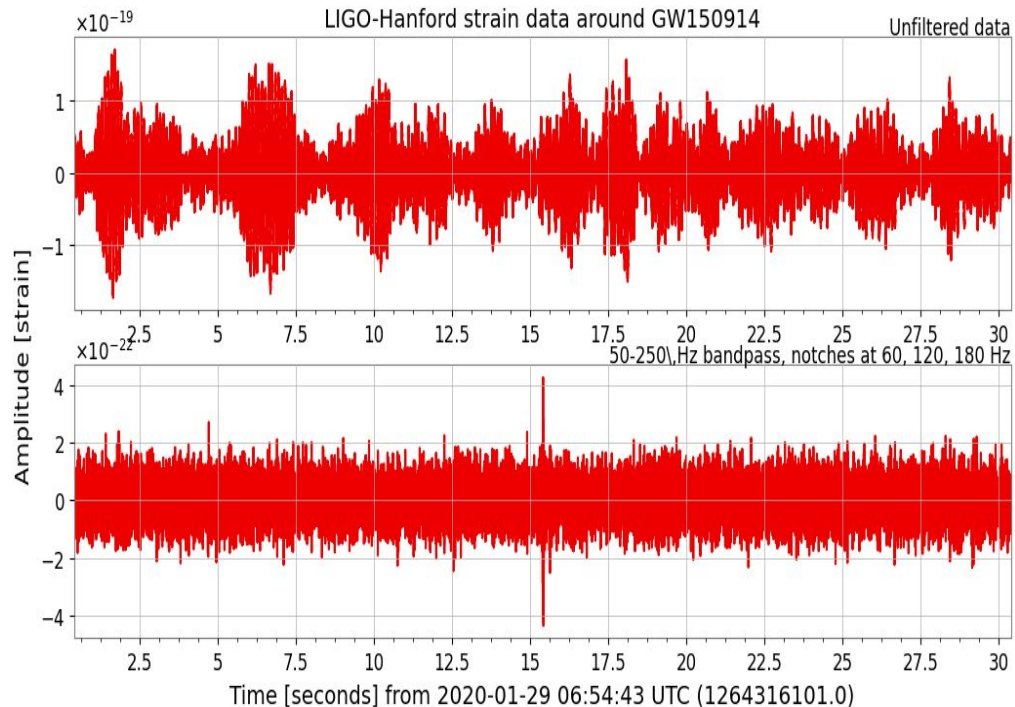
This is the graph of the data that has been gathered at LIGO.

We are blocking and filtering out the frequency 60Hz and its harmonics.



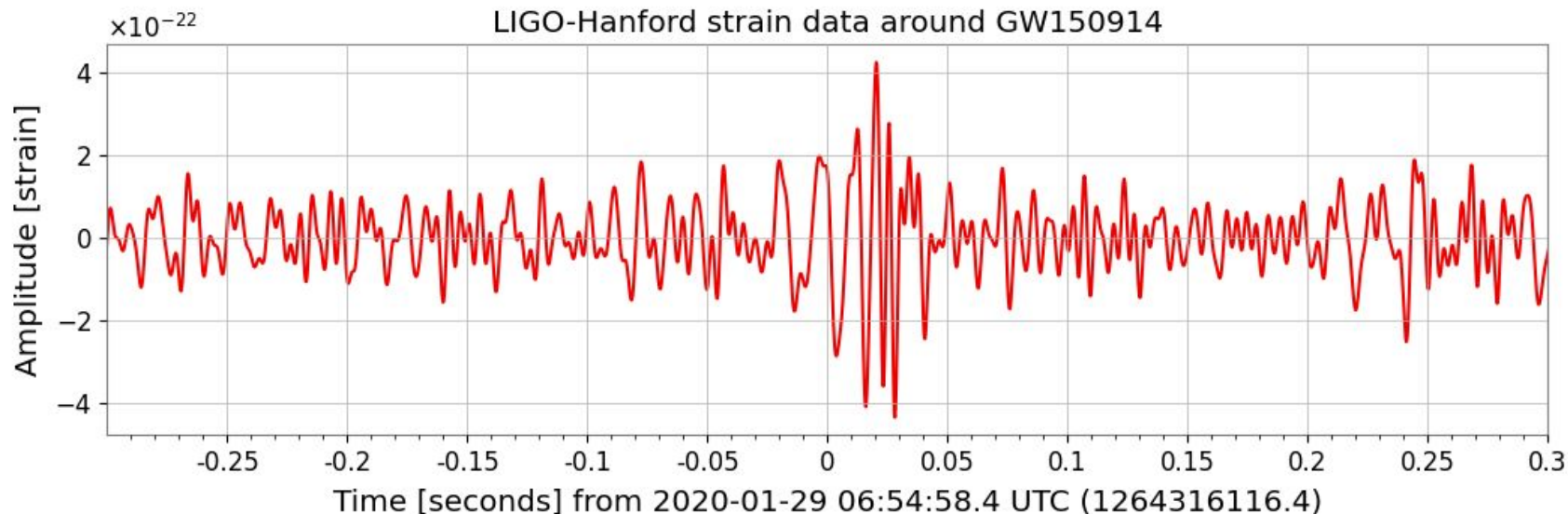
Data

This is the data centered and then later filtered.
We can see the spike of the merger event right
in the middle like we wanted!



