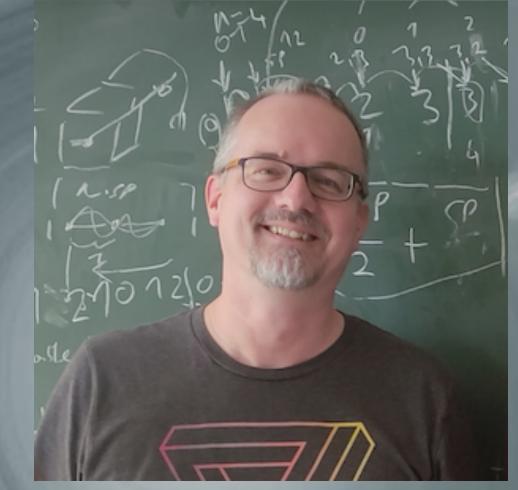


### Astro-COLIBRI

COincidence LIBrary for Real-time Inquiry for multi-messenger astrophysics











Bernardo Cornejo, Fabian Schüssler, Ilja Jaroschewski, Mickäel Costa, Weizmann Kiéndrébeogo

CEA Paris-Saclay, IRFU



irfu

UNIVERSITE PARIS-SACLAY











# Demo of Interfaces

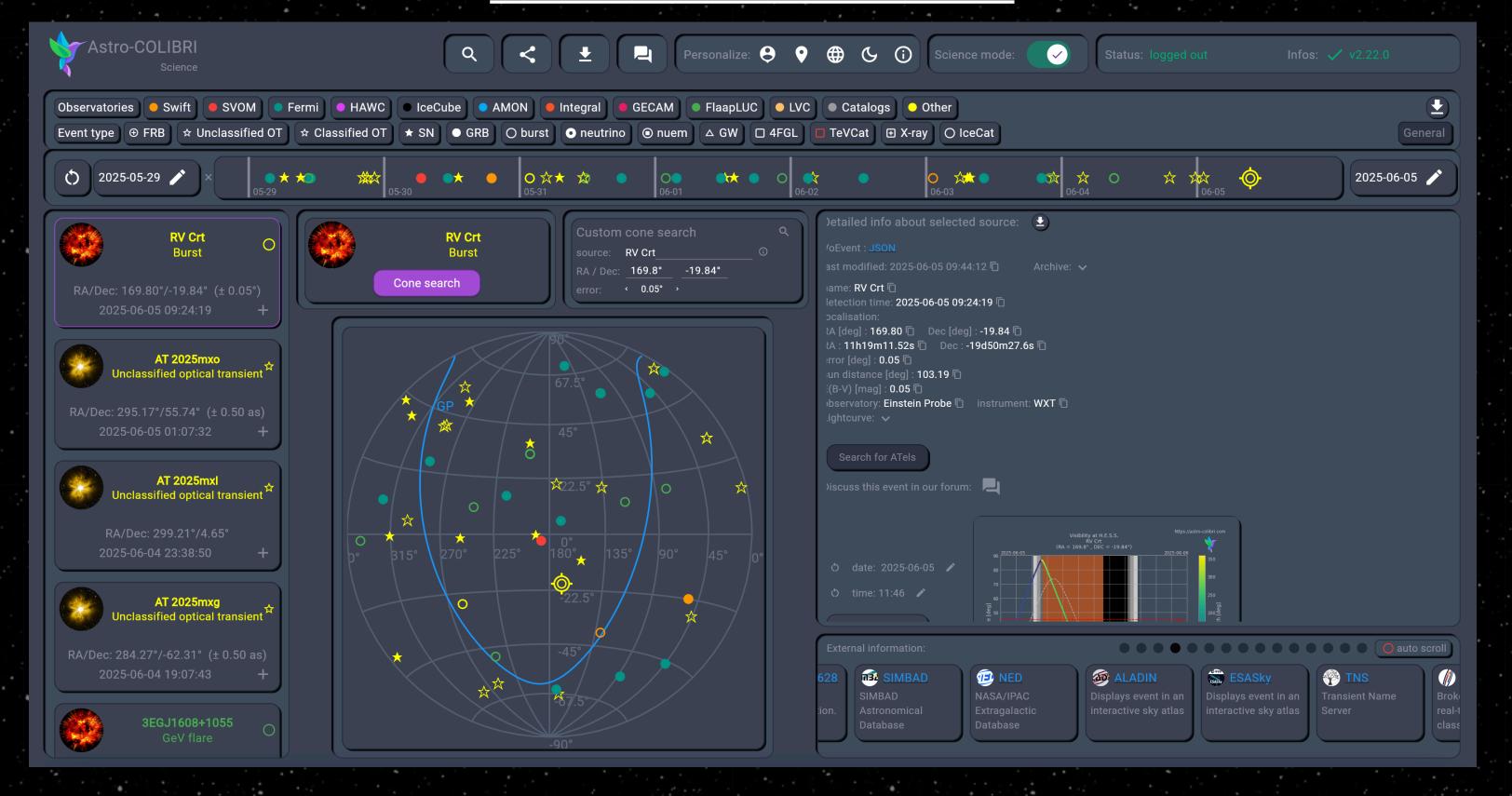








#### www.astro-colibri.com



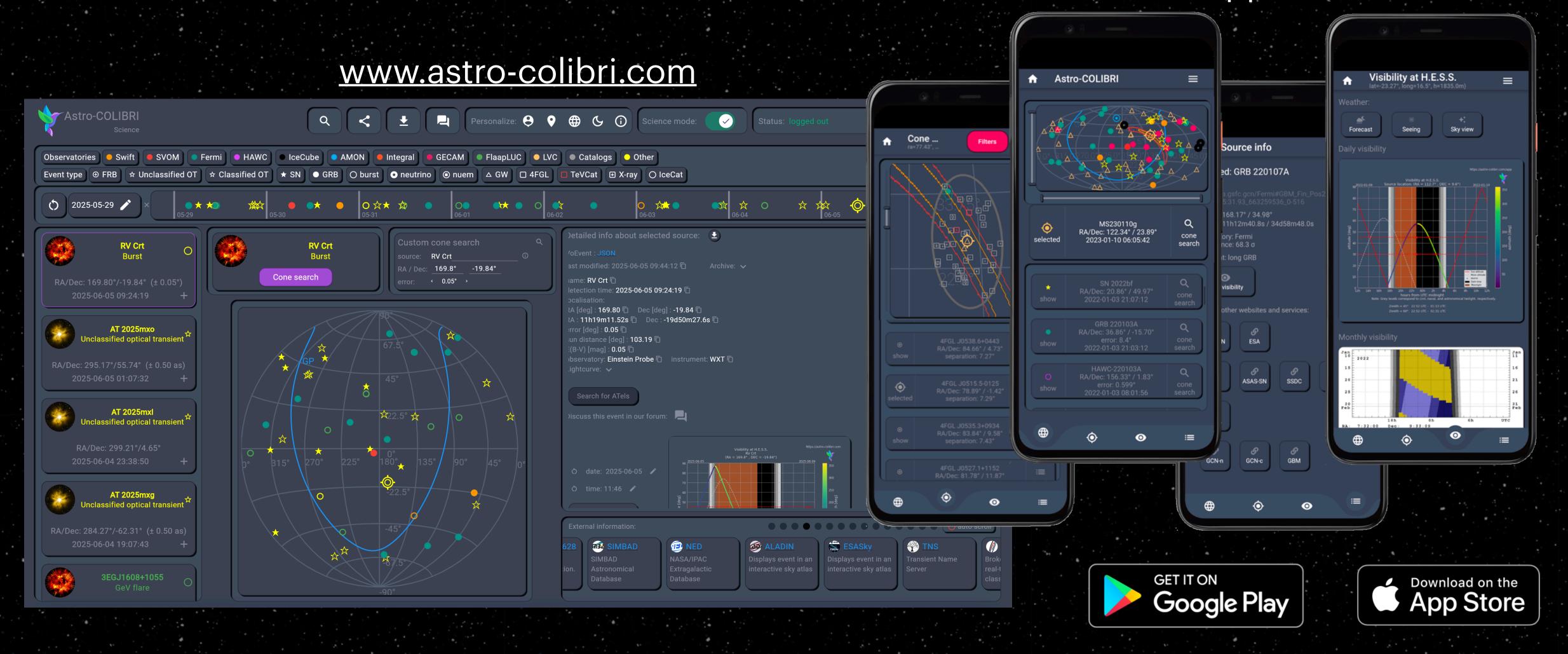






#### User-Interface

#### The App







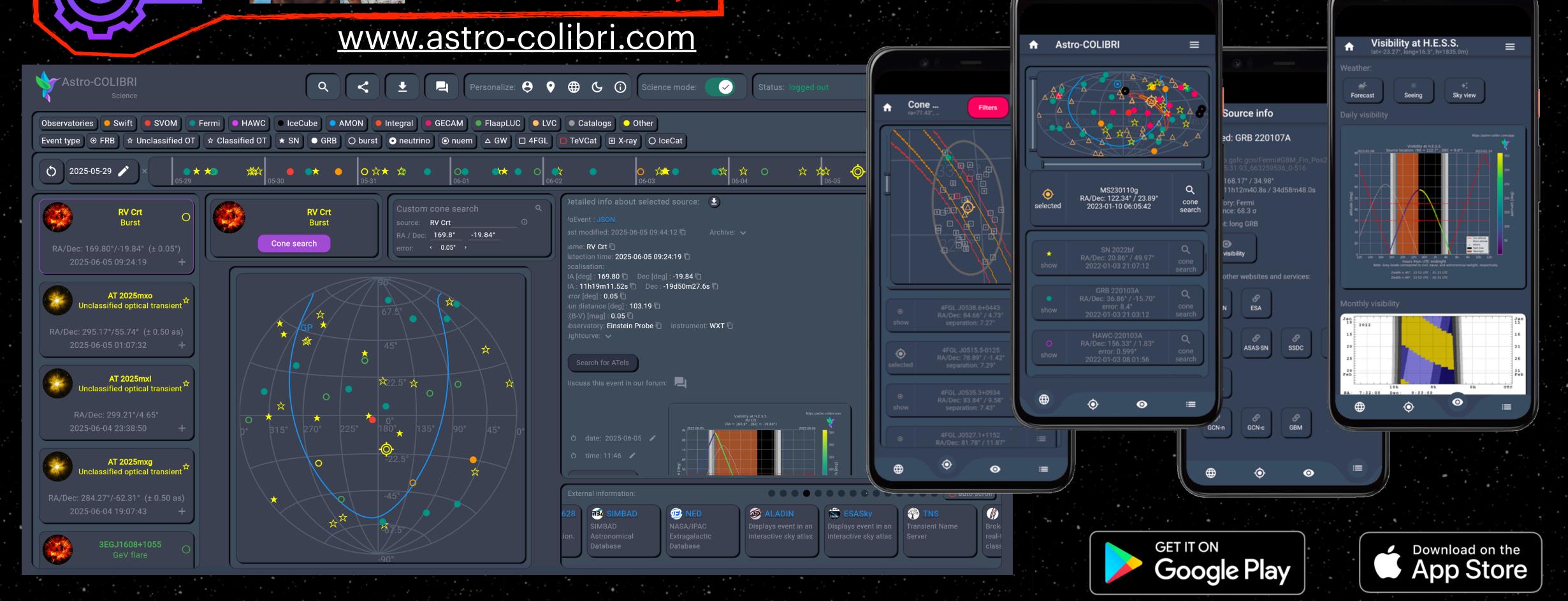




Talk by

Bernardo Cornejo

The App









#### Webpage Non-Science Mode

www.astro-colibri.com









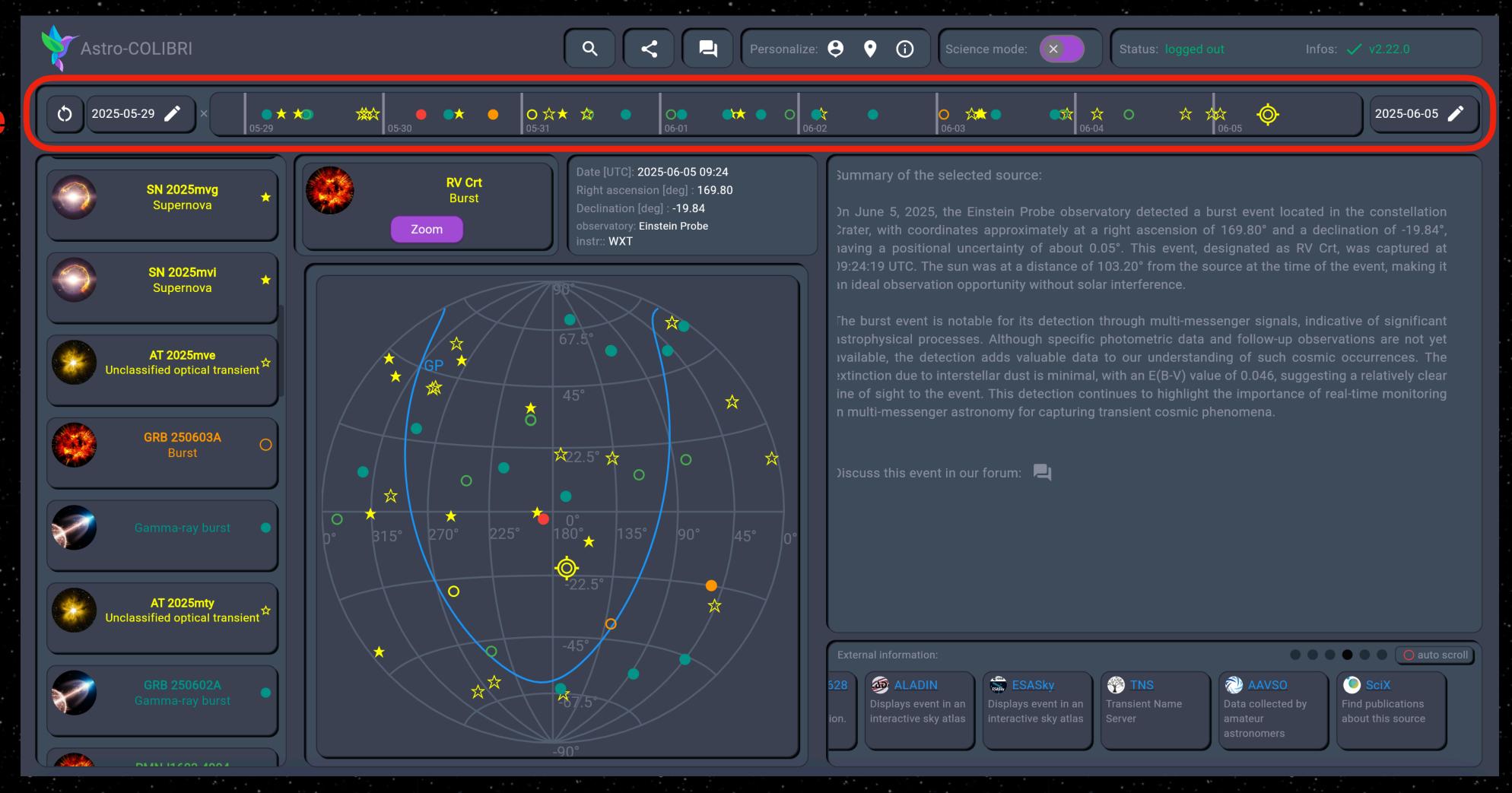






#### Timeline

All events from the last 7 days are shown

