

The background features a central black hole with a glowing accretion disk, surrounded by concentric circles representing gravitational waves. The overall color scheme is light blue and white with a subtle starfield.

# An overview of gravitational-wave data products

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# Our raw data

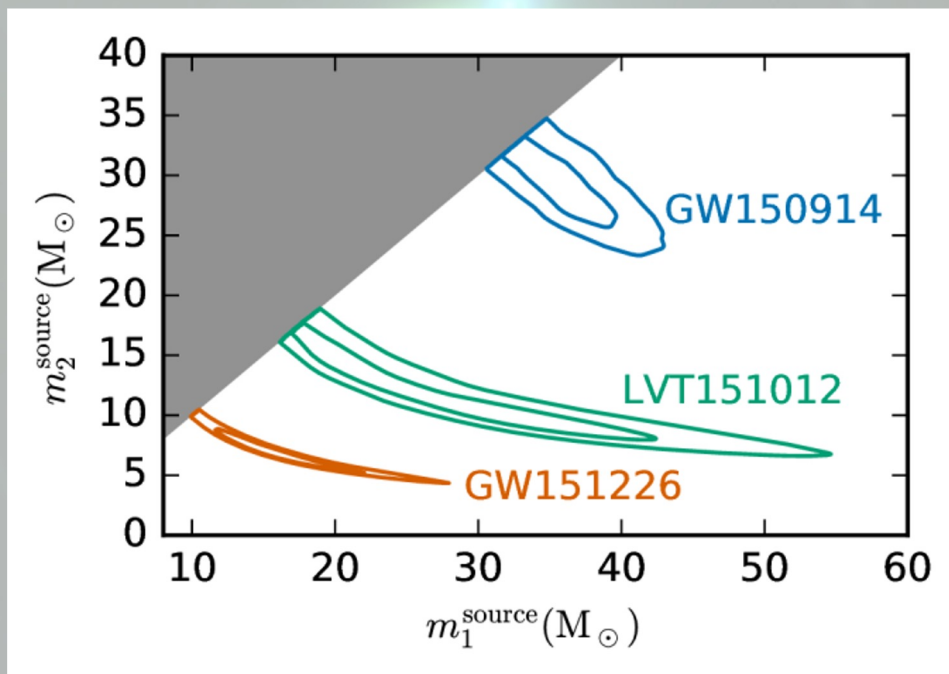
## Raw gravitational-wave data is basically an audio recording

- Strain time series with 16 kHz sampling
- Not difficult to store / transfer
- Infrastructure to query / download public data provided by Gravitational-Wave Open Science Centre (GWOSC).
- Proprietary data can be queried / downloaded by LIGO members ... adequate tools available from LIGO + OzStar.

**Public alerts:** GraceDB

# Post-analysis data products

Each event is analysed to infer the astrophysical properties of the binary.



# Astrophysical results

Astrophysical inference results are described by “posterior samples.”

From a data standards point of view, this is basically a spreadsheet with 15 columns and ~40,000 rows, which can be used to make corner plots.

There are typically many different results for a single event, each obtained with different assumptions, e.g., different gravitational waveform.

We have developed a queryable database for these astrophysical results...



# GWCloud



<https://gwdc.org.au/projects/GWCloud>  
arxiv/2204.13267



# Public Jobs

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GW191204_171526	Asa Baker   <b>GW191204_171526</b> Official samples for GWTC-3 event GW191204_171526, production run 14/18. Uploaded from /scratch/daniel.williams/O3b_PE/S191204r/Prod14	Completed	<a href="#">View</a>
GW170823_000	Asa Baker   <b>GW170823</b> Official samples for GWTC-1 event GW170823. Data from the web address <a href="https://dcc.ligo.org/LIGO-P2000193">https://dcc.ligo.org/LIGO-P2000193</a>	Completed	<a href="#">View</a>
GW170818_000	Asa Baker   <b>GW170818</b> Official samples for GWTC-1 event GW170818. Data from the web address <a href="https://dcc.ligo.org/LIGO-P2000193">https://dcc.ligo.org/LIGO-P2000193</a>	Completed	<a href="#">View</a>
GW170809_000	Asa Baker   <b>GW170809</b> Official samples for GWTC-1 event GW170809. Data from the web address <a href="https://dcc.ligo.org/LIGO-P2000193">https://dcc.ligo.org/LIGO-P2000193</a>	Completed	<a href="#">View</a>



You can use letters, numbers, underscores, and hyphens.

A good description is specific, unique, and memorable. [✎ edit](#)

## Data

### Types of data

- Real  
 Simulated

### Trigger time (GPS)



### Sampling frequency



### Signal duration



## Data

Type and detectors

## Signal

Injection type and details

## Priors & Sampler

Default prior and sampler parameters

## Review

Finalise and start your job




Hanford [Activate](#)

### Channel



Start typing for a custom channel.

Minimum frequency



Livingston [Activate](#)

### Channel



Start typing for a custom channel.

Minimum frequency



Virgo [Activate](#)

### Channel



Start typing for a custom channel.

Minimum frequency

Questions?