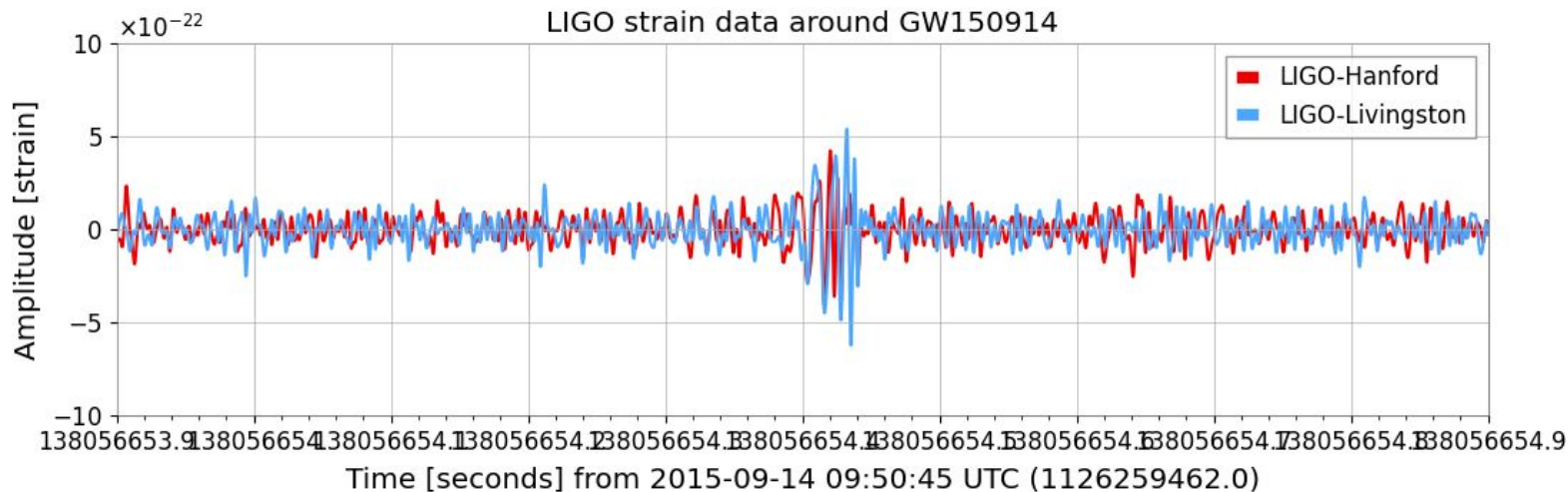
Data

This is the same data as before except the graph has been stretched so we can see just how the signal increased and decreased.



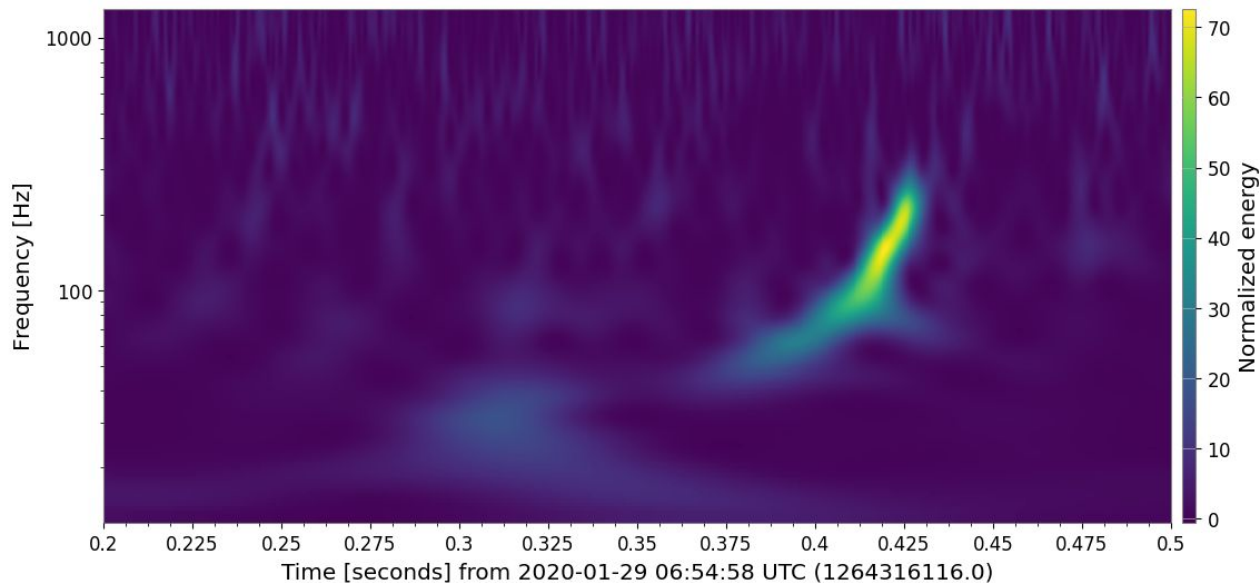
Data

This is the data from the two LIGO stations being compared. We had to shift over hanford forward 6.9ms because that is how long it took the wave to travel from one station to the next.



Data

Here is a q-transform of the wave. The graph looks a lot like the chirp from the ted talk video we watched in class.



Audio

This is the final product of all the data. You can now hear how we cooked.