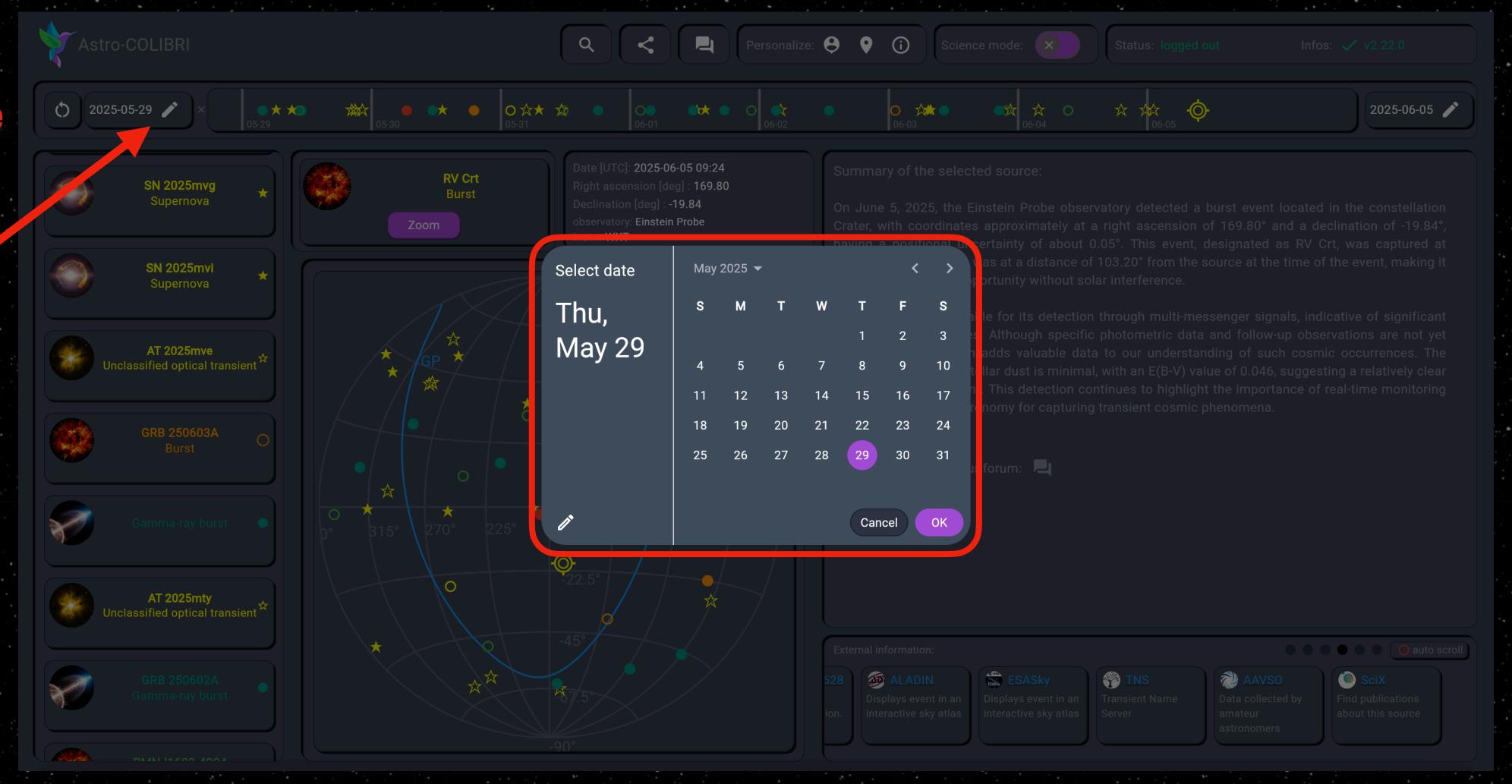






#### Timeline

Change start and end in timeline



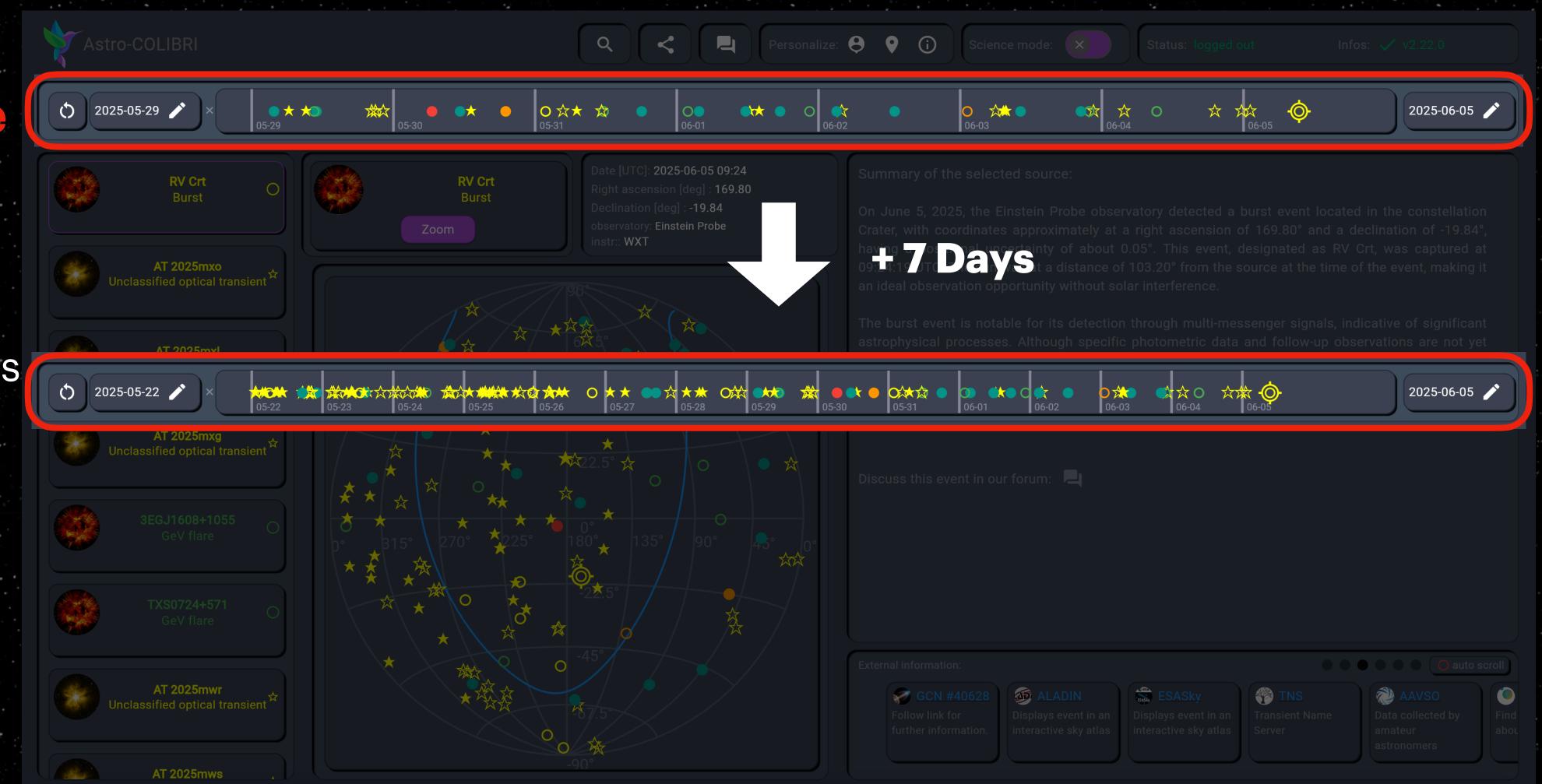








More events visible



67 Events

150 Events





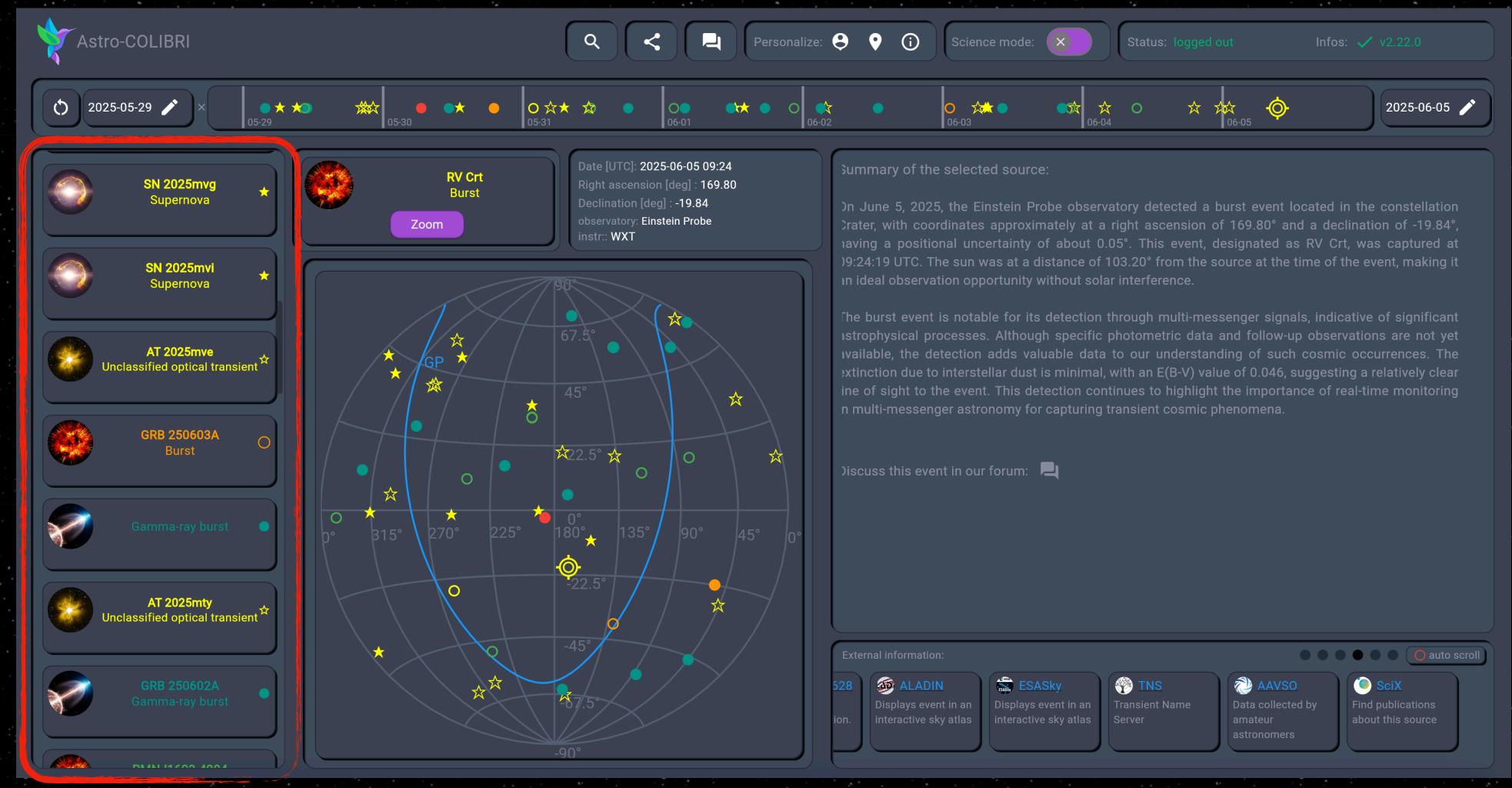


More in Science Mode

Event
Card
Tiles

Color coded for instrument

Shape coded for event type







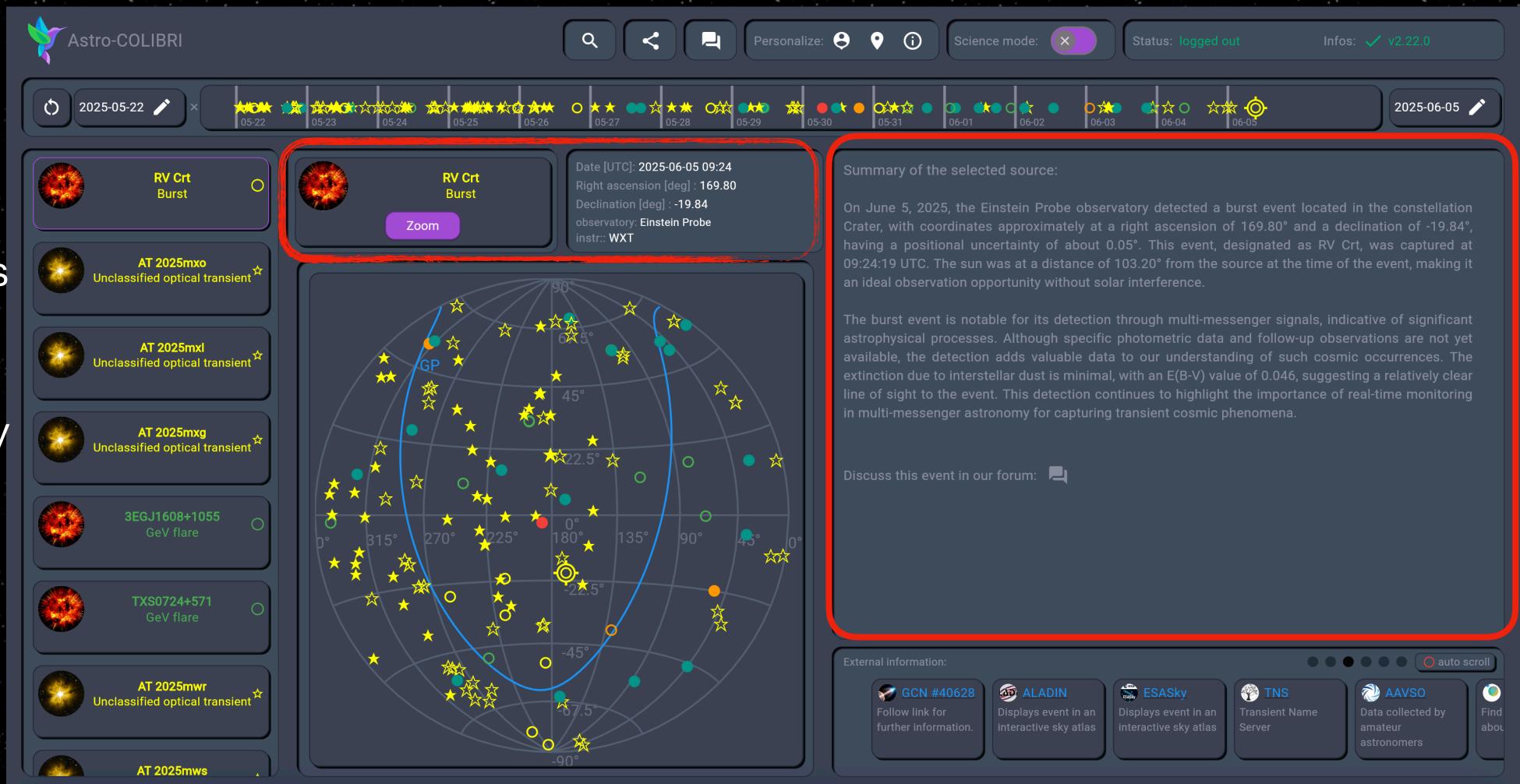


#### **Event** Info

Event Coordinates

Observatory

Information about the event type

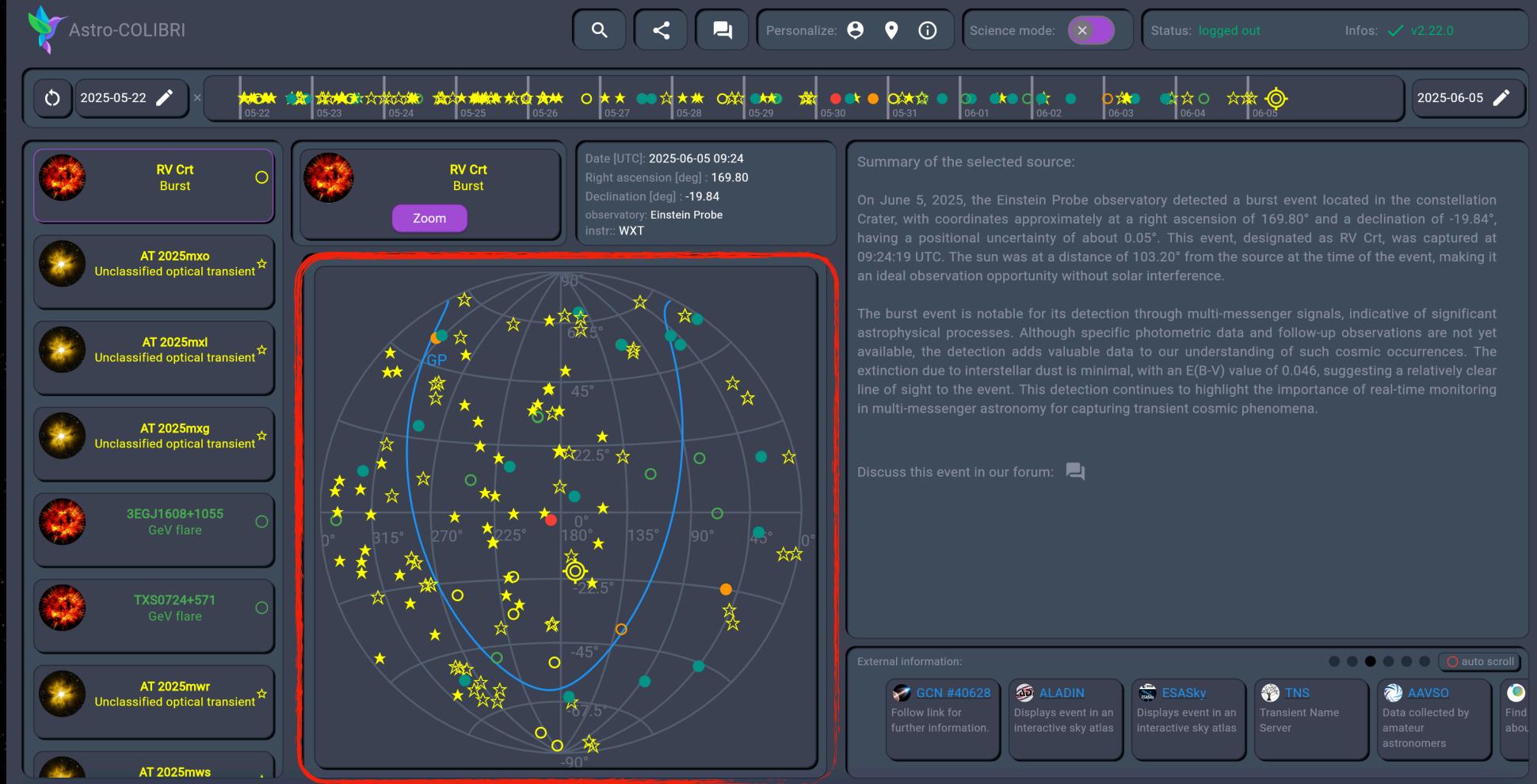










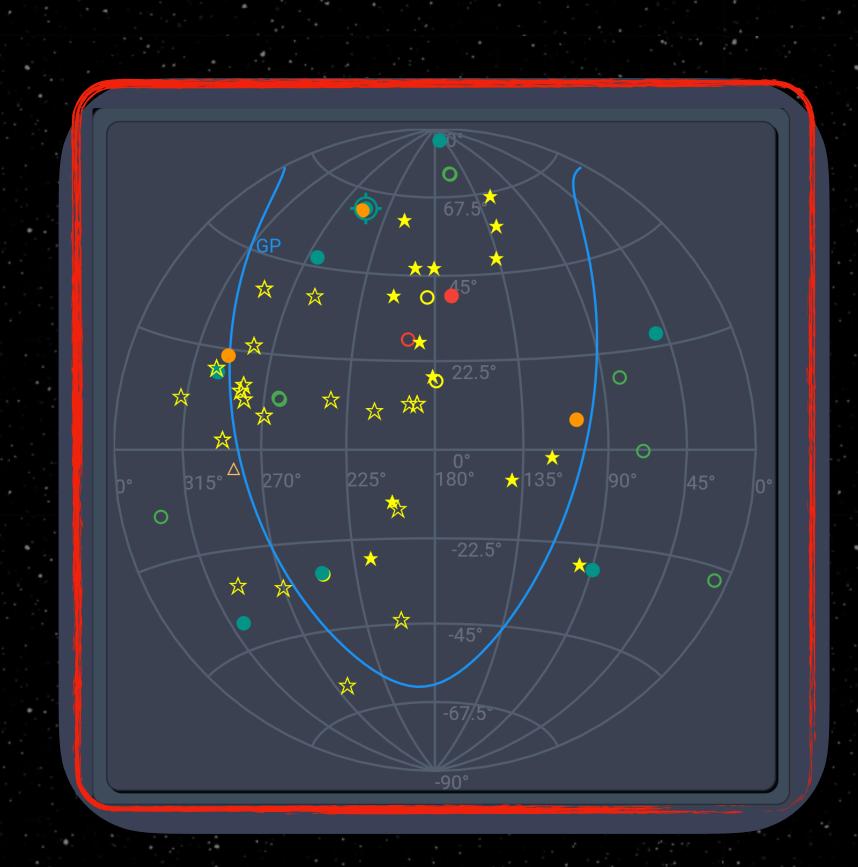




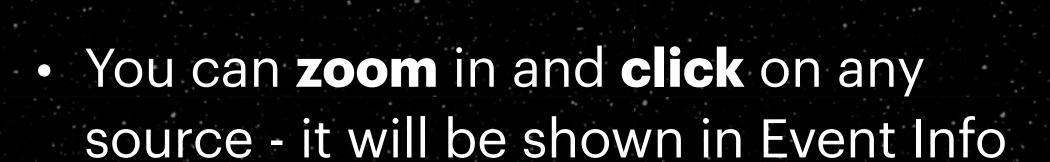




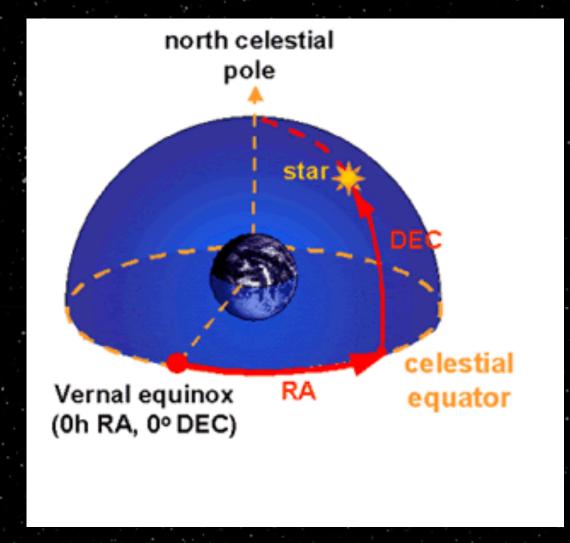
#### Sky-Map



Default:
 Equatorial coordinate system.
 (Right Ascension and Declination)



· Galactic Plane (GP) clearly marked:



