

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

Agata Trovato

University of Trieste – INFN, sezione Trieste



AHEAD 2020

WP8 main info



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

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**



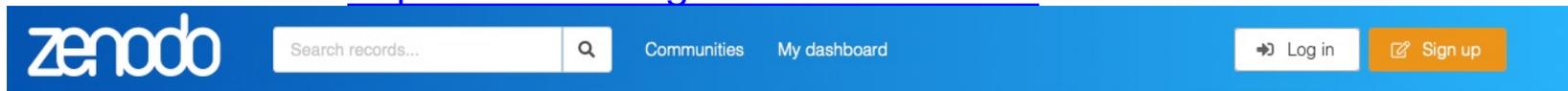
WP8 after the amendment



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

AHEAD 2020

- **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>



Published September 18, 2024 | Version v1

Software Open

GW data Plotter

Iosif, Panagiotis^{1,2} ; Trovato, Agata³

Show affiliations

314
VIEWES

71
DOWNLOADS

Show more details



WP8 deliverables and milestones



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

AHEAD 2020

- 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)



AHEAD 2020

GW data plotter



GW data plotter

GW Data Plotter

AHEAD 2020
Funded by the Horizon 2020 Framework Program of the European Union Grant Agreement No. 101019733

Get Data | Plot Data | Explore GW event parameters

Help

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

Download data | Load data | Save data

Log window

GW data plotter

GW Data Plotter

AHEAD 2020
Funded by the Horizon 2020 Framework Program of the European Union Grant Agreement No. 101019733

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

Set Q min Set Q max
4 64

Do you want to zoom in time?
Before t_center [s] After t_center [s]
-0.4 0.3

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

Plot strain | Plot Qscan

Log window

GW data plotter

GW Data Plotter

AHEAD 2020
Funded by the Horizon 2020 Framework Program of the European Union Grant Agreement No. 101019733

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



AHEAD 2020

GW data plotter outputs examples

