MULTI-MESSENGER CHALLENGES ADDRESSED BY ASTERICS

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ASTERICS in general

The ASTERICS project (Astronomy ESFRI and Research Infrastructure Cluster) aims to establish a single collaborative cluster of next generation ESFRI telescope facilities and other relevant research infrastructure initiatives in the area of astronomy, astrophysics and astroparticle physics. ASTERICS facilitates researchers in astronomy, astrophysics and astroparticle physics to work together on a large scale on mutual challenges.

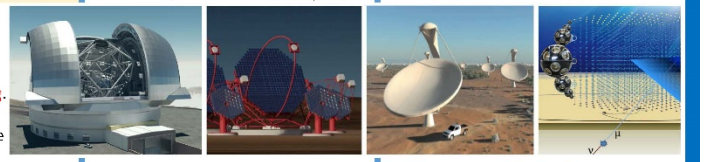
ASTERICS support for origin of GRB research

	Bringing together scientists from different messenger groups	**Bringing together** the **data** from the different messenger facilities	**Doing the timing right** in recording highly variable celestial events
Why			
How	DADI work package (WP) • Developing (VO) tools together • Schools, Trainings	WPs DADI, OBELICS, DECS • VO standards, IVOA, RDA • Data handling, benchmarking • Citizen Science Experiments, engaging with society at large	WP CLEOPATRA • Timing with White Rabbit protocol • Alert protocols and mechanisms
Dates	❑ 3rd ASTERICS DADI School, *21-23 Nov 2017, Madrid* ❑ ESFRI Forum and training, *Dec 2017, Trieste* ❑ Technology Forum (VO development), *Spring 2018*	❑ OBELICS Workshop & training, *16-19 Oct 2017, Barcelona* ❑ Citizen Science Workshop, *Spring 2018, Trieste (TBC)*	❑ workshop on Radio - γ : Transient Alert Mechanisms, *26-28 Sept 2017, Amsterdam* www.asterics2020.eu/radio-gamma-workshop

ASTERICS has 26 partner institutes in six European countries .
They support the four ESFRIs in astroparticle physics

www.asterics2020.eu

E-ELT ♦ optical | CTA ♦ γ-ray | SKA ♦ radio | KM3NeT ♦ ν



Further reading

Within ASTERICS the emphasis is on dialogue and mutual understanding. After that is established, there is room for exchange of information and collaboration. Participants in the project are now, in parallel to the developments for their own facility, more and more thinking about the possible implementation of their work in other facilities. This is something one cannot easily enforce and is a big achievement so early into the project.

As these new facilities will generate vast amounts of data, the areas that will receive most attention in the ASTERICS project are related to the many aspects of data handling (generation, transport, preservation, retrieval and analysis), as well as the interoperability between facilities, which is important for linked analysis, scheduling for simultaneous observations, and fast response.

Timing accuracy for simultaneous observations and alerts has been improved. The development of the technology for enabling long-haul and many-element time and frequency distribution over fibre connections, for relaying alerts, and for streaming data goes far beyond the recent state of the art. ASTERICS has demonstrated a new and very precise dispersion delay measurement method. A working e-transfer prototype was delivered.

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Multi-messenger approach support

ASTERICS

Development of multi-messenger tools.
You can:

- become a (future) user
- determine part of the requirements
- Support the development

POSTER

- ASTERICS Activities
- opportunities to connect:
  - School, workshop , Forum

Radio - γ: Transient Alert Mechanisms,
26-28 Sept 2017, Amsterdam

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