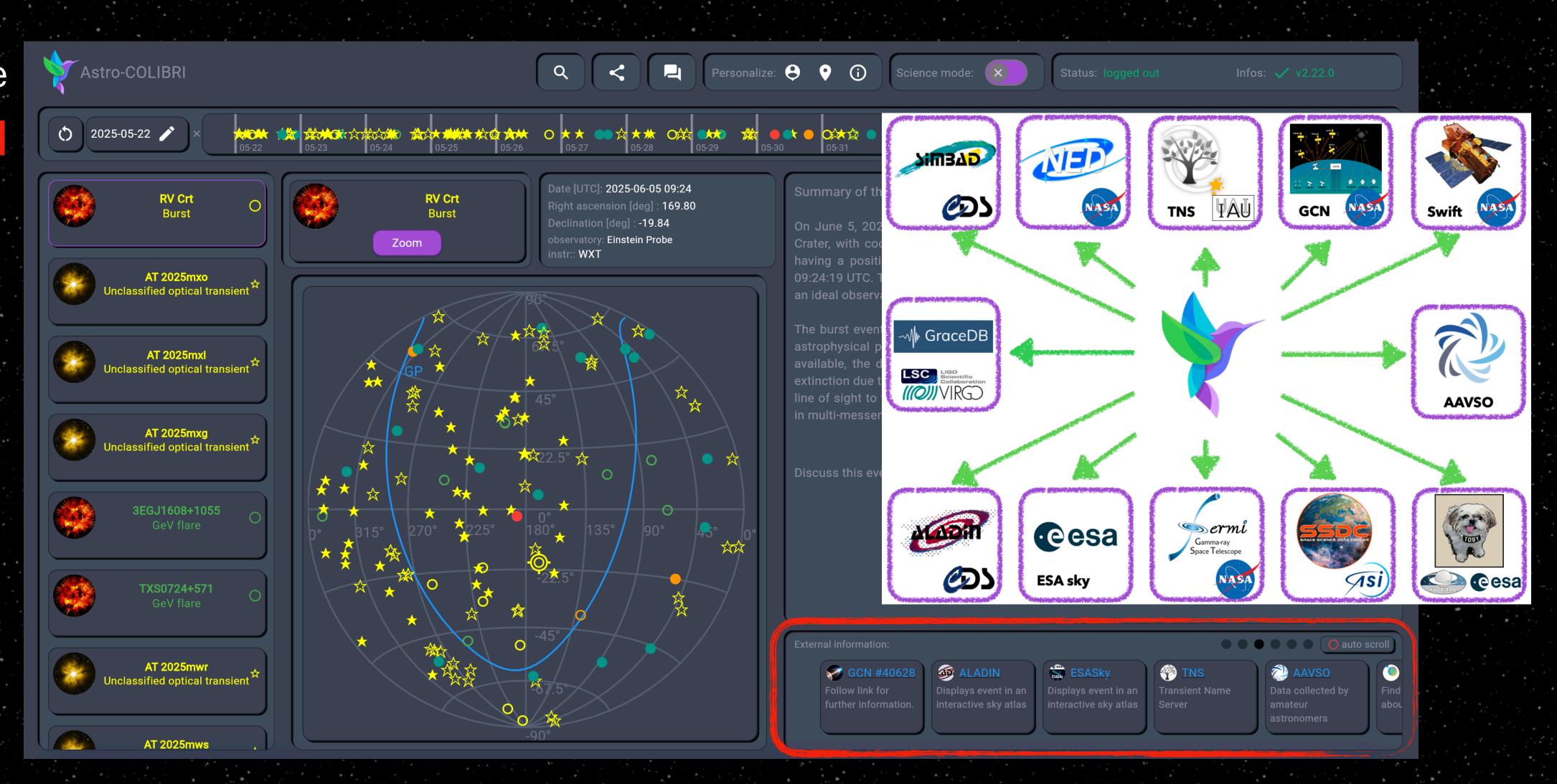






Interactive

### **Externa Links**





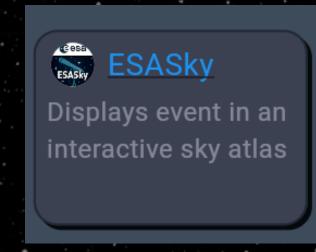




#### **External Links**





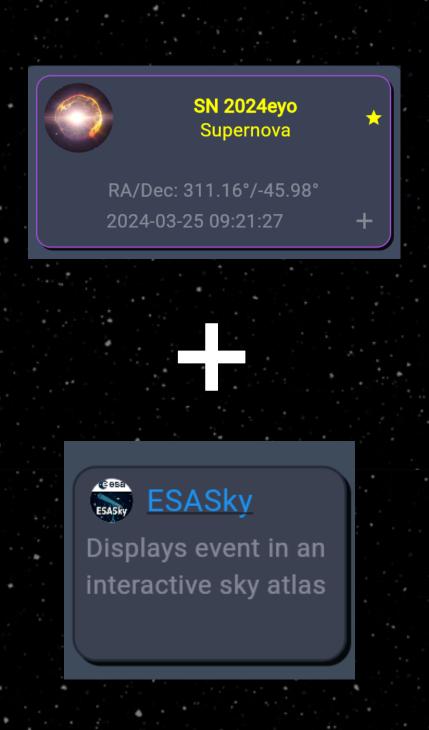


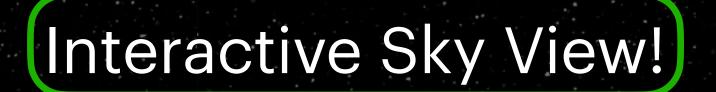


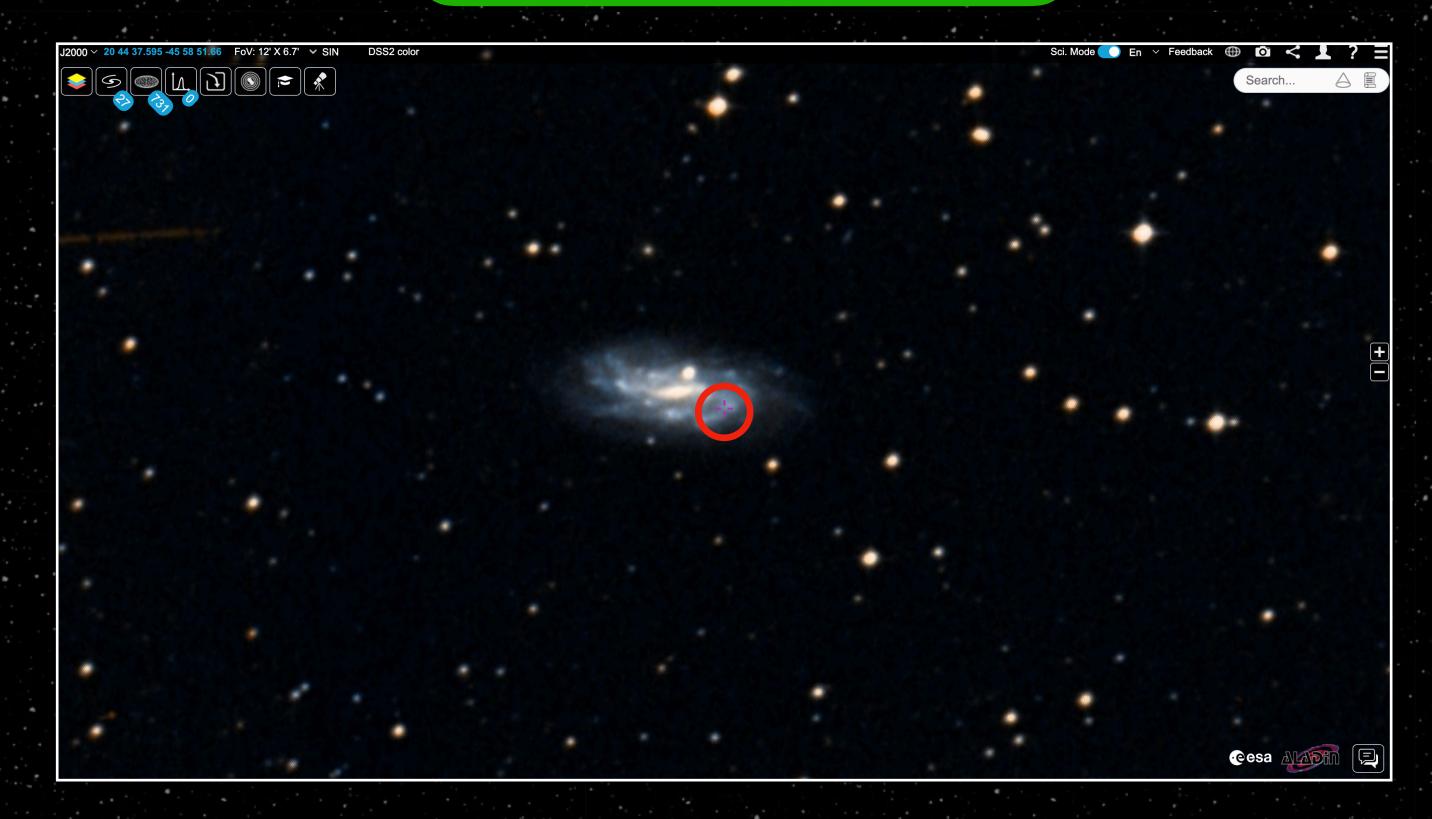




#### **External Links**

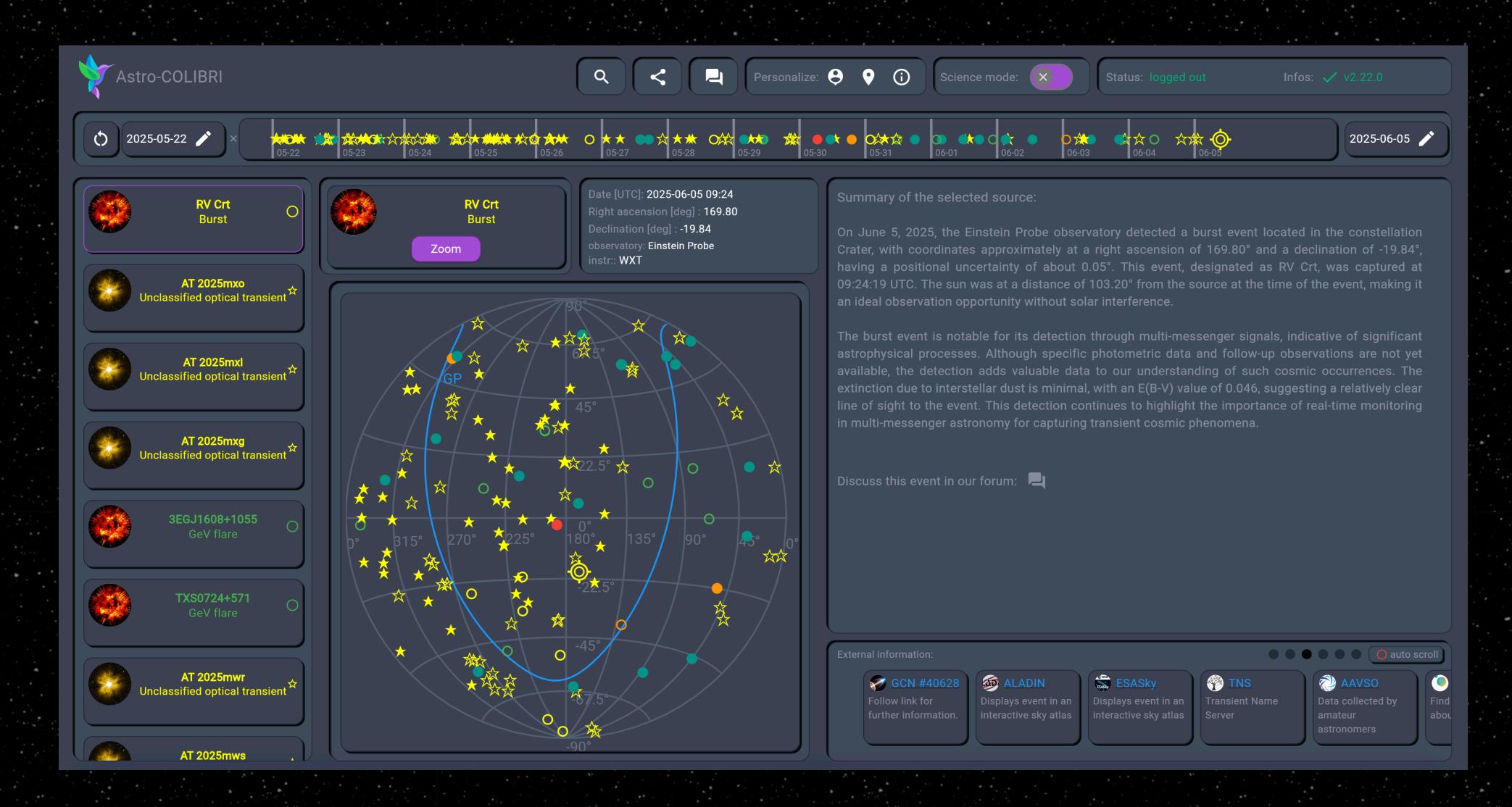


















#### Webpage Science Mode

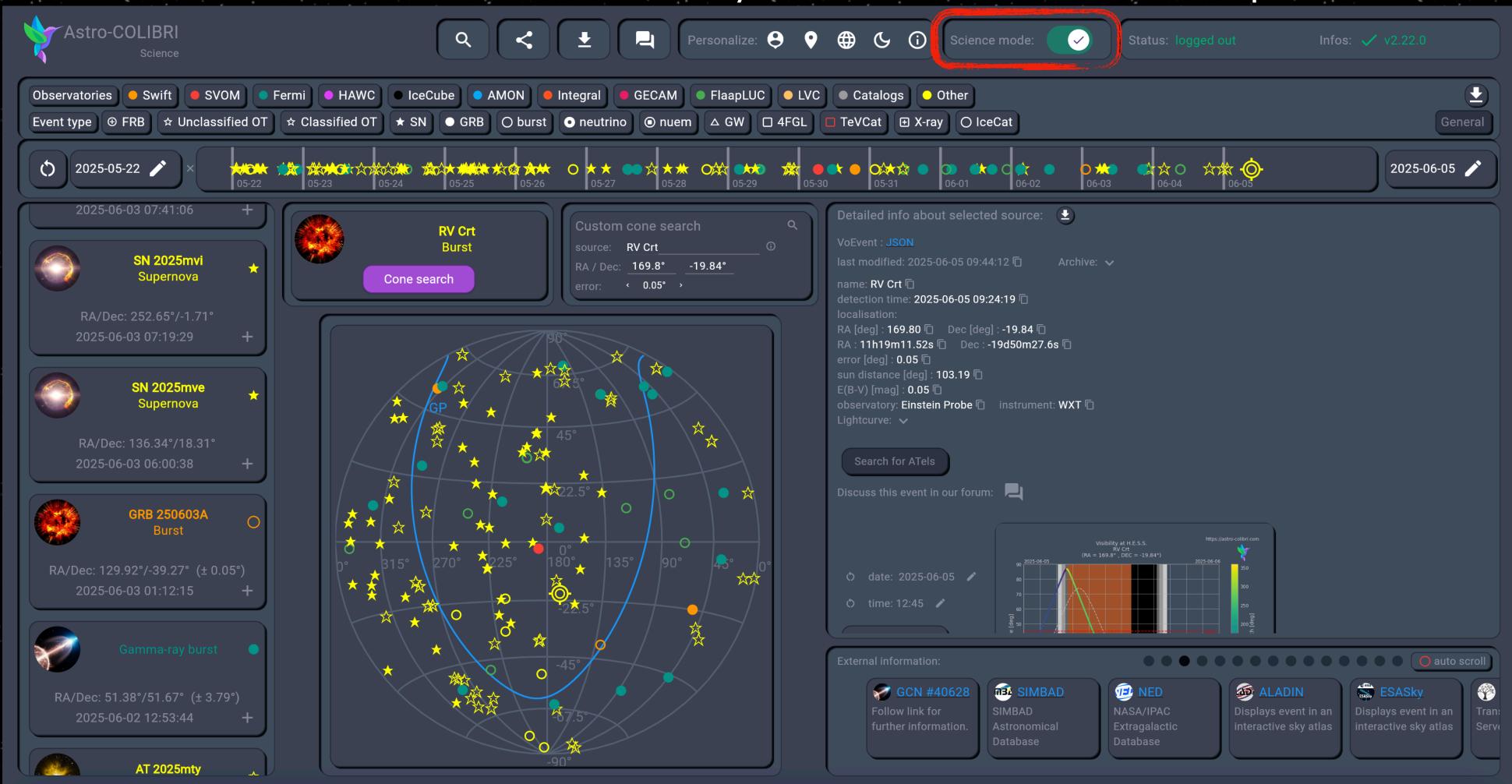
www.astro-colibri.com







Filters are customizable and saved in your account - account required!





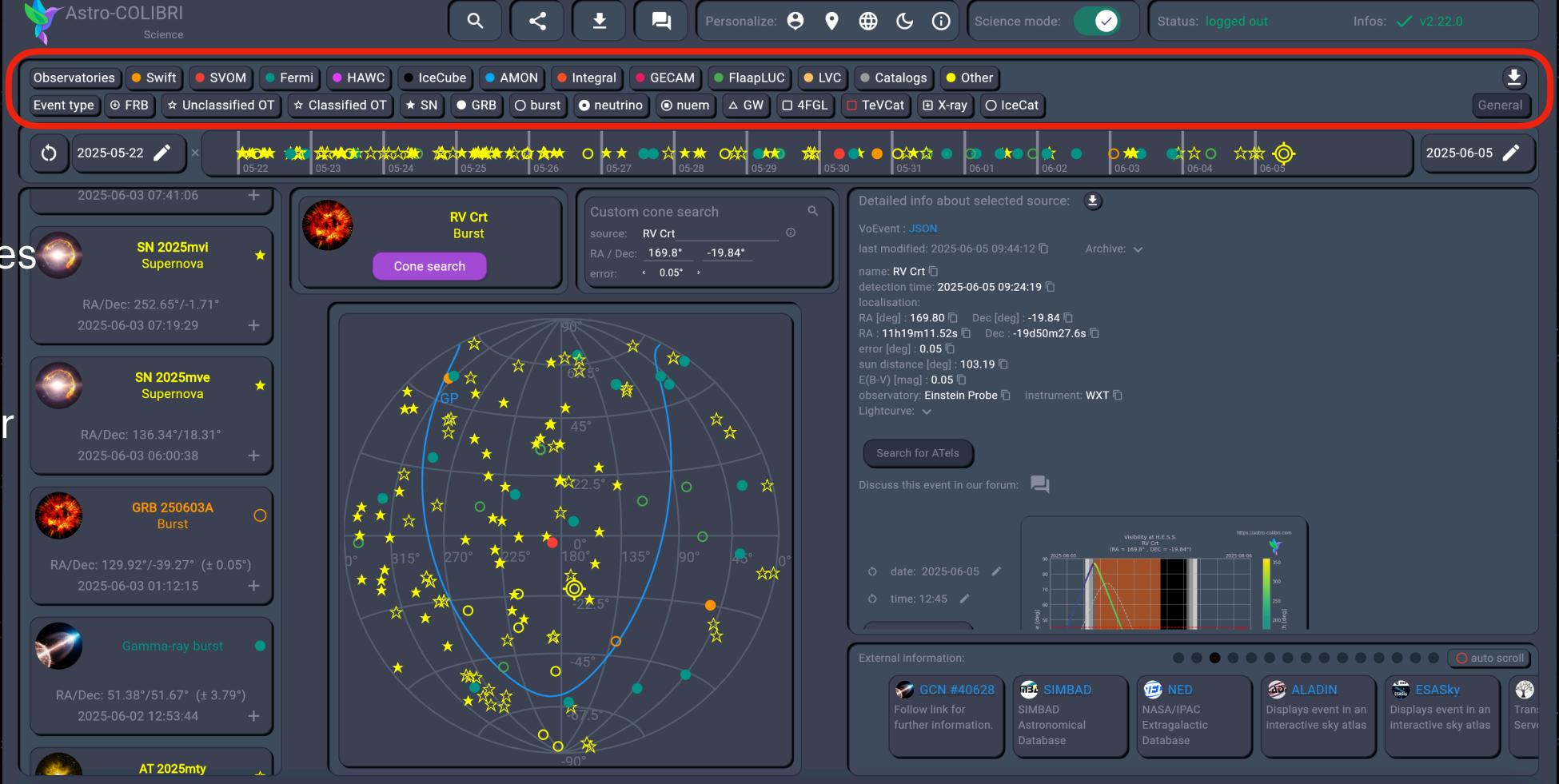




Filters are customizable and saved in your account - account required!

**Filters** 

Choose observatories and event types relevant for you!





### Web-Interface





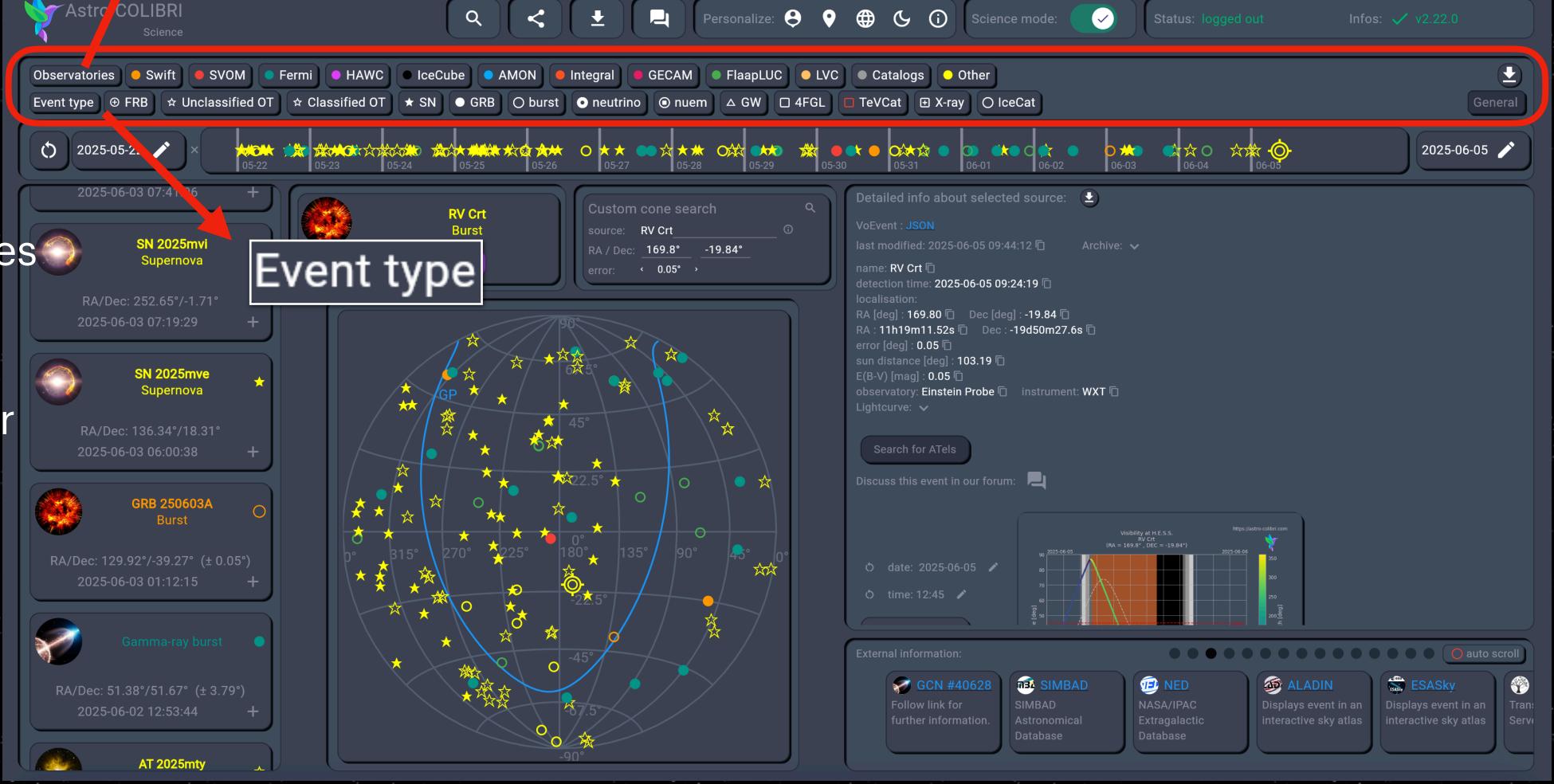
#### Observatories

#### Science Mode

Filters are customizable and saved in your account - account required!

**Filters** 

Choose observatories and event types relevant for you!





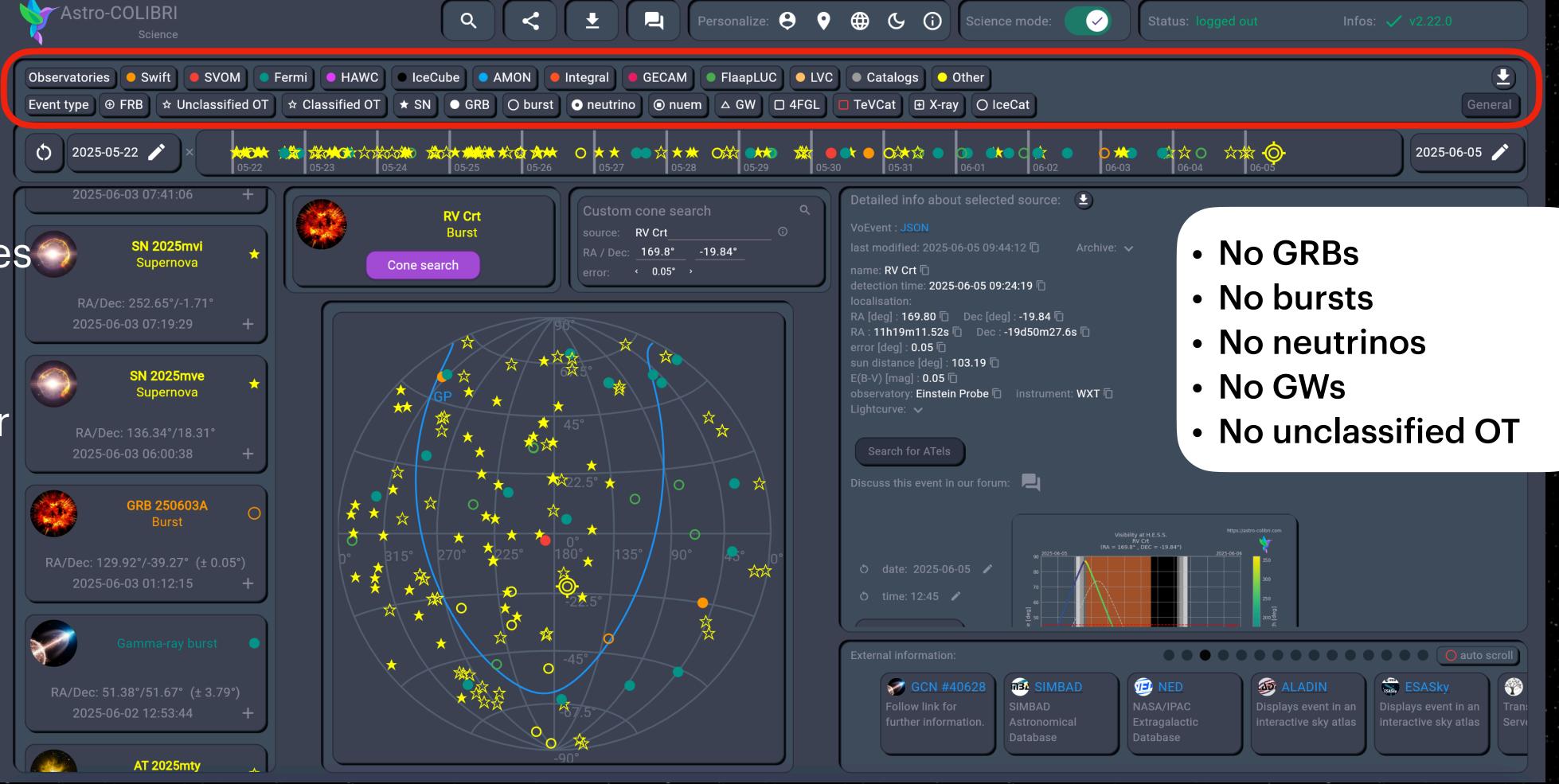




Filters are customizable and saved in your account - account required!

**Filters** 

Choose observatories and event types relevant for you!





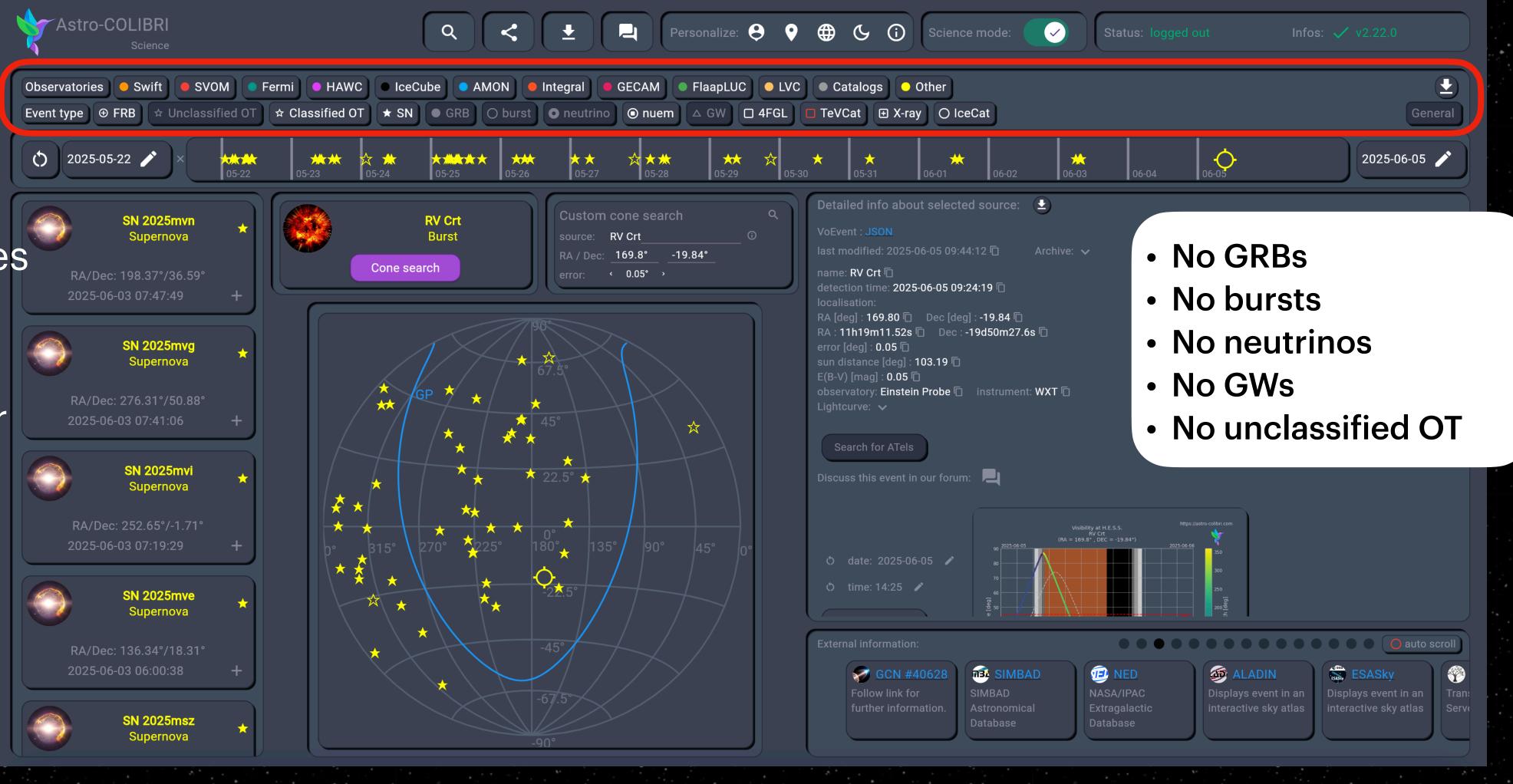




Filters are customizable and saved in your account - account required!

