

# AHEAD 2020

INTEGRATED ACTIVITIES FOR  
HIGH ENERGY ASTROPHYSICS



Funded by the Horizon 2020  
Framework Program  
of the European Union  
Grant Agreement No. 871158

## **WP8 report**

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# WP8 main info



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## General info:

- This WP is devoted to **Virtual Access**, with the specific goal to ease the access to **Gravitational Wave (GW) data**
- The main source of **archived GW data** is the [gwosc](#) website maintained by the LIGO-Virgo-KAGRA (LVK) collaboration

## WP8 evolution:

- The WP initial plan (EU mirror of the GWOSC website) turned out to be unfeasible
- Recommendations of the **first review**: *“concentrate resources in improving the GWOSC site instead of the creation of a passive European mirror website”*
- New work plan and new beneficiary (University of Trieste) were introduced with the **amendment** approved at the end of **December 2023**





# WP8 after the amendment





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- **WP leader:** Agata Trovato, University of Trieste
- **WP objective:** develop a Desktop App to download data from the Gravitational Wave Open Science Centre (GWOSC), visualize them and apply a minimal pre-processing without the need of learning the coding tools used in the community
- **Postdoc** hired to work on the desktop app: Panagiotis Iosif (see talk in the parallel sessions)
- **Prototype** app developed and presented to a review meeting (April 2024)
- First version of the app called **GW data plotter** released on zenodo in September 2024 at the link: <https://zenodo.org/records/13778828>



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Published September 18, 2024 | Version v1

**GW data Plotter**


Iosif, Panagiotis<sup>1, 2</sup> ; Trovato, Agata<sup>3</sup> 

Software

 Open

314  
VIEWES

71  
DOWNLOADS

 Show more details

Show affiliations



# WP8 deliverables and milestones



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- Deliverable D8.1: Virtual-access Website
  - ✓ delivered on March 2020 by EGO
- Deliverable D8.2: Intermediate report of GWOSC use (report on the app)
  - ✓ delivered on April 2024 by UNITS (on the portal the lead is still EGO!)
  - Suggestions from the review meeting: focus on multimessenger use adding skymaps and info such as remnant mass; prepare detailed documentation adding references to tools like GravitySpy
- Deliverable D8.3: Final report of GOWSC use (report on the app)
  - ✓ Prepared by UNITS; waiting for reviewer to check accesses to the app
  - Version of the app on zenodo address the suggestions from review meeting
- Milestone 15: Issue of roadmap (lead EGO)
- Milestone 23: Final review & issue of a roadmap (lead EGO)



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# GW data plotter



**GW data plotter**

**GW Data Plotter**

Get Data Plot Data Explore GW event parameters

Help

**Select a Detector**

None

**Select data by time interval**

To convert UTC to GPS format visit the link:  
<https://gwosc.org/gps/>

Starting time (GPS)

Ending time (GPS)

Download data

**Select a known GW event**

Select from the list

None

or write the name of the event below

Select duration of data segment

Before merger [s] After merger [s]

-16.0 16.0

**Select an example of a known glitch**

None

Load data Save data

Log window

**GW data plotter**

**GW Data Plotter**

Get Data Plot Data Explore GW event parameters

Help

**Plot settings**

☒ Whiten the data  
A band pass filter will be applied unless the "No freq selection" is clicked

☐ No freq selection

Set f min [Hz] Set f max [Hz]

30 400

☒ Do you want to zoom in time?

Before t\_center [s] After t\_center [s]

-0.4 0.3

Plot strain Plot Qscan

**Q scan section**

Additional plot settings for Q scan plot

Set Q min Set Q max

4 64

☒ Log y-axis  
☒ Set max Energy Colorbar  
Set Max Energy Colorbar

Log window

**GW data plotter**

**GW Data Plotter**

Get Data Plot Data Explore GW event parameters

Help

**Event parameters**

Select an event from the list

None

Or write the name of the event below

Get event parameters

Download skymap

**Parameters distributions**

Get the parameters for all the events and plot them

Get parameters for all events

Select a parameter from the list to plot an histogram

None

Plot histogram

Select another parameter from the list to plot a 2D scatter plot

None

2D scatter plot

Plotting options for both plots

☐ Highlight current event ☐ Log y-axis ☐ Log x-axis

Log window



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# GW data plotter outputs examples