**Filters** 

Choose observatories and event types relevant for you!









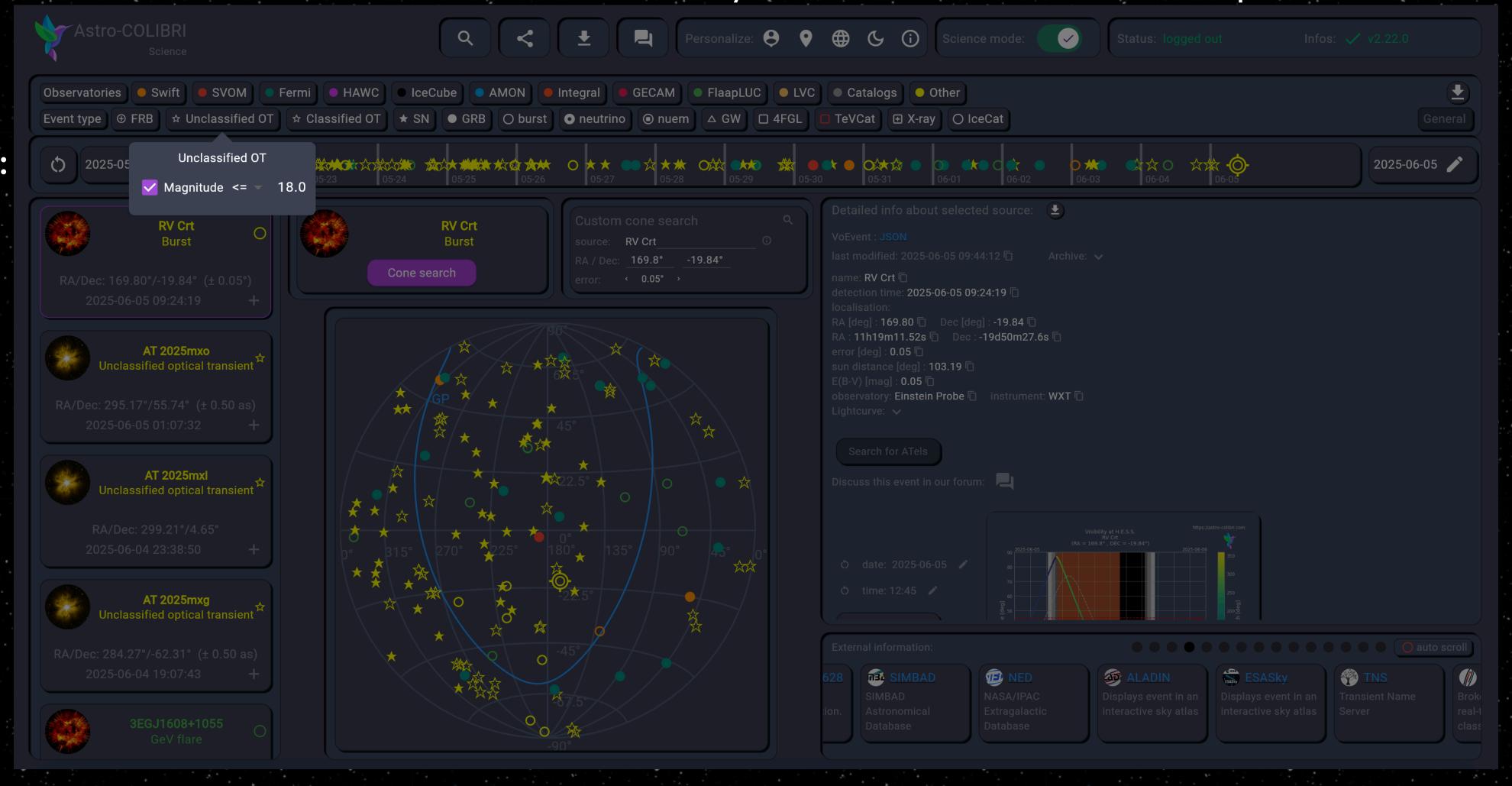
Filters are customizable and saved in your account - account required!

**Filters** 

Long Press:

More filter options

Magnitude







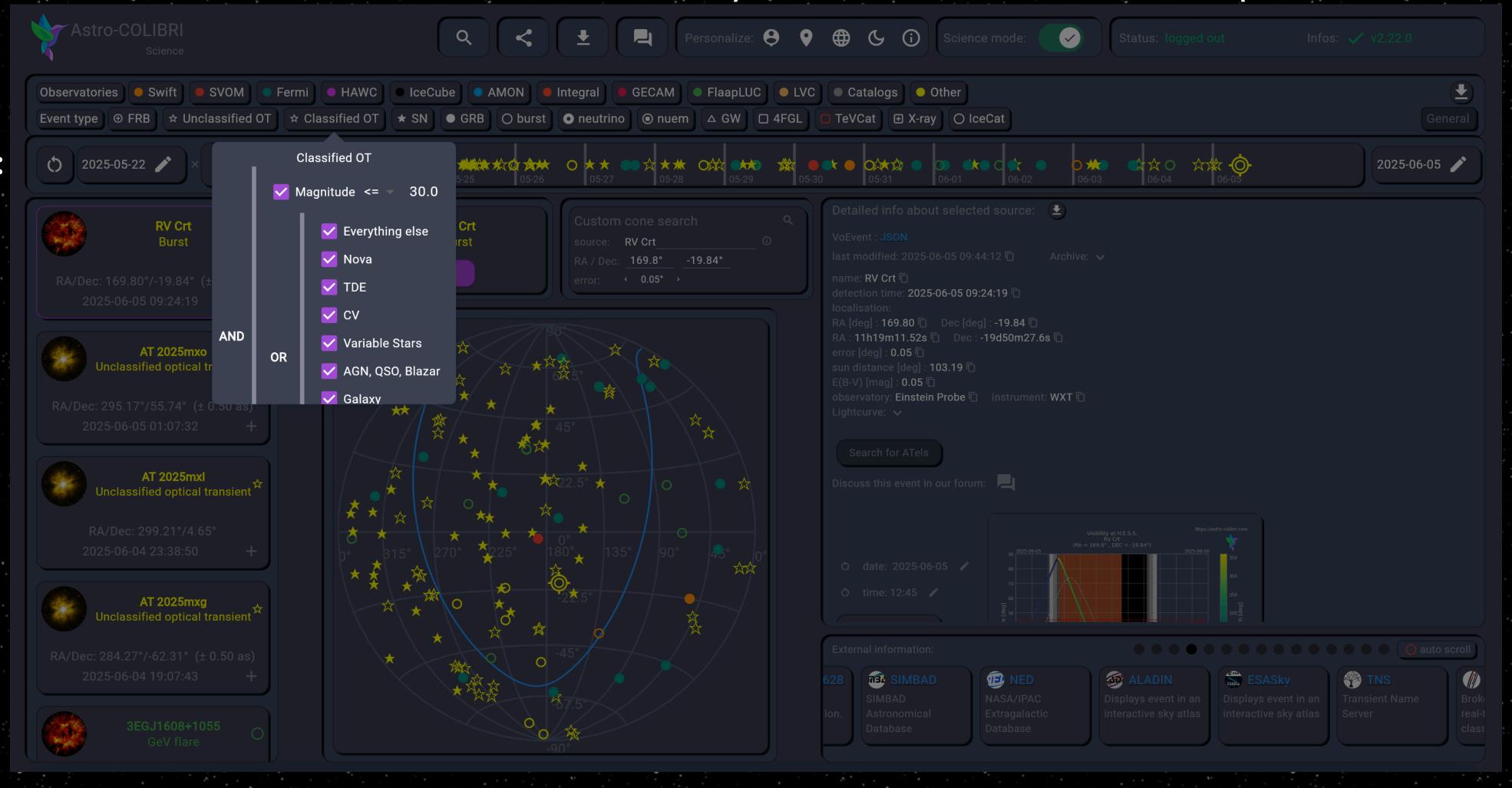


Filters are customizable and saved in your account - account required!

**Filters** 

Long Press:

- Magnitude
- Type







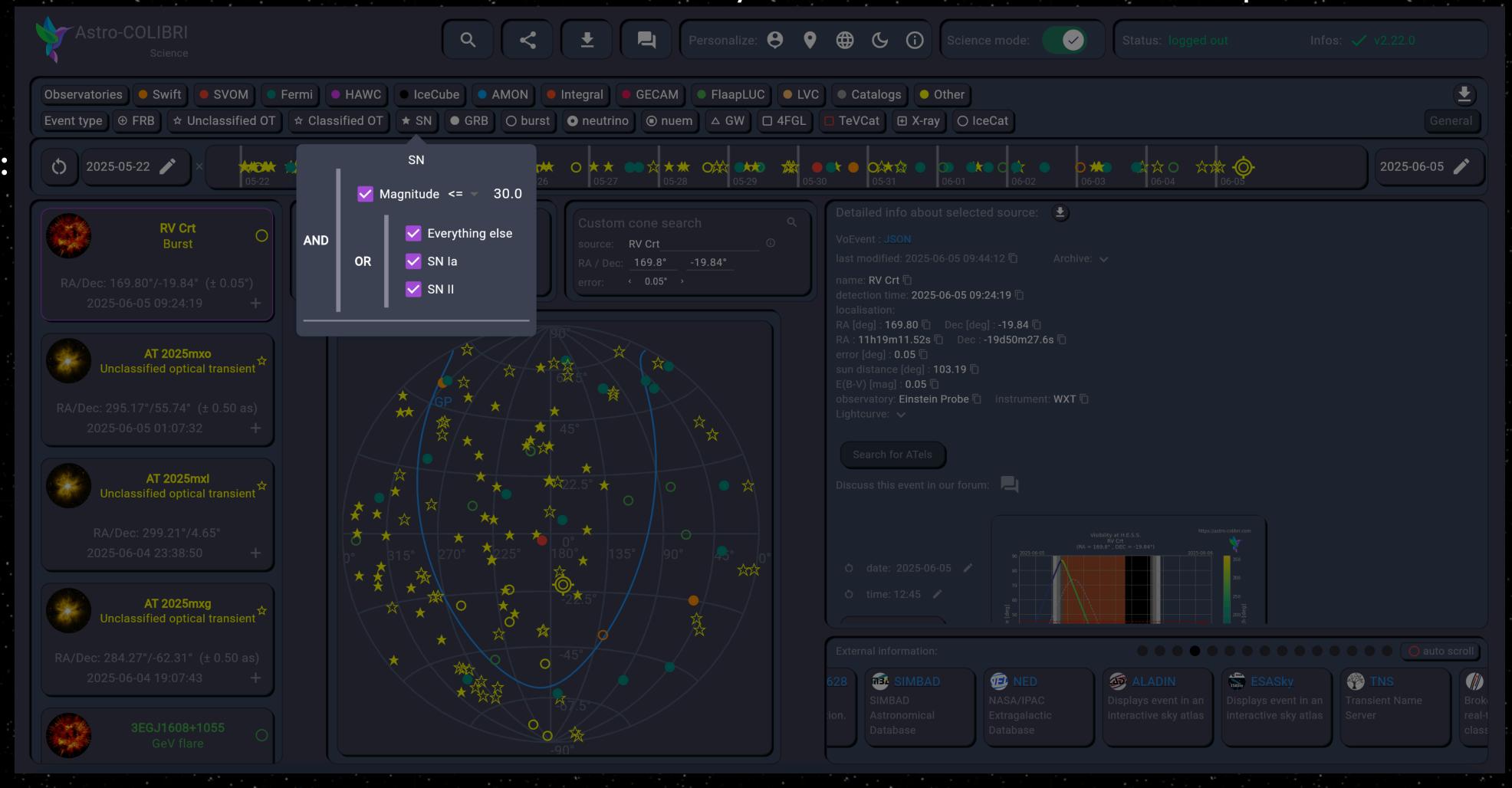


Filters are customizable and saved in your account - account required!

**Filters** 

Long Press:

- Magnitude
- Type







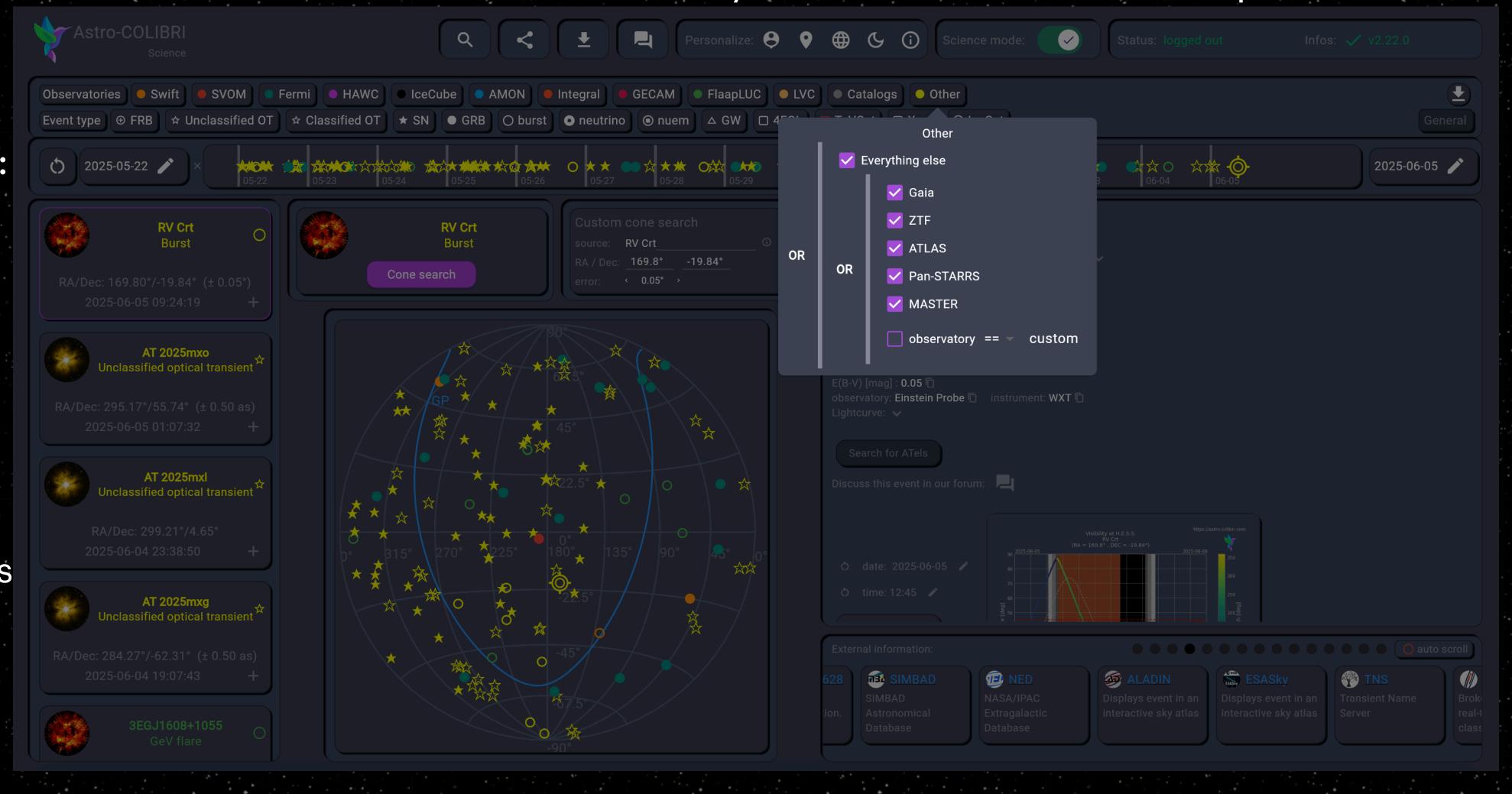


Filters are customizable and saved in your account - account required!

#### **Filters**

Long Press:

- Magnitude
- Type
- Different observatories







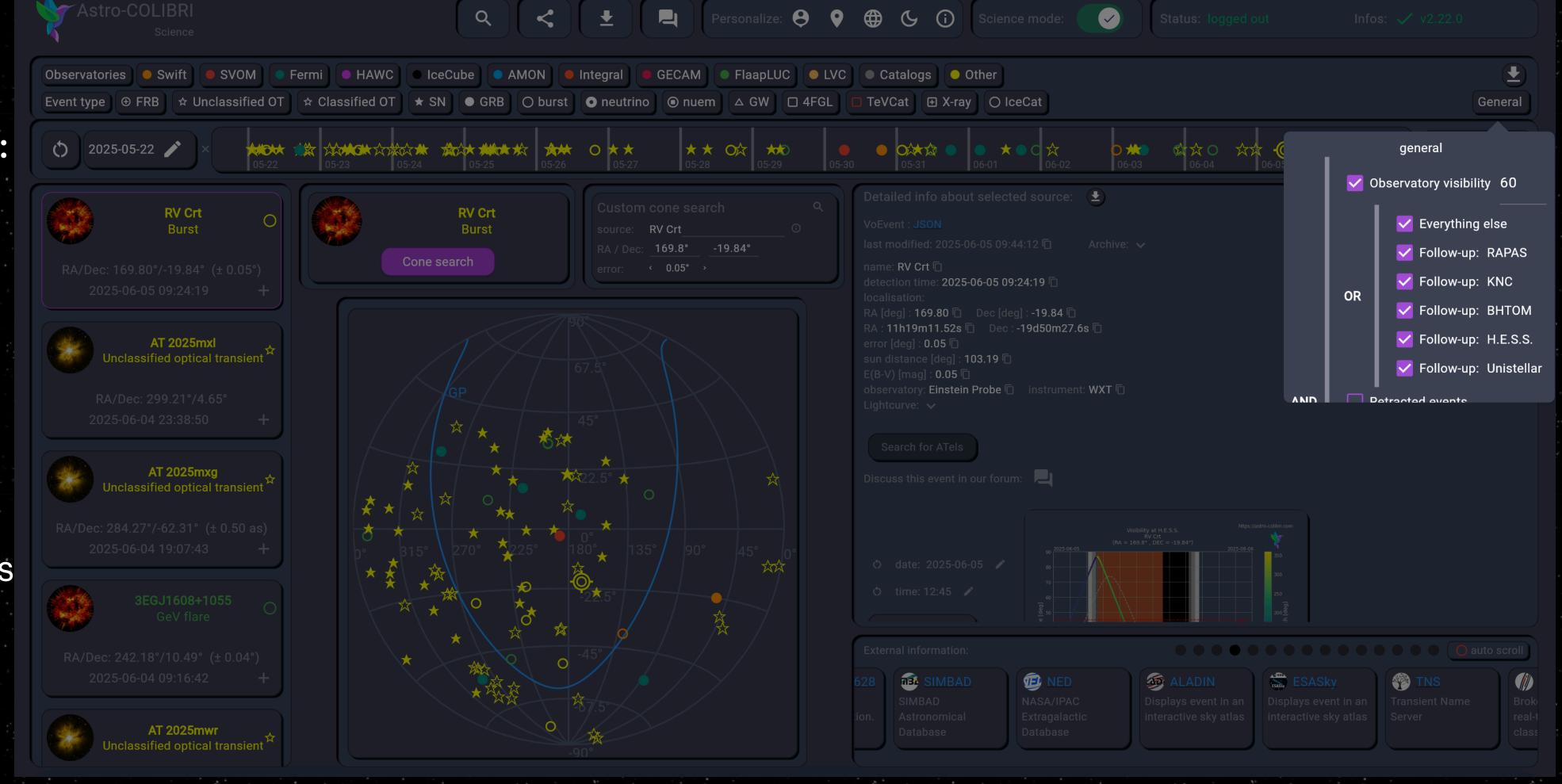


Filters are customizable and saved in your account - account required!

#### **Filters**

Long Press:

- Magnitude
- Type
- Different observatories
- Visibility+follow-ups







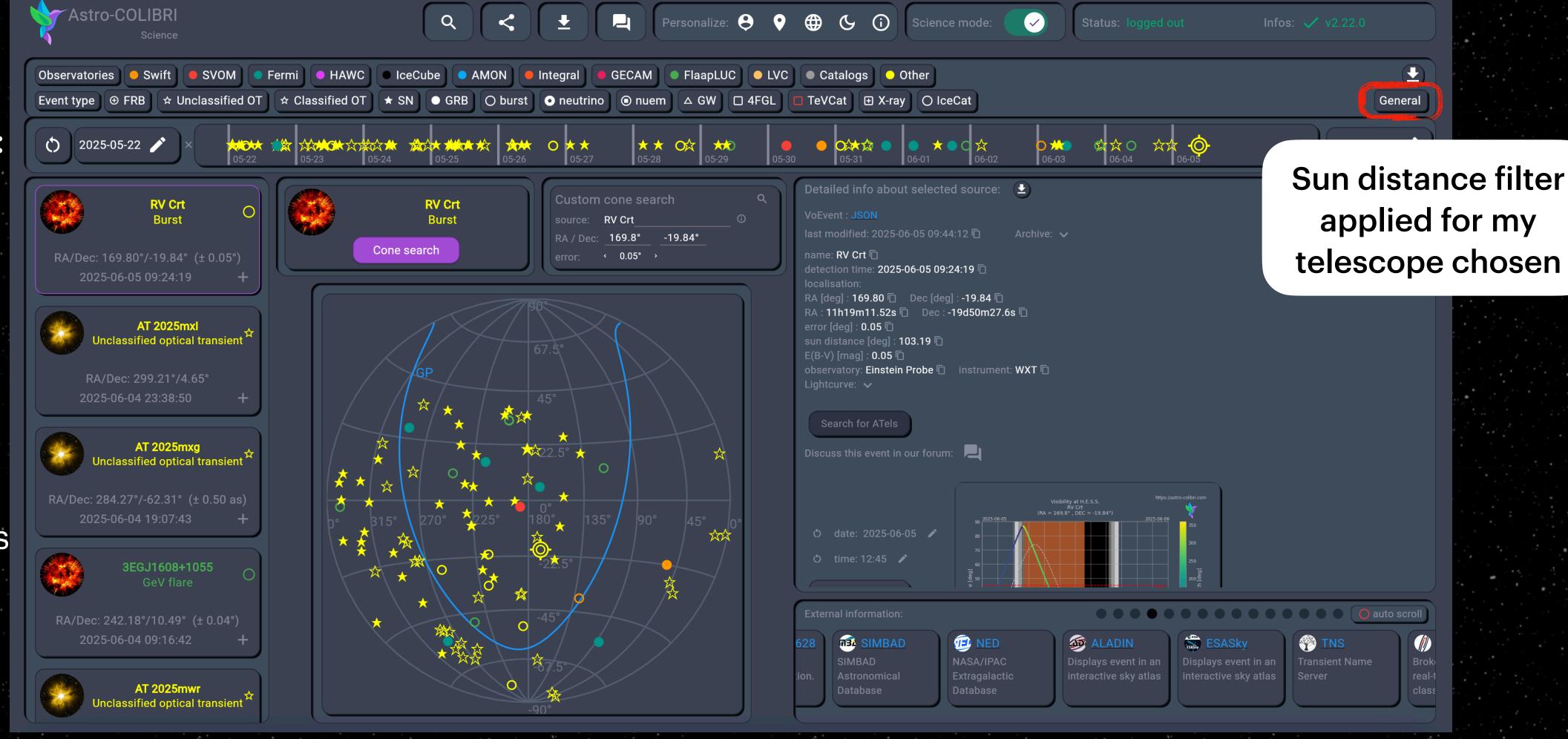


Filters are customizable and saved in your account - account required!

#### **Filters**

Long Press:

- Magnitude
- Type
- Different observatories
- Visibility+follow-ups









Access the visibility of (your own) telescopes with e.g. supernovae.

In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?







Access the visibility of (your own) telescopes with e.g. supernovae.

In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?











Access the visibility of (your own) telescopes with e.g. supernovae.

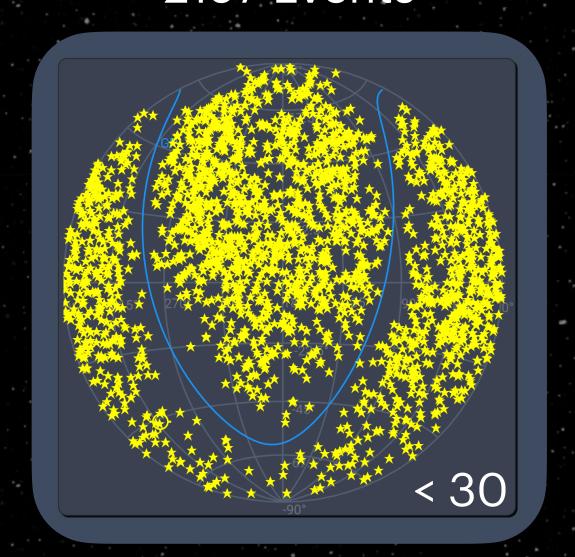
In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?













Access the visibility of (your own) telescopes with e.g. supernovae.

In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?

By the naked eye (mag < 6)?



□ TeVCat

☐ 4FGL







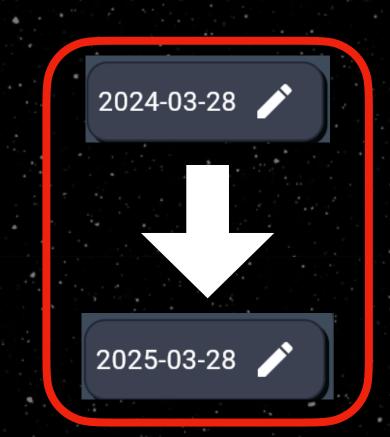


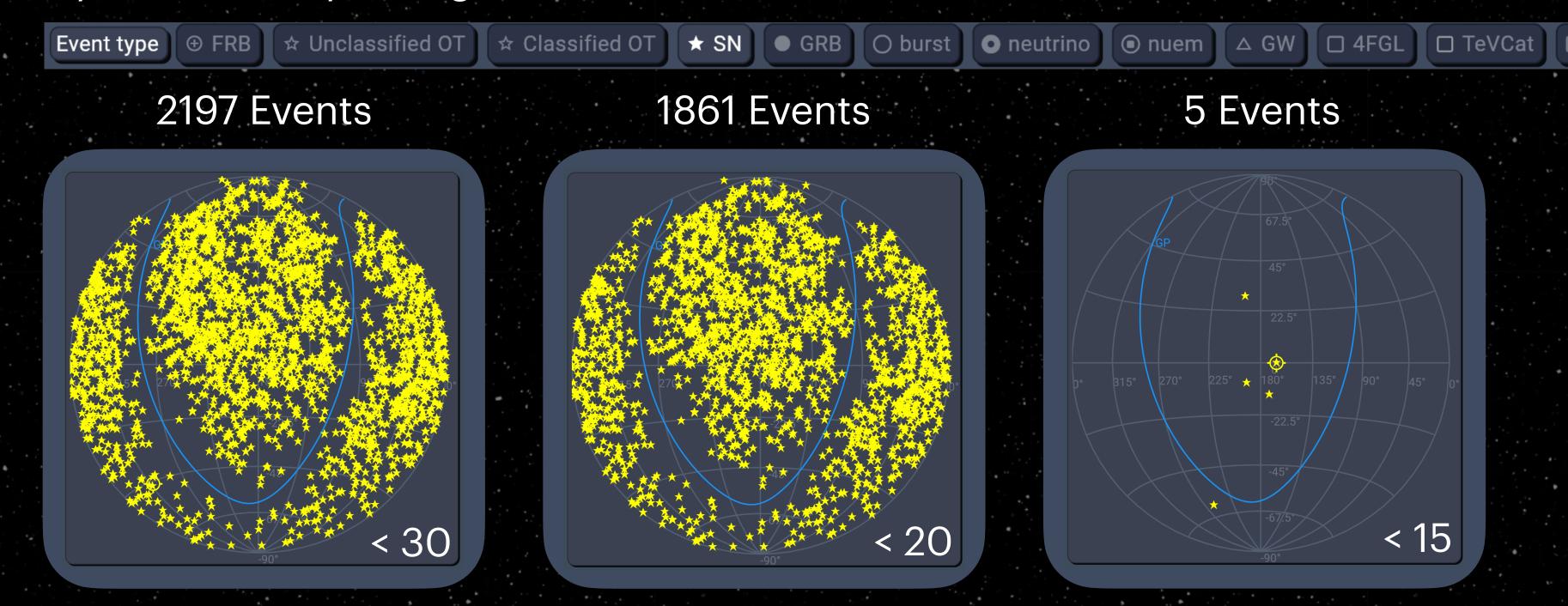
Access the visibility of (your own) telescopes with e.g. supernovae.

In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?











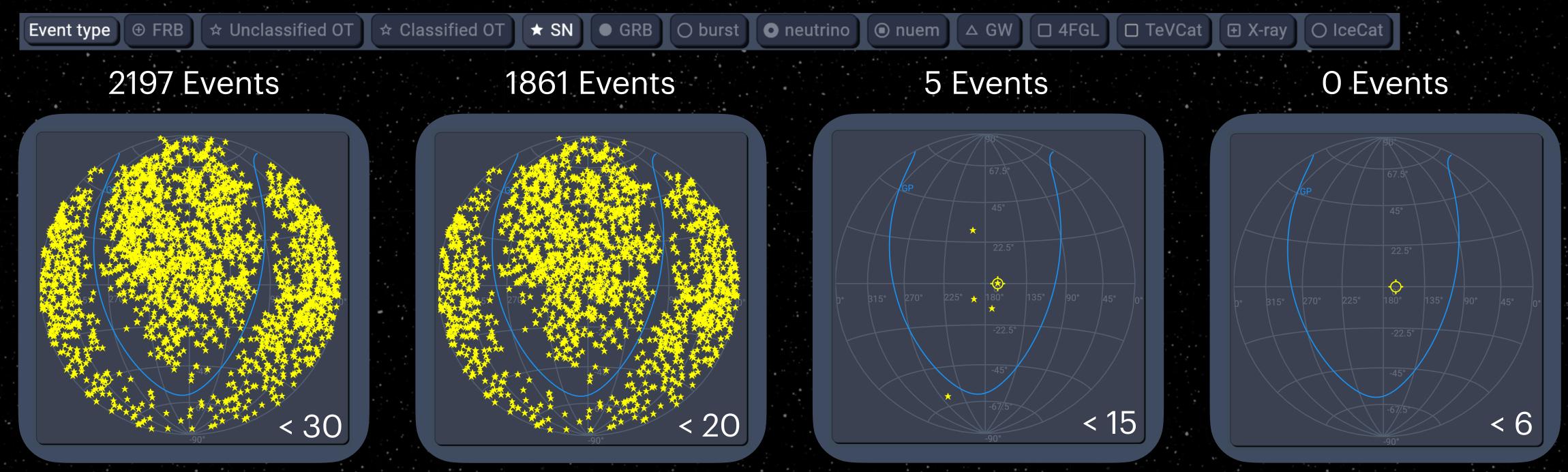
Access the visibility of (your own) telescopes with e.g. supernovae.

In the last year how many supernovae have occurred?

How many were observable by Gaia (mag < 20)?

By an amateur astronomer (mag < 15)?





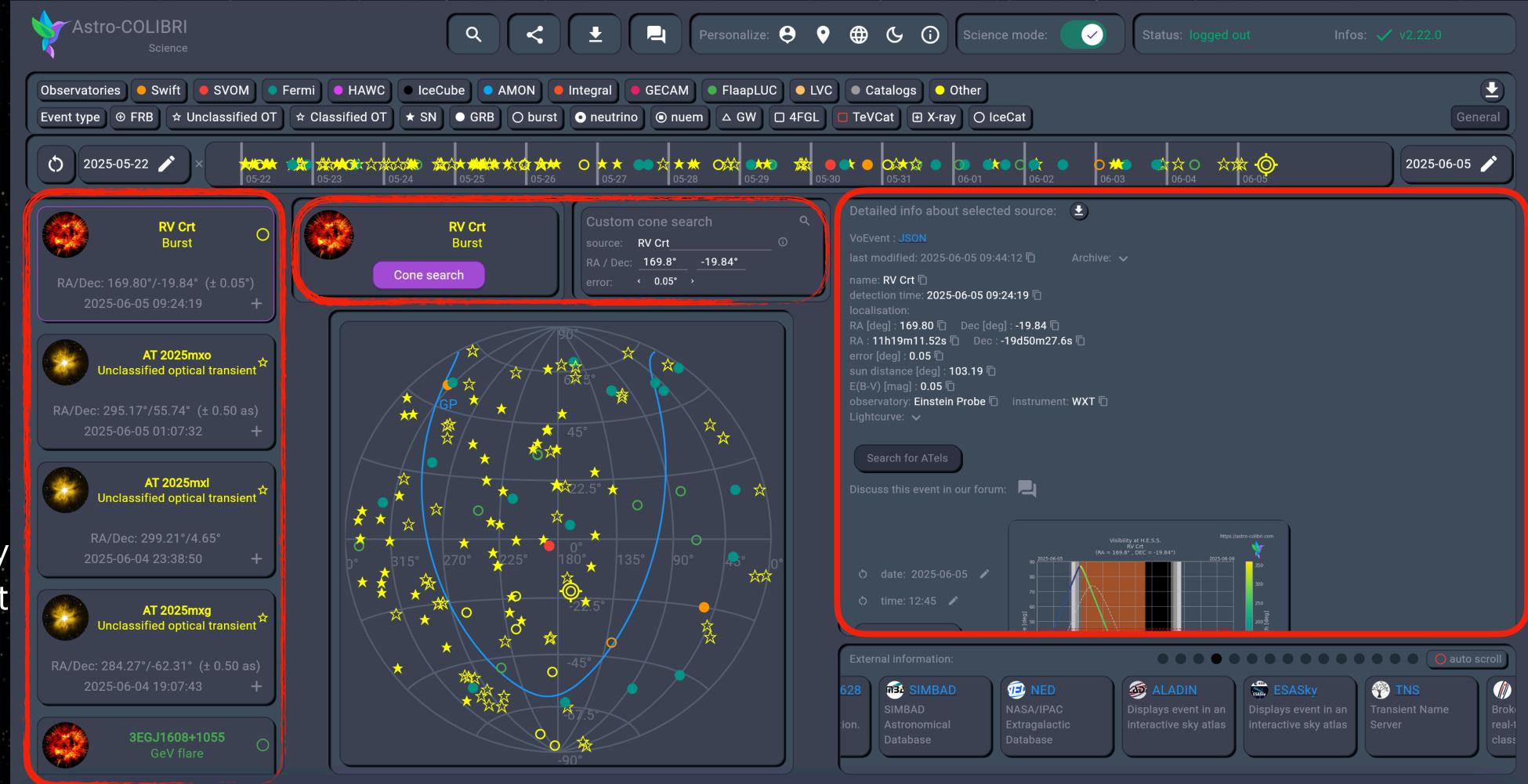






# More detailed Infos

- RA/Dec
- Time of detection
- Errors
- Observatory / Instrument
- Much more







Cone Search







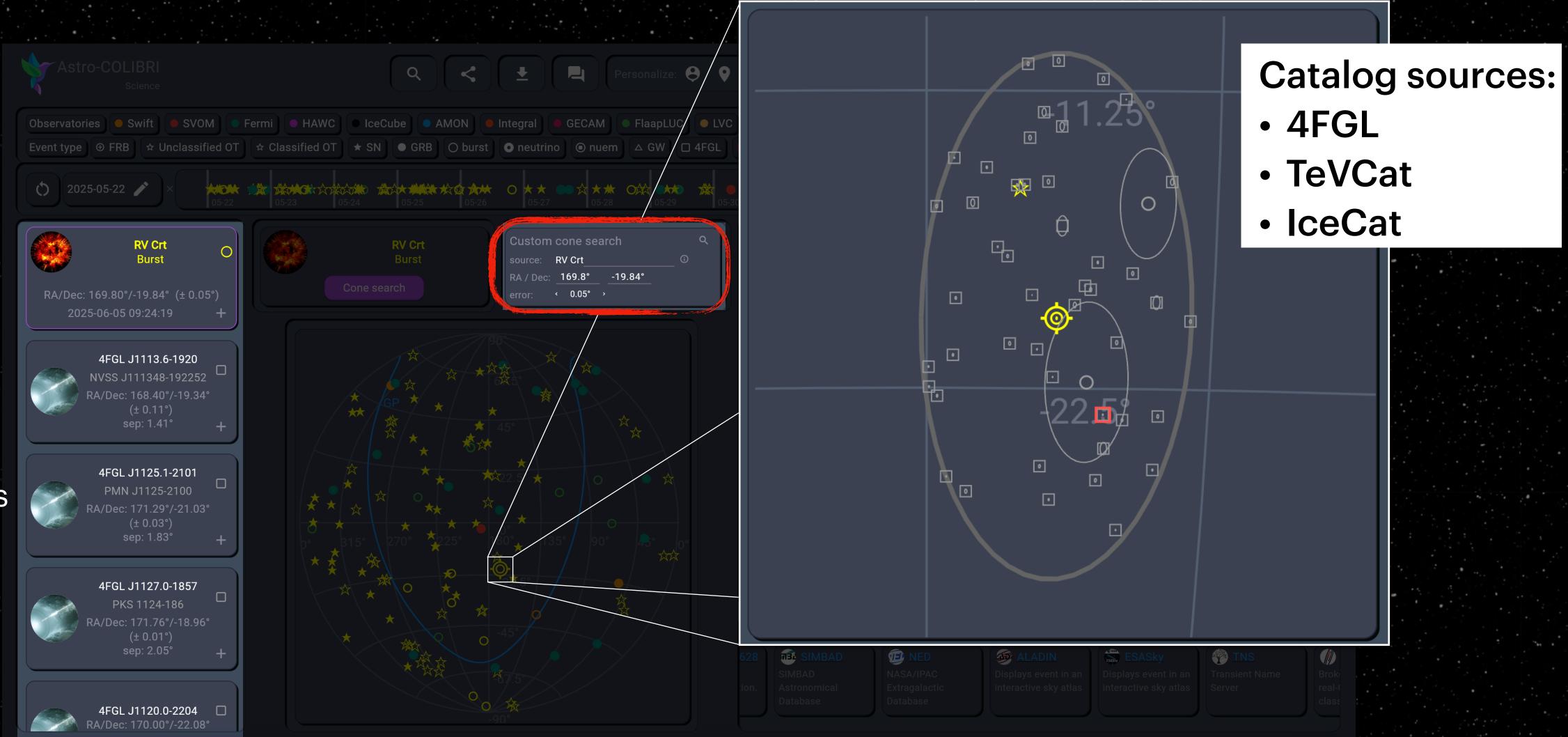


#### Cone Search

Custom
Cone
Search by:

- name
- Coordinates

+ Error area adjustable



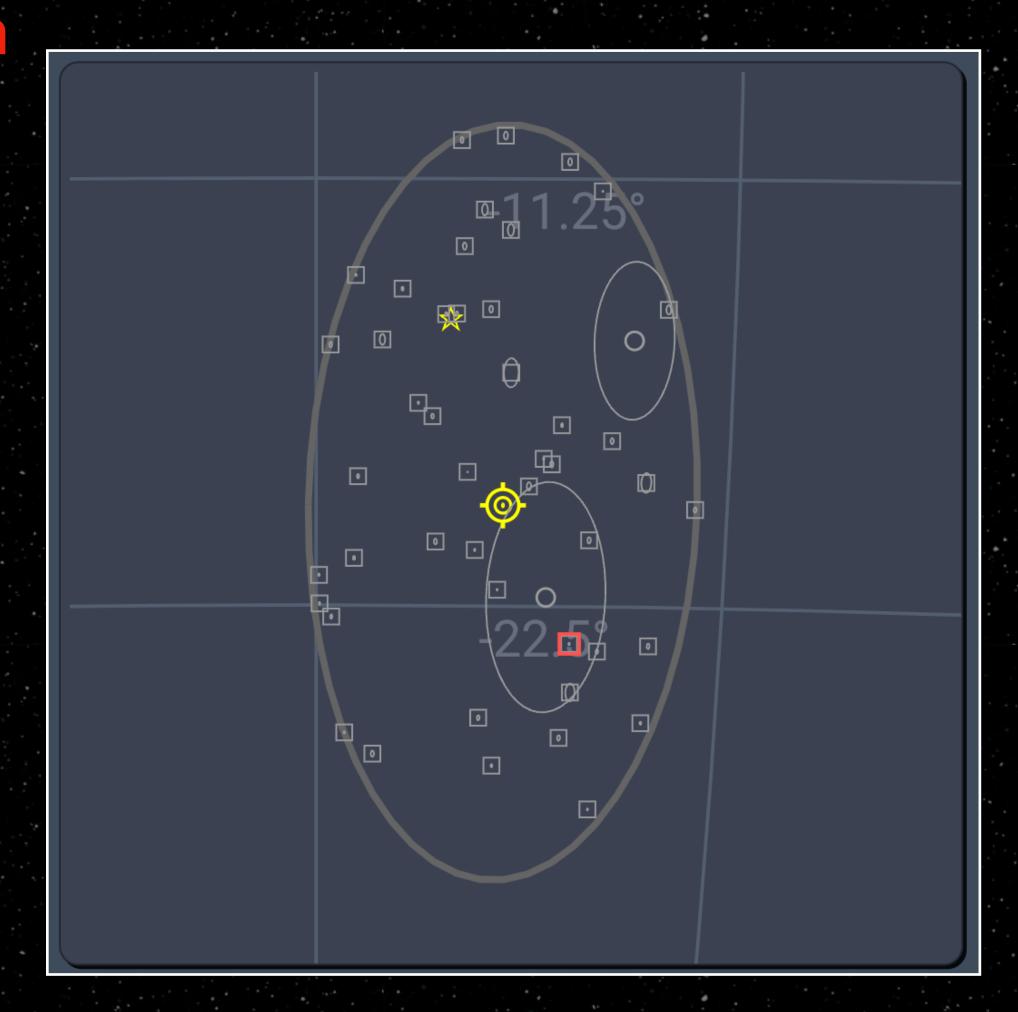






#### Cone Search





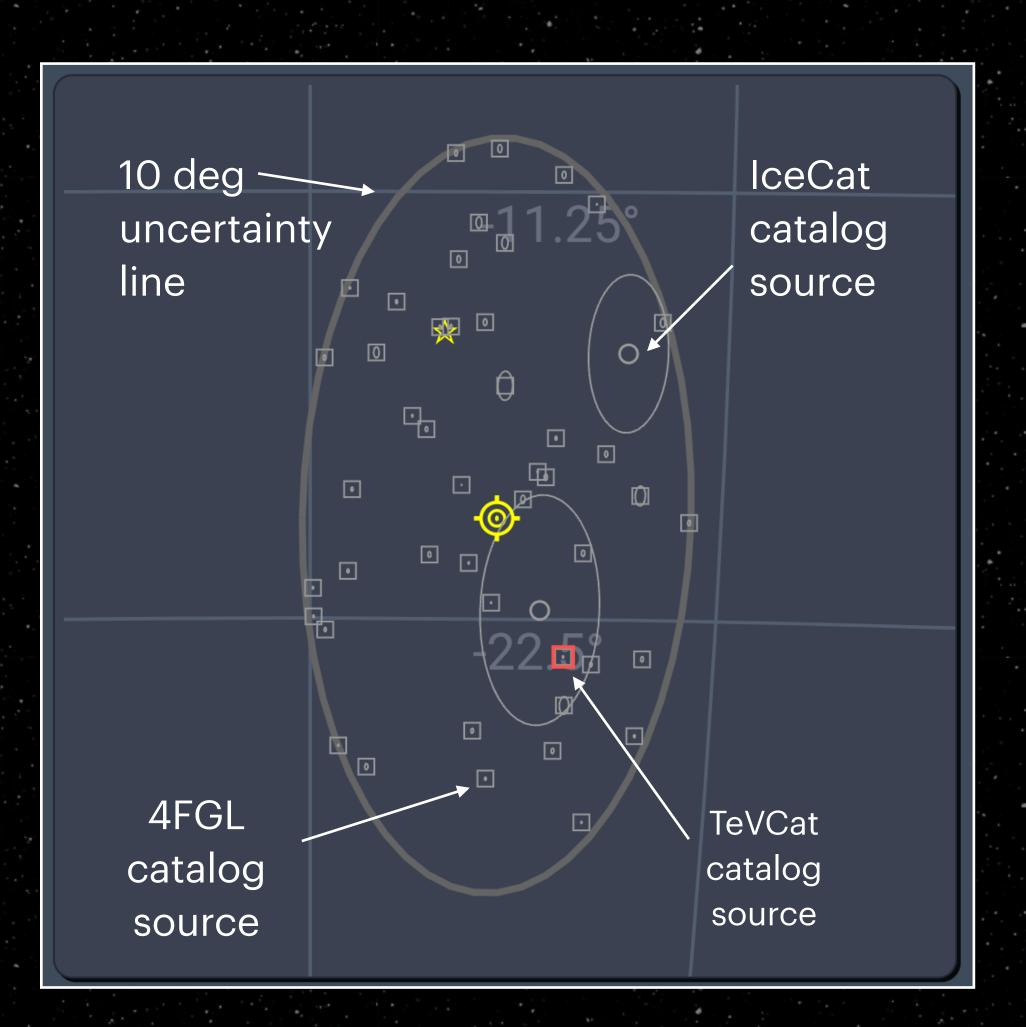






#### Cone Search





4FGL, TeVCat and IceCat are catalogs for gamma-ray and neutrino sources with many **persistent** sources and earlier detections

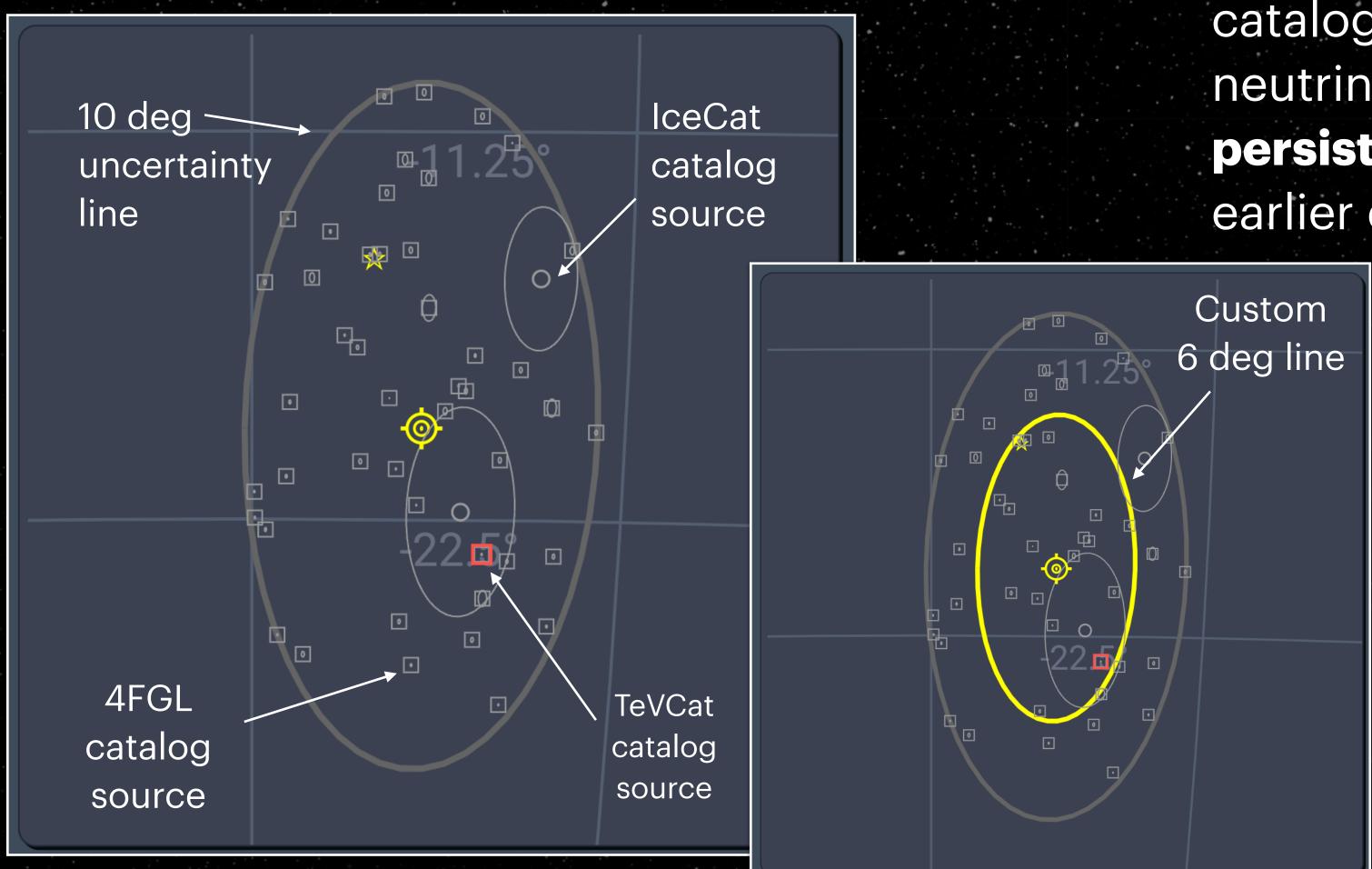






#### Cone Search





4FGL, TeVCat and IceCat are catalogs for gamma-ray and neutrino sources with many **persistent** sources and earlier detections

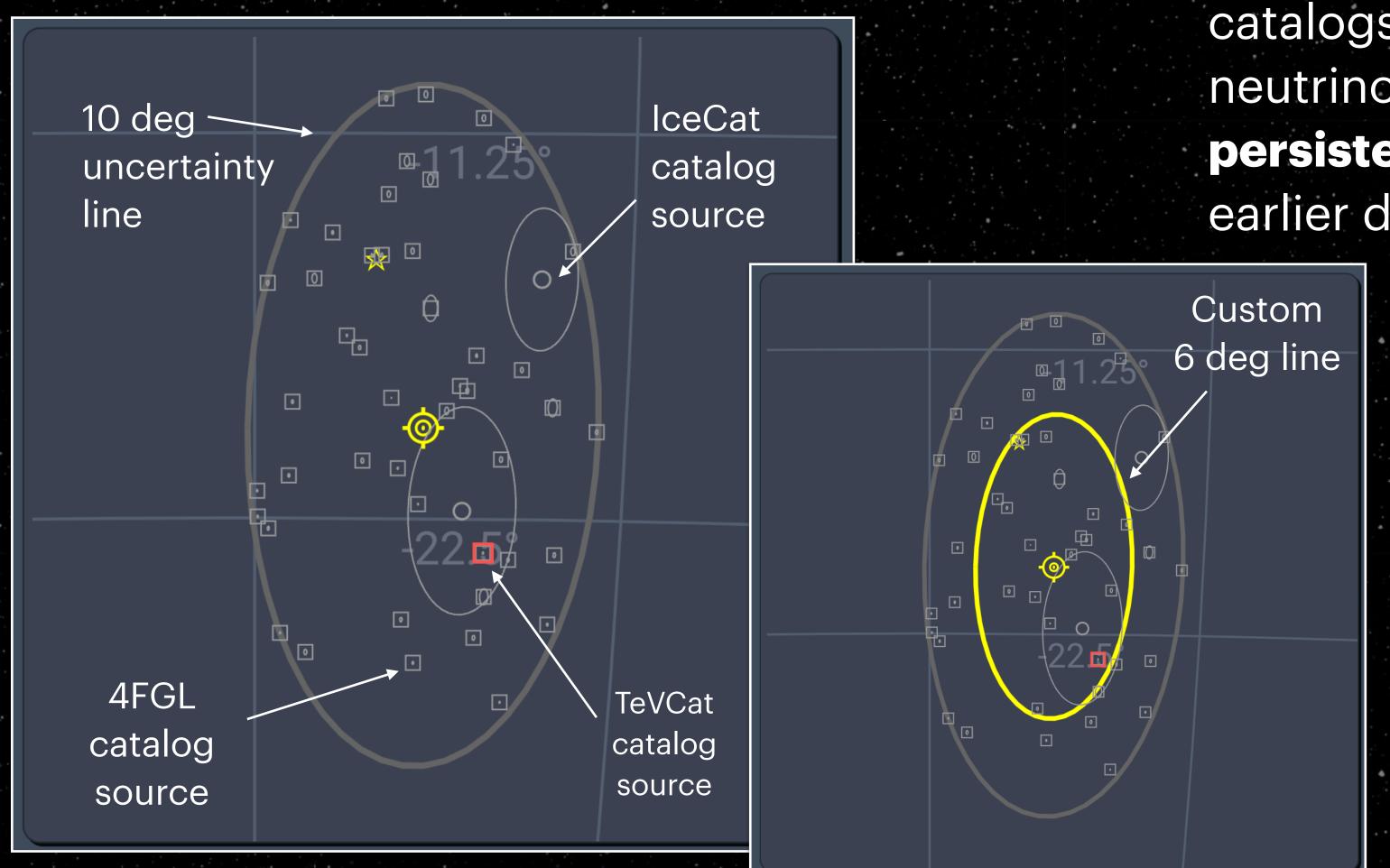






#### Cone Search





4FGL, TeVCat and IceCat are catalogs for gamma-ray and neutrino sources with many **persistent** sources and earlier detections

#### Filters in

4FGL

filter:

✓ AGN

✓ Binary✓ SNR

Starburst

✓ Pulsar

✓ Uncertain AG

Globular Cluster

✓ PWN

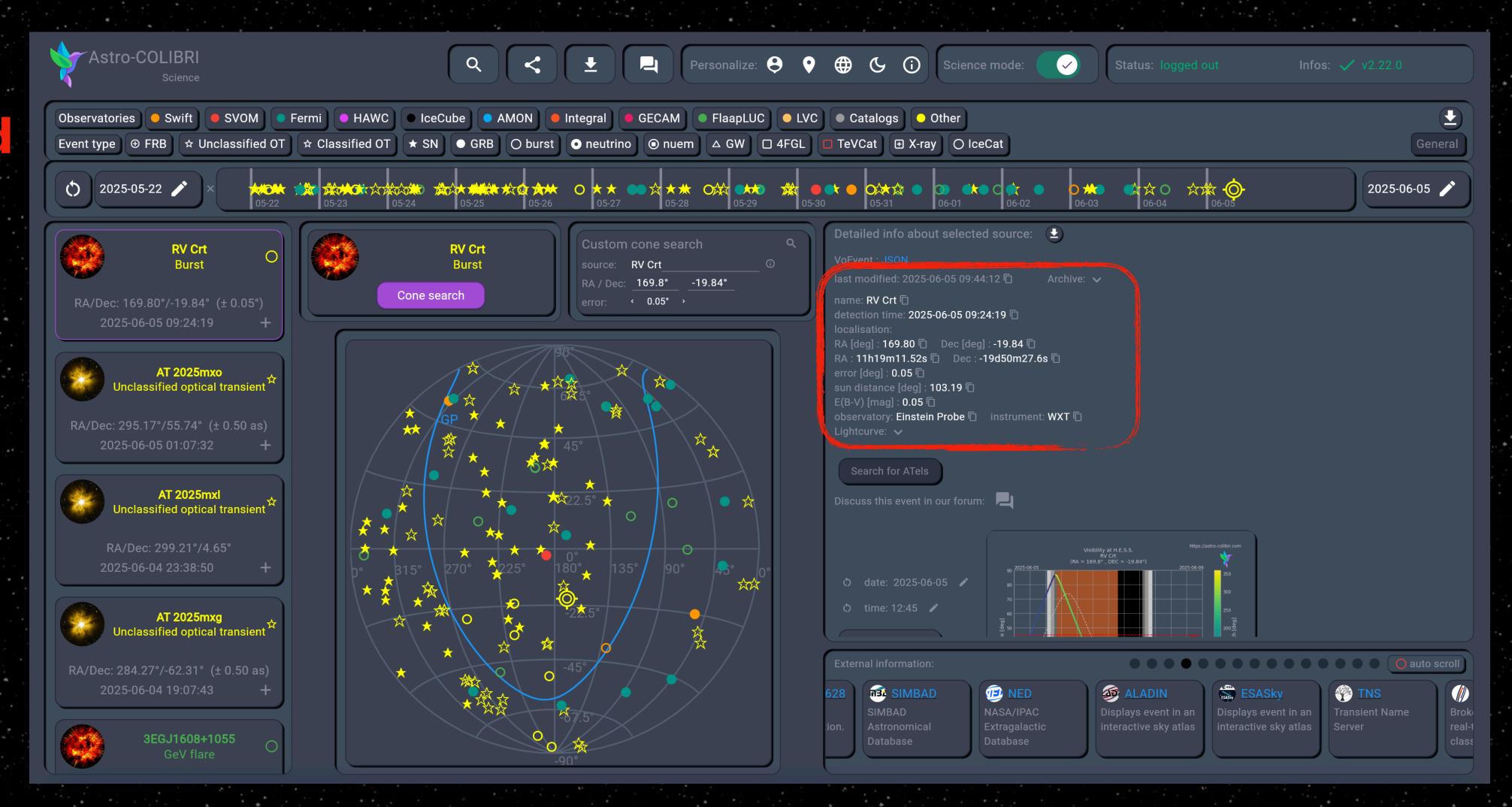
✓ Other







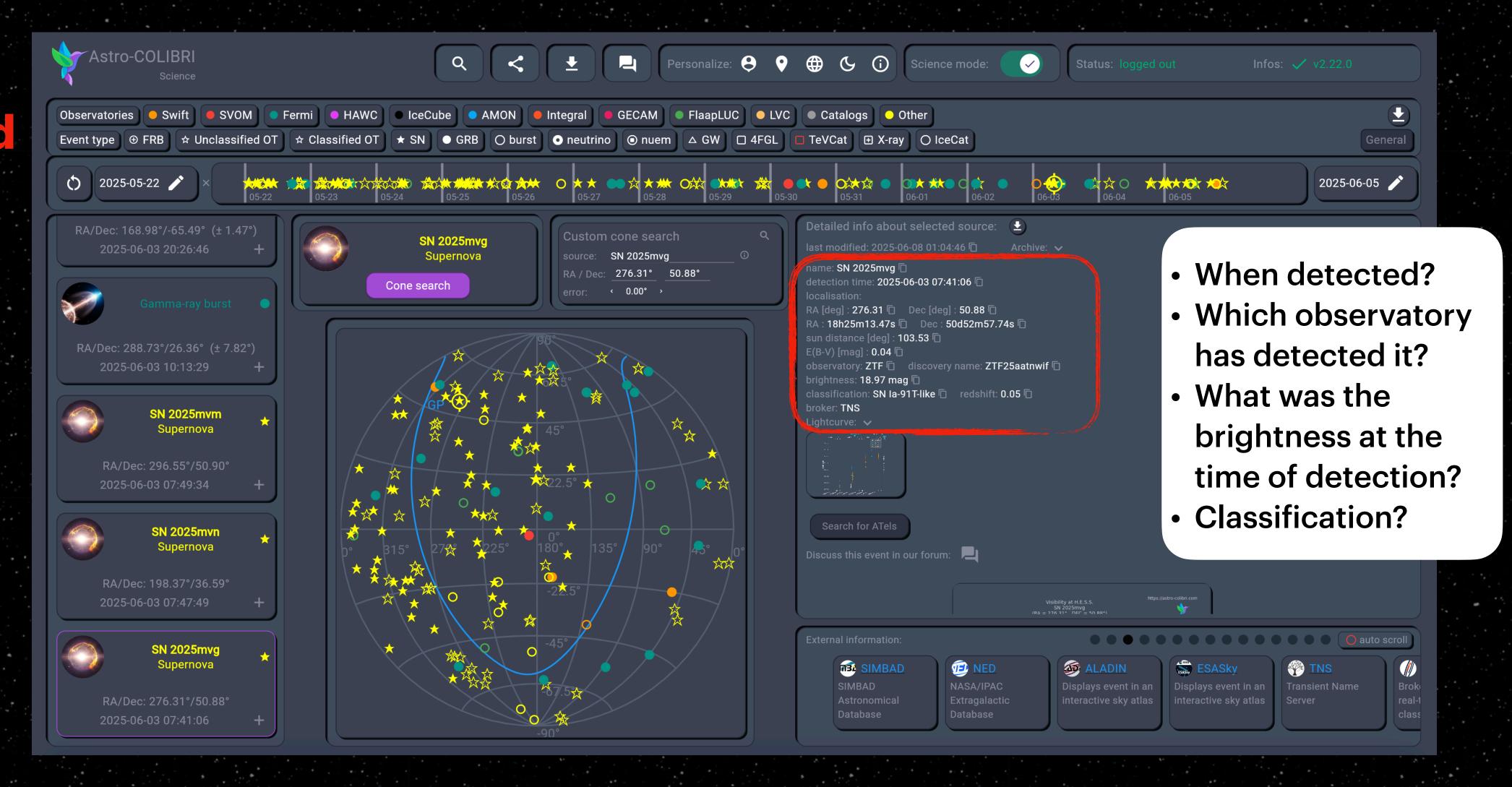
More detailed Event Info







More detailed Event Info





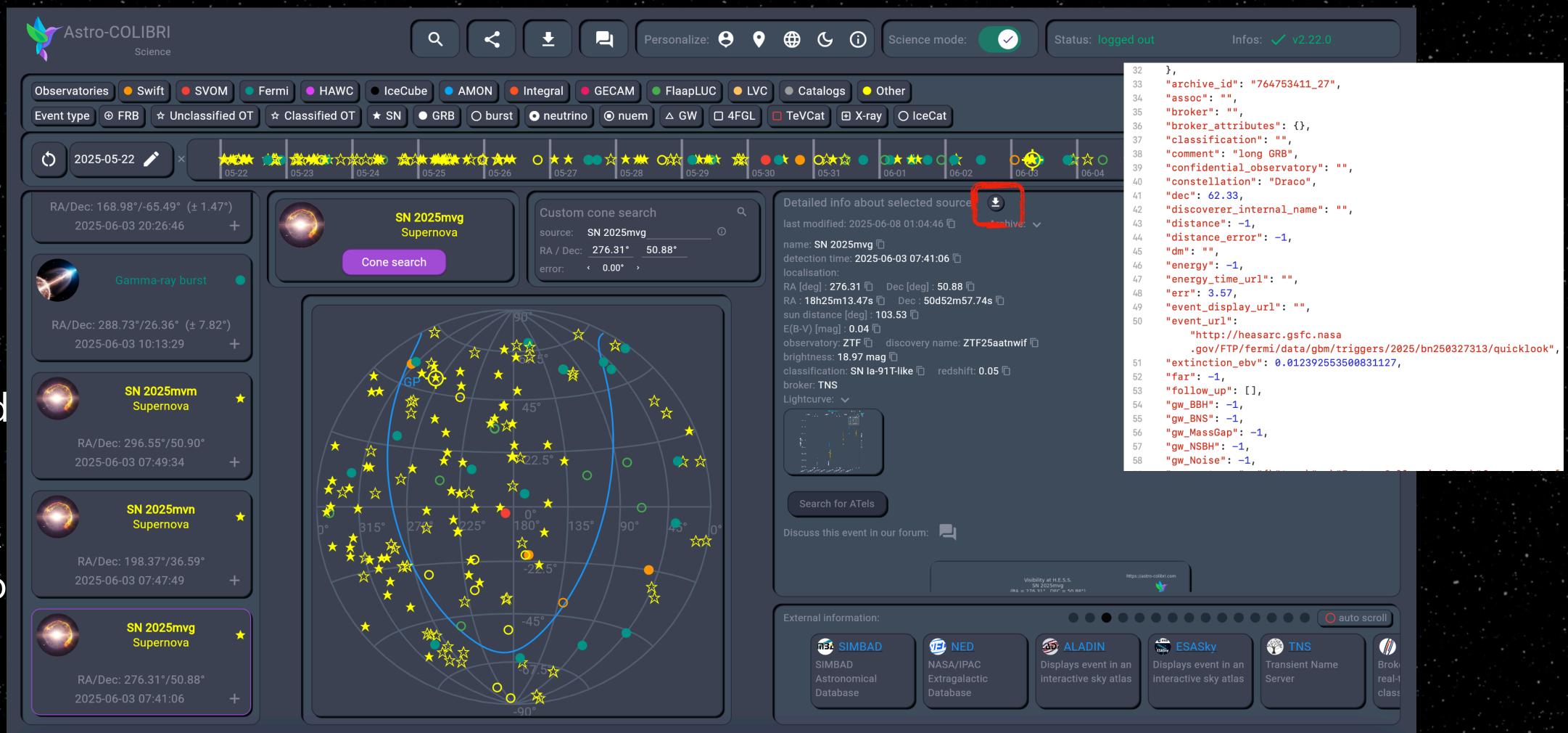




More detailed Event Info

Can be downloaded and used

More in talk by Bernardo



46

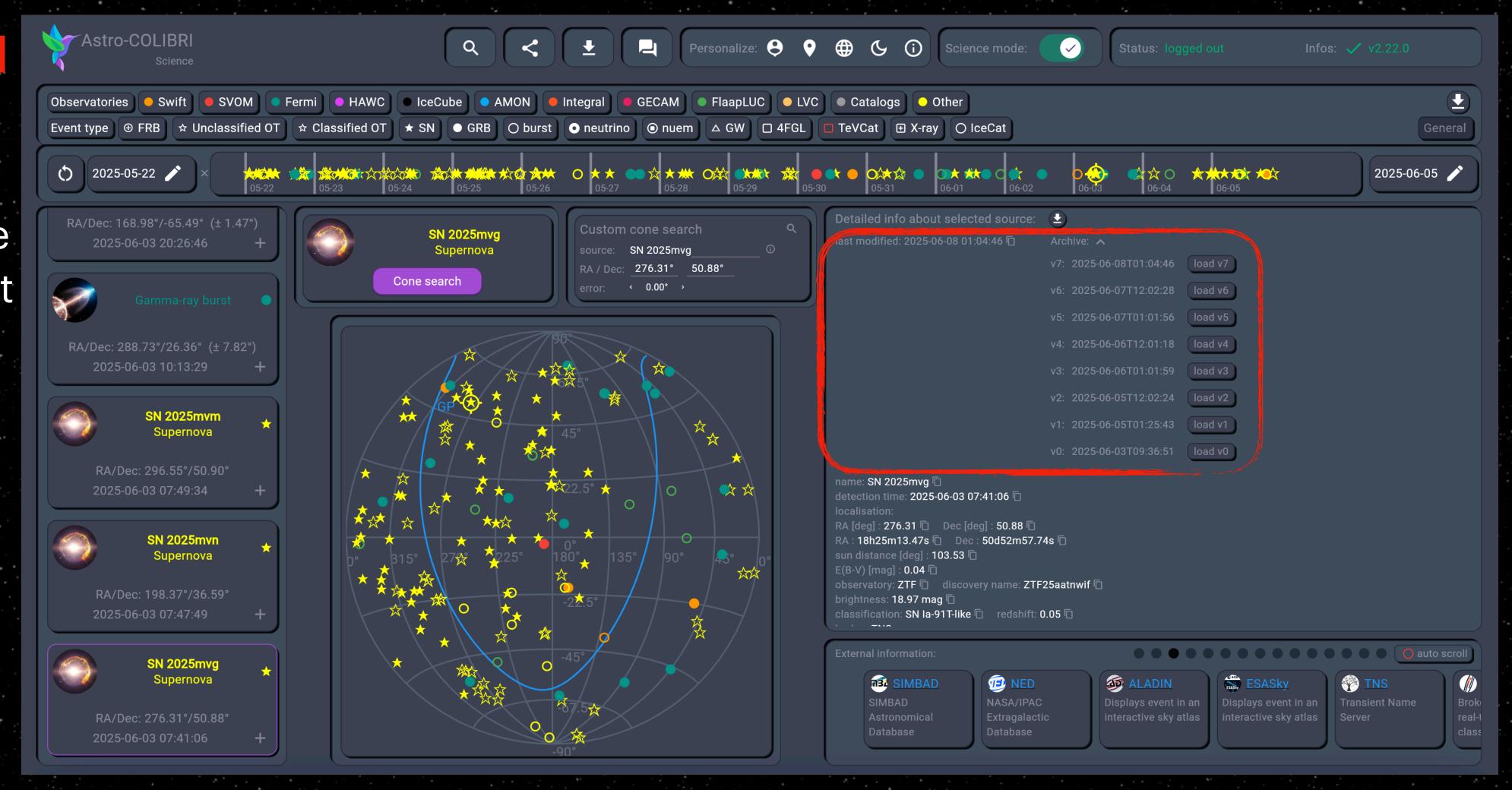






#### Archival infos

Up-to-date infos about event



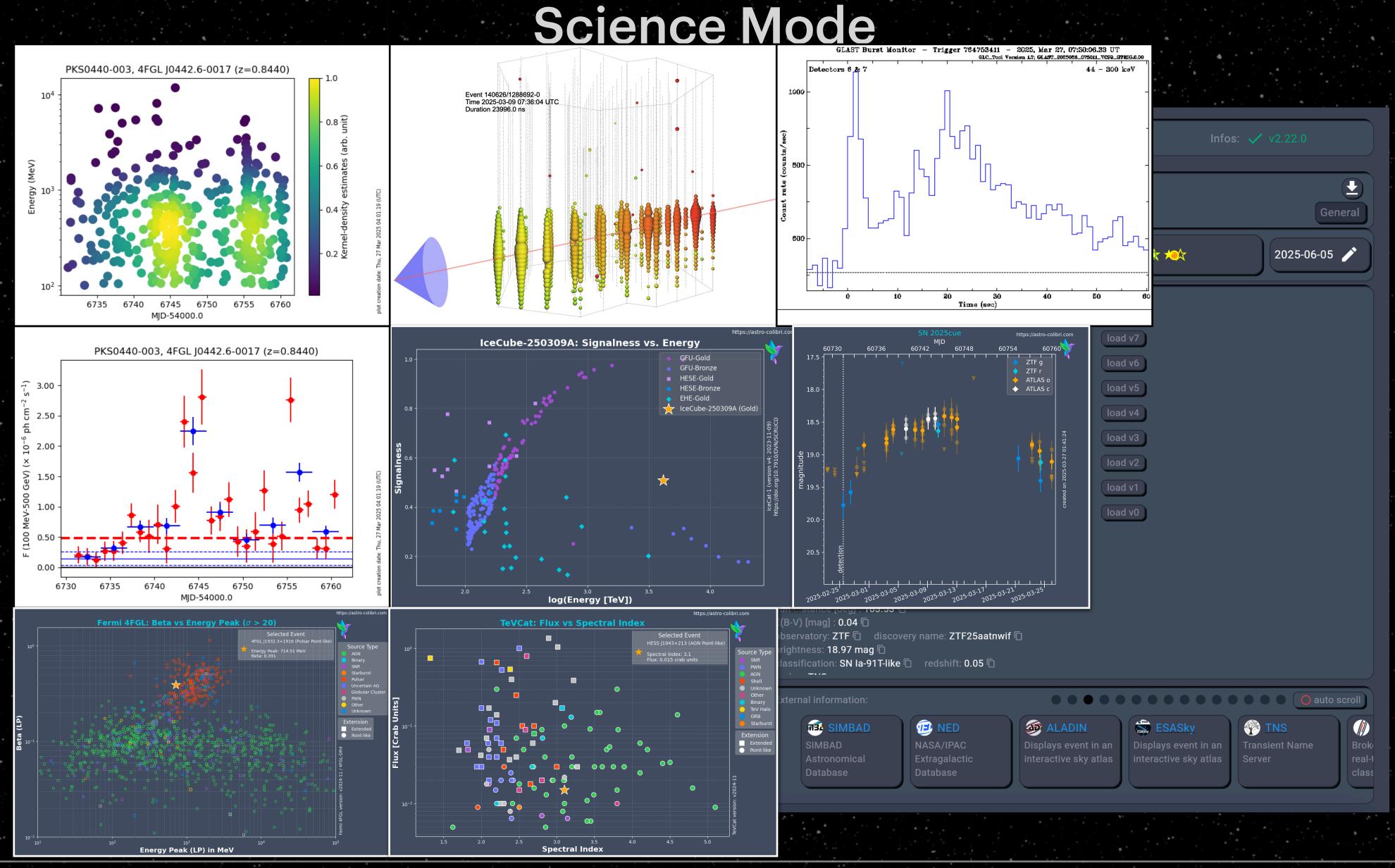


#### Web-Interface





Special event plots



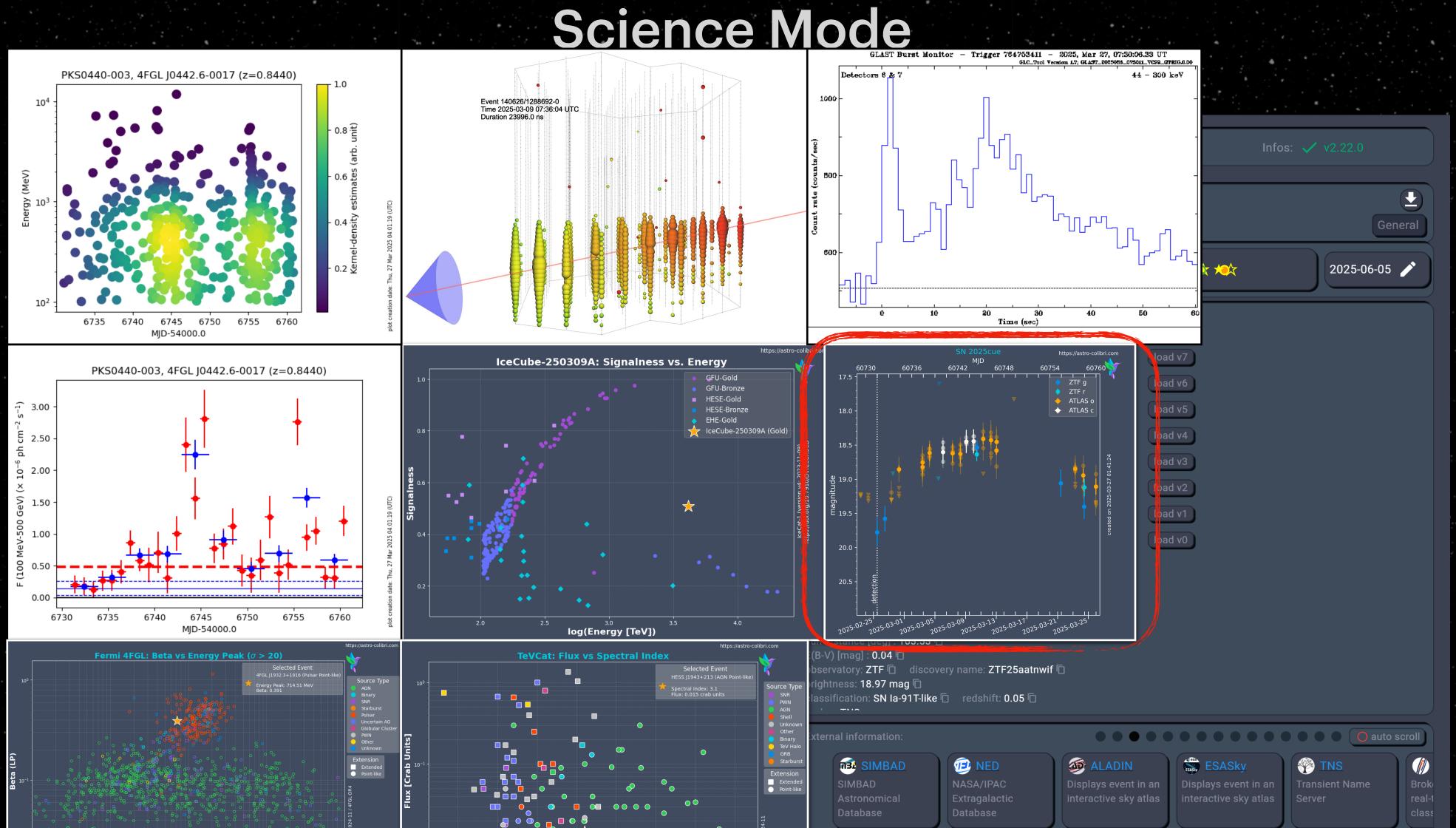


#### Web-Interface





Light curve



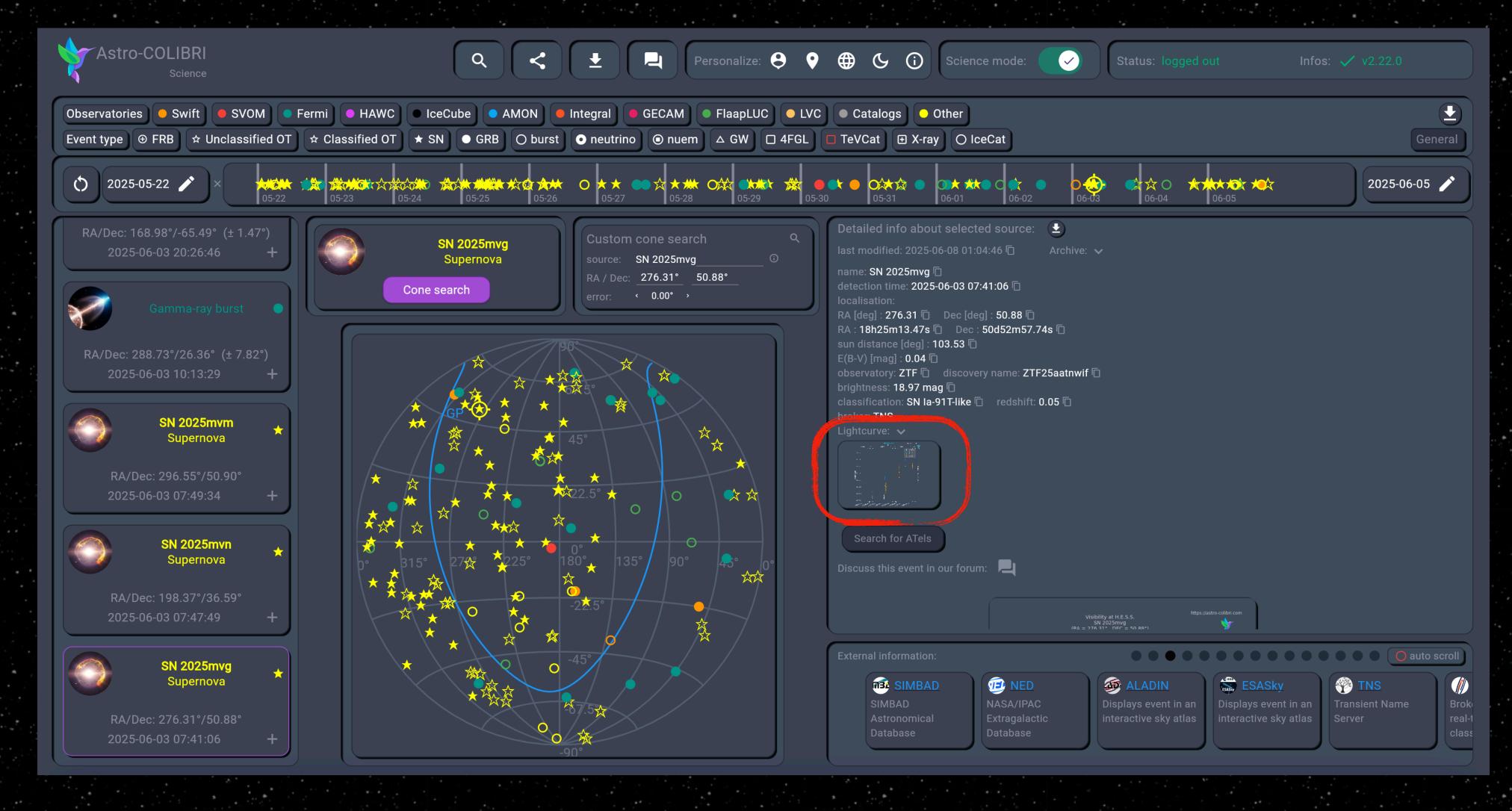
Energy Peak (LP) in MeV







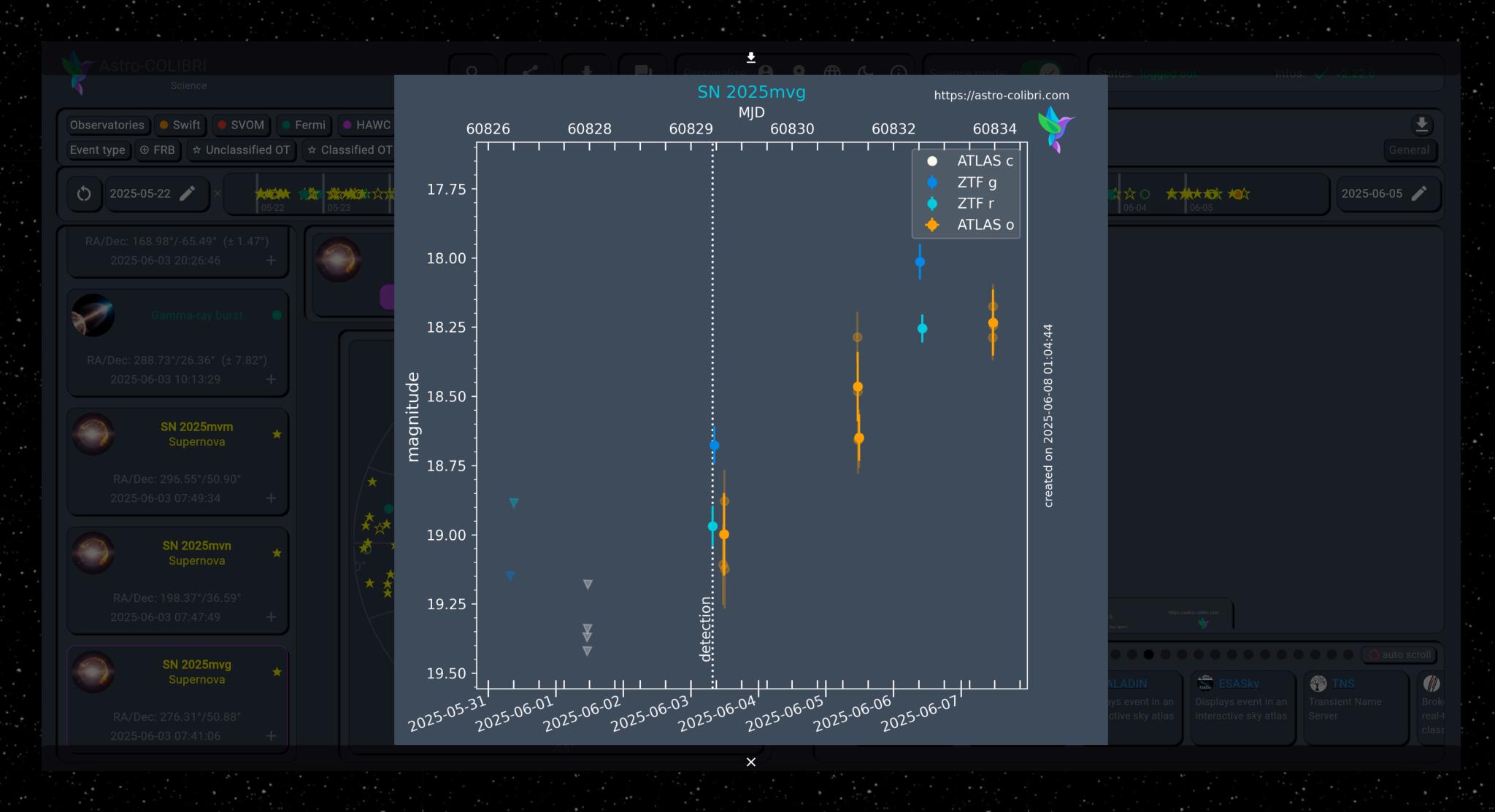








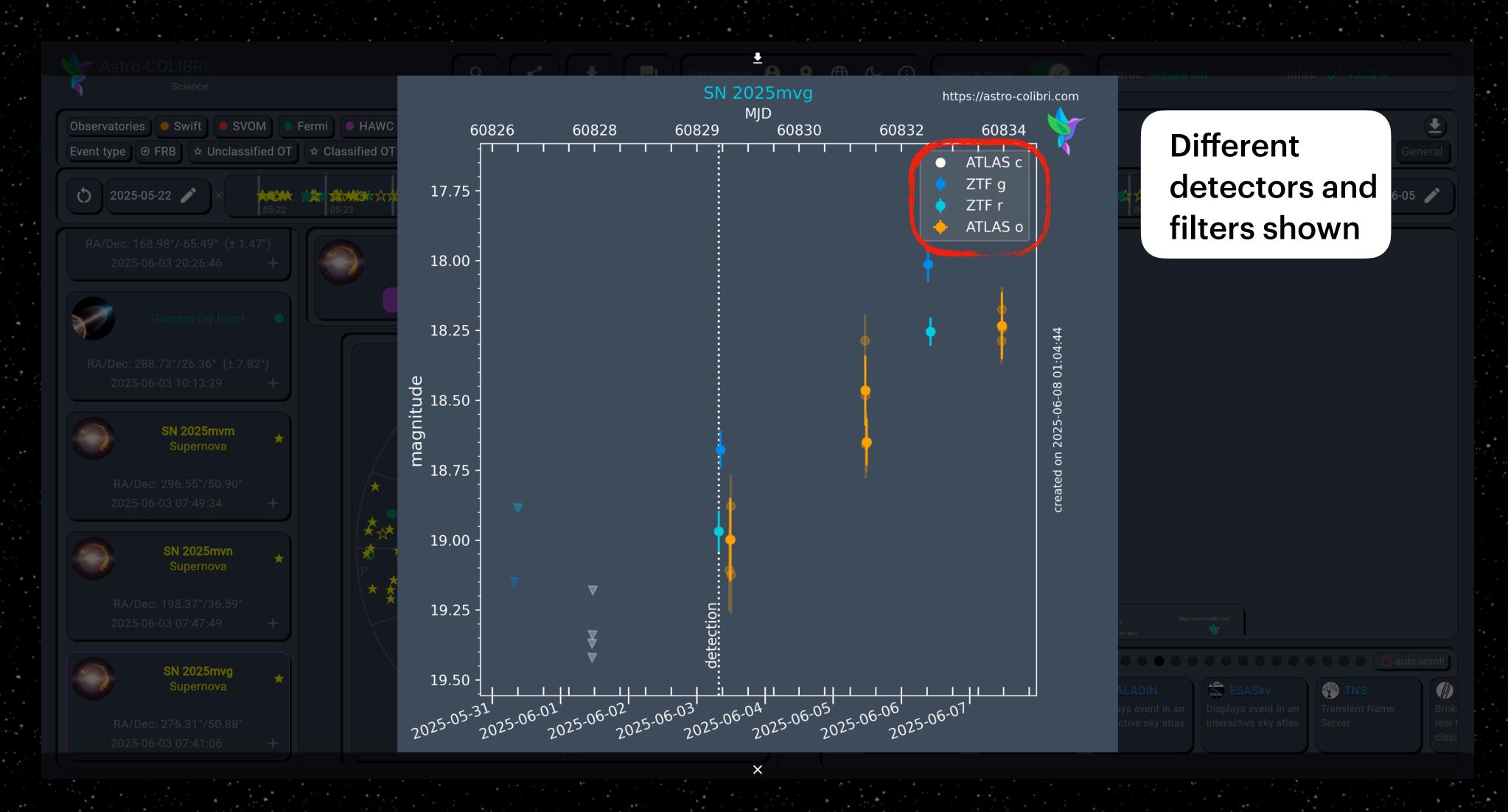








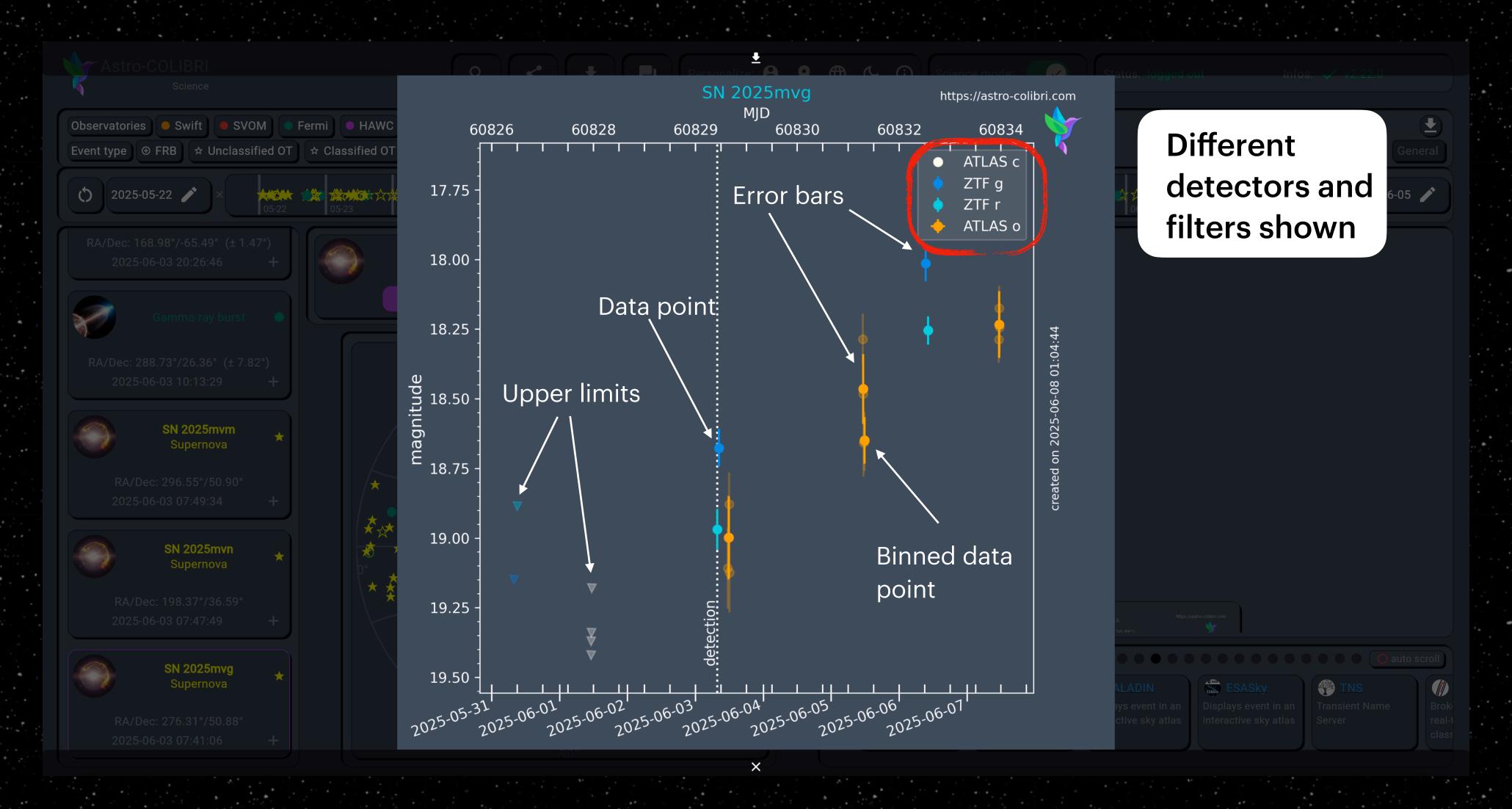








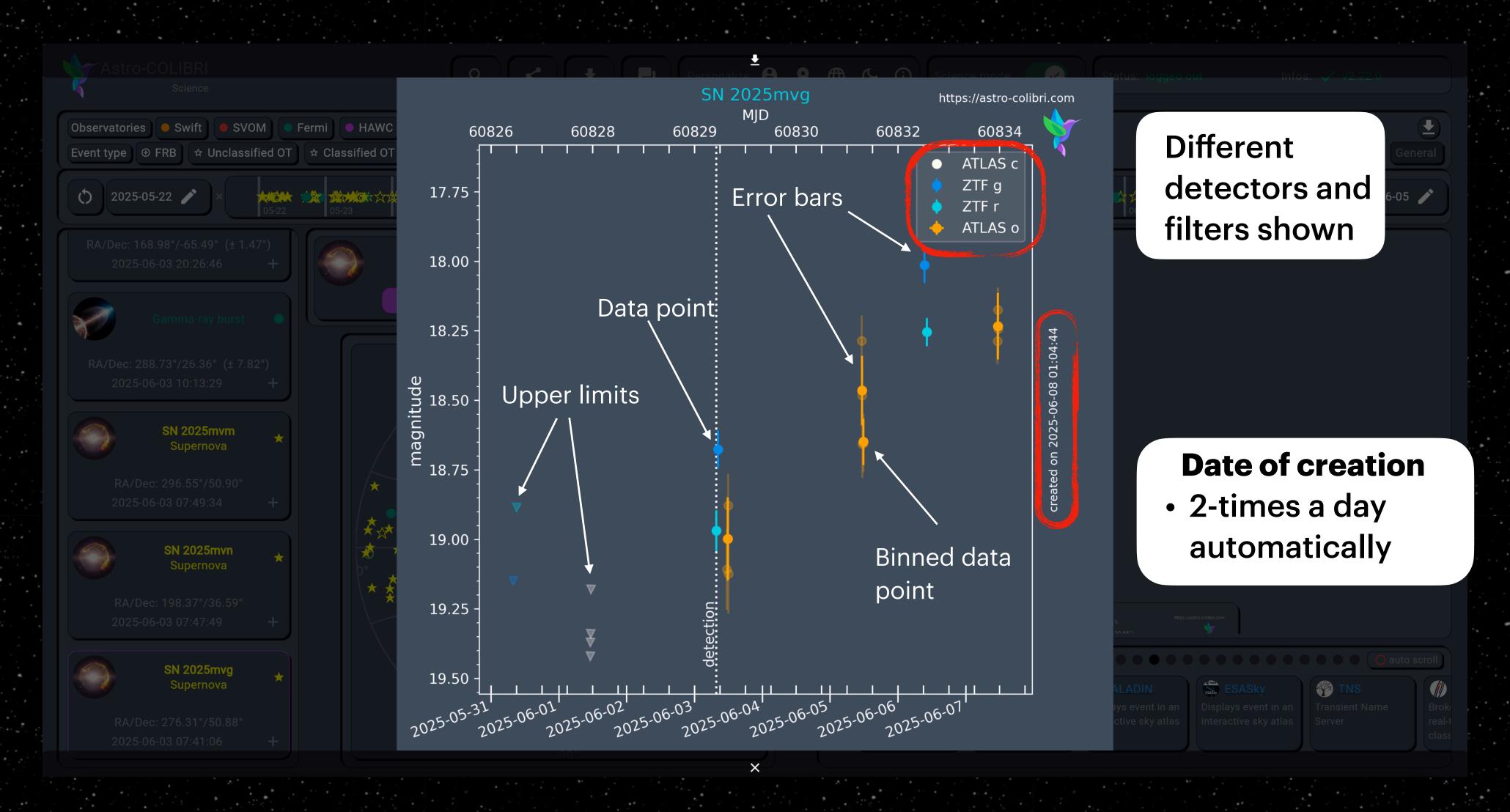








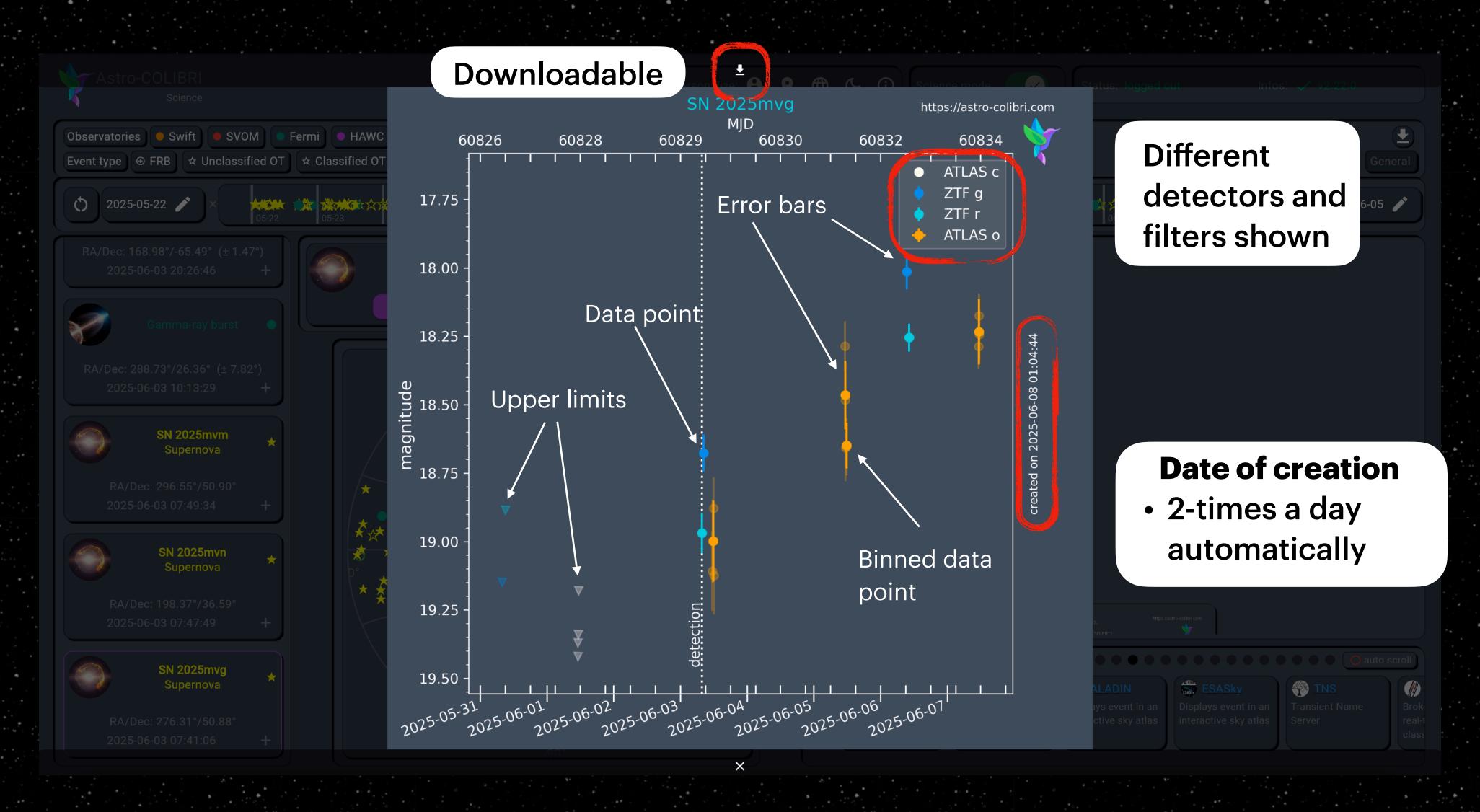












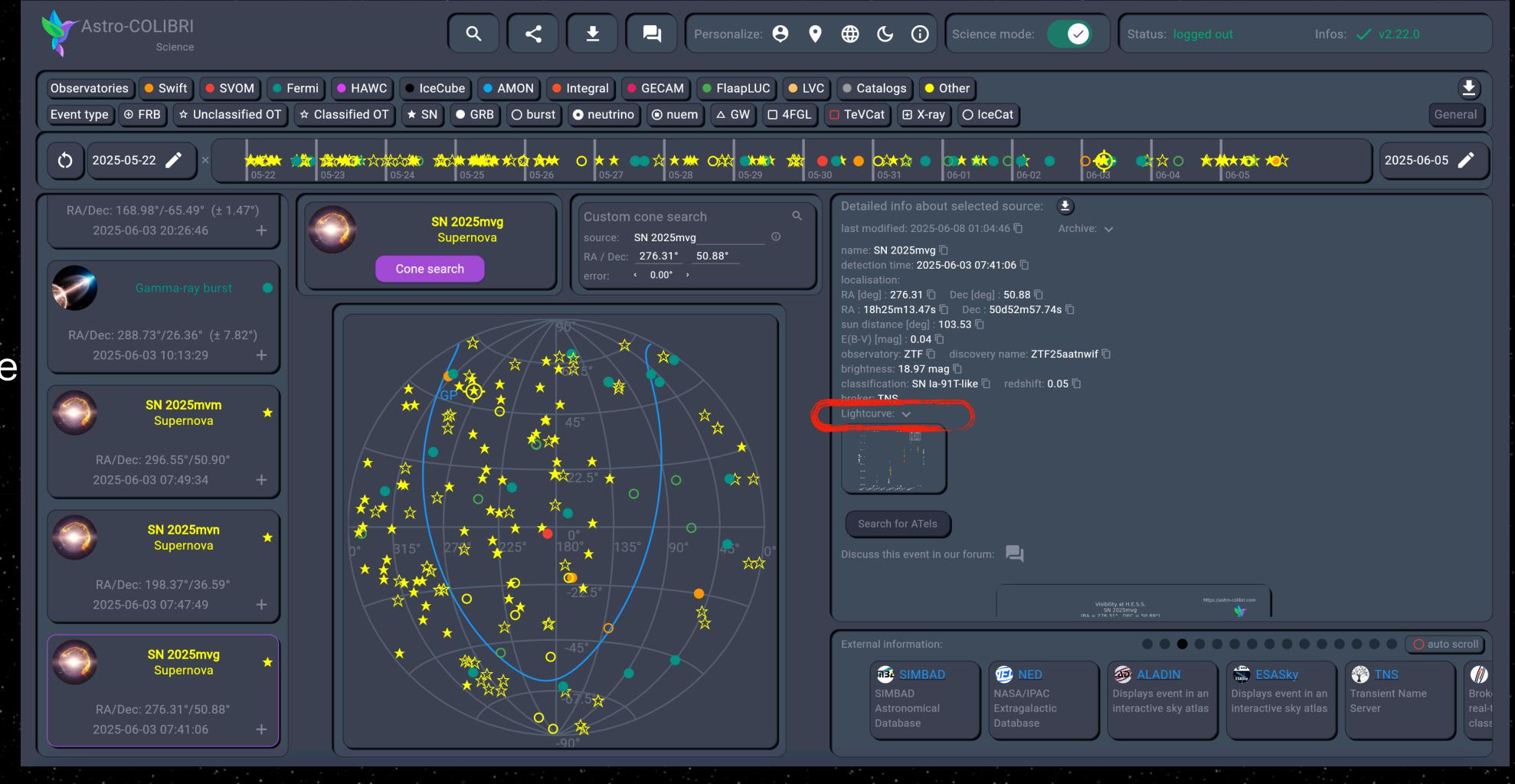








Time changeable



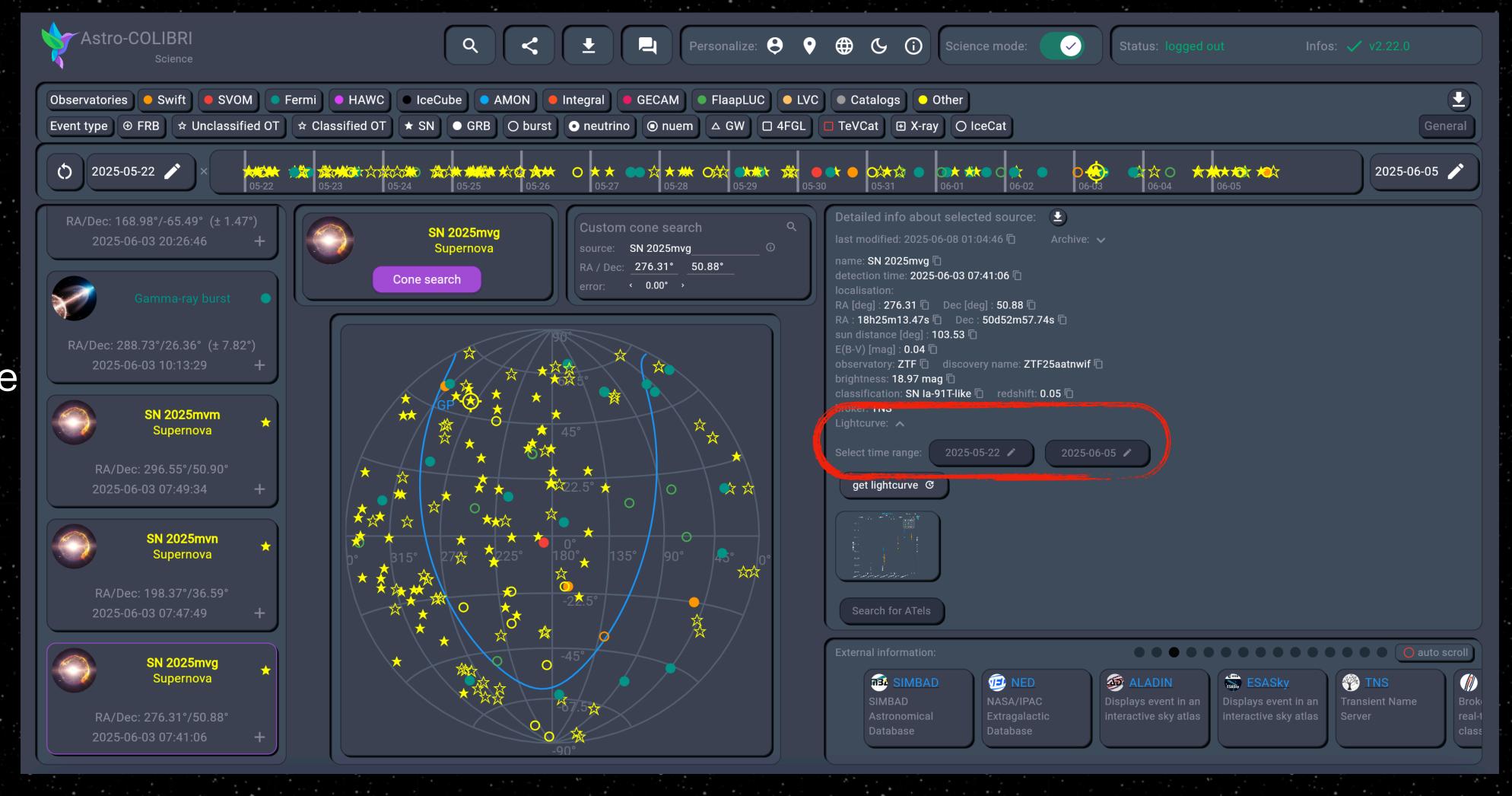








Time changeable



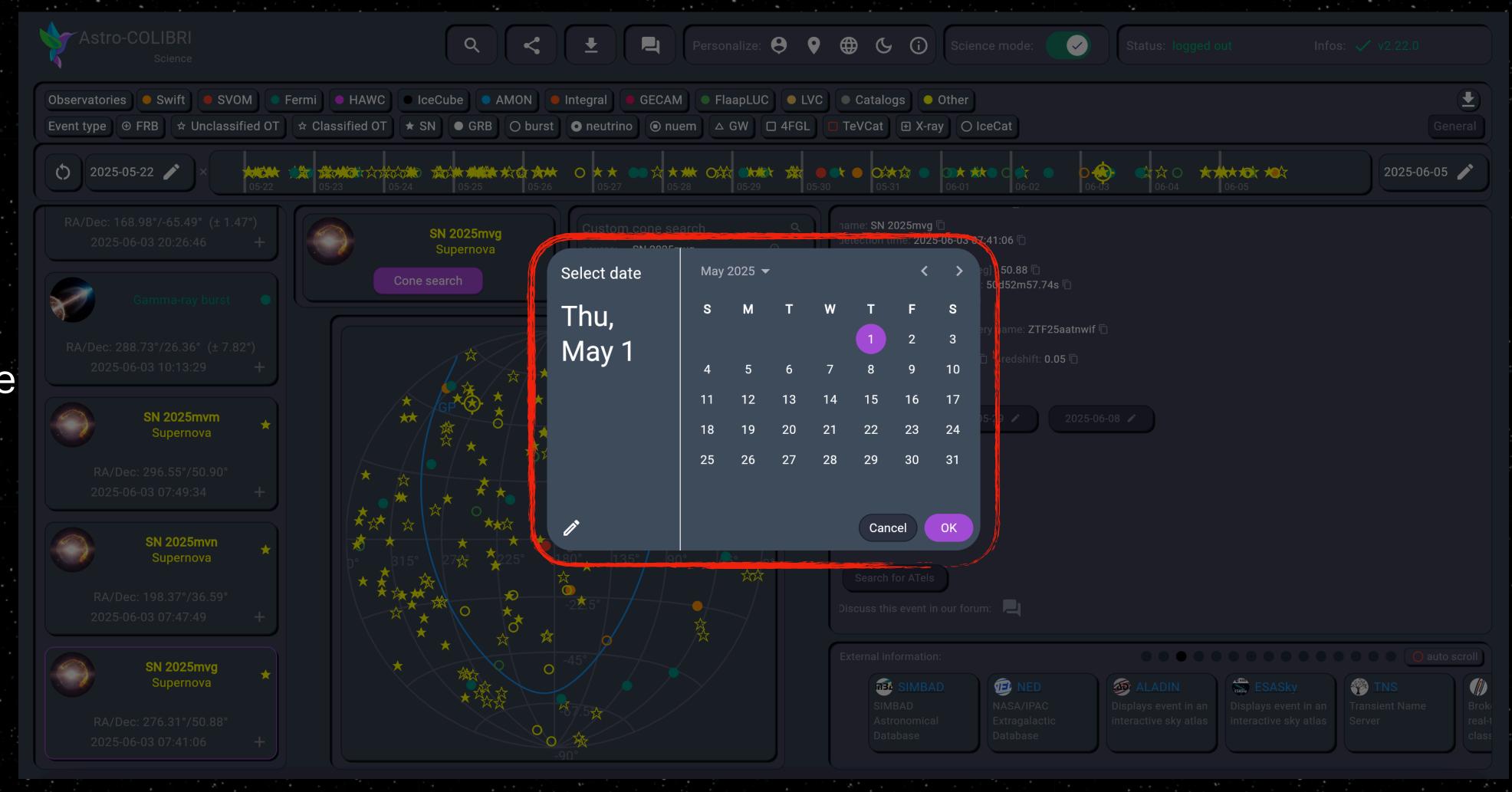






Light curve

Time changeable



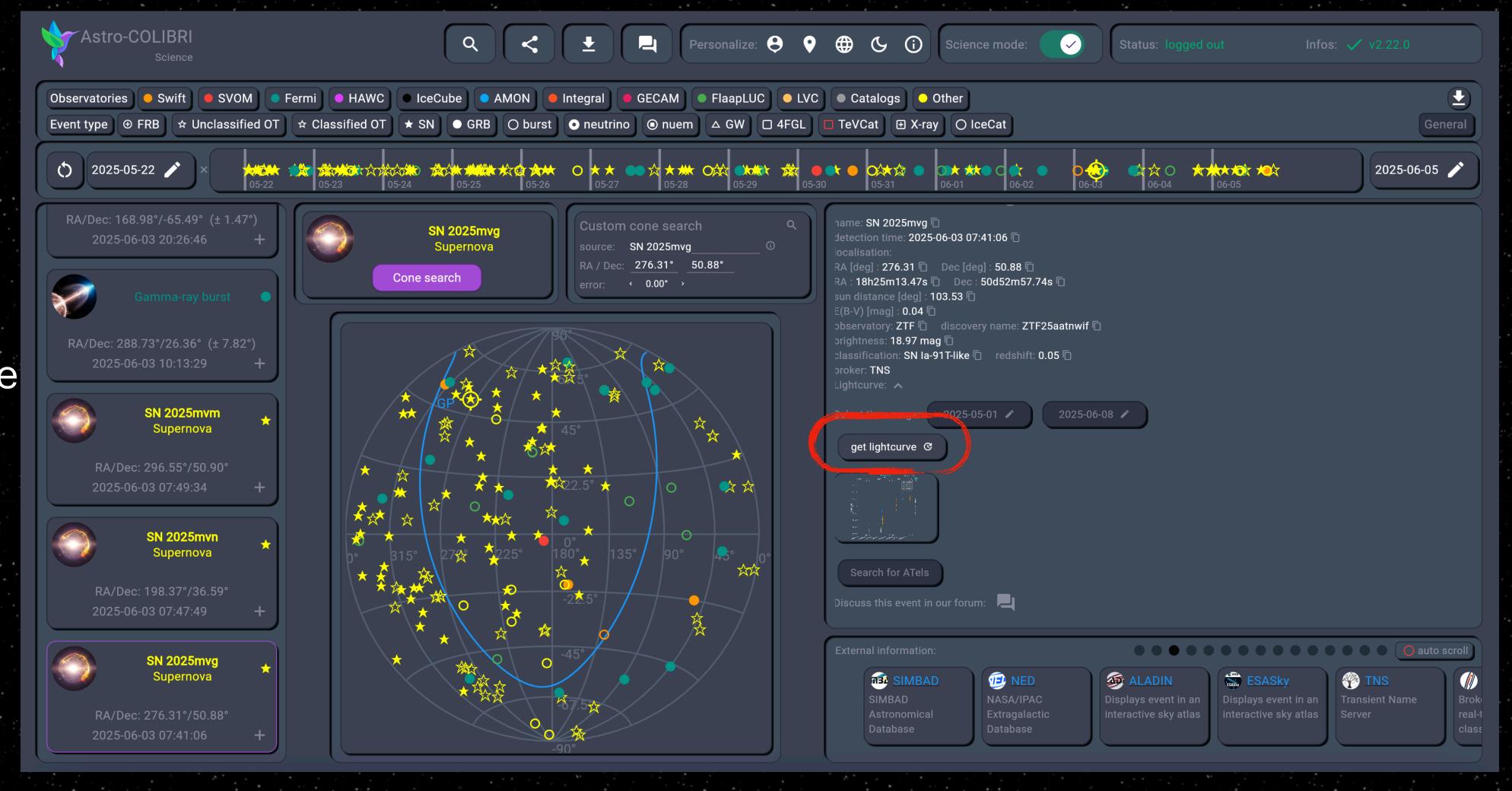








Time changeable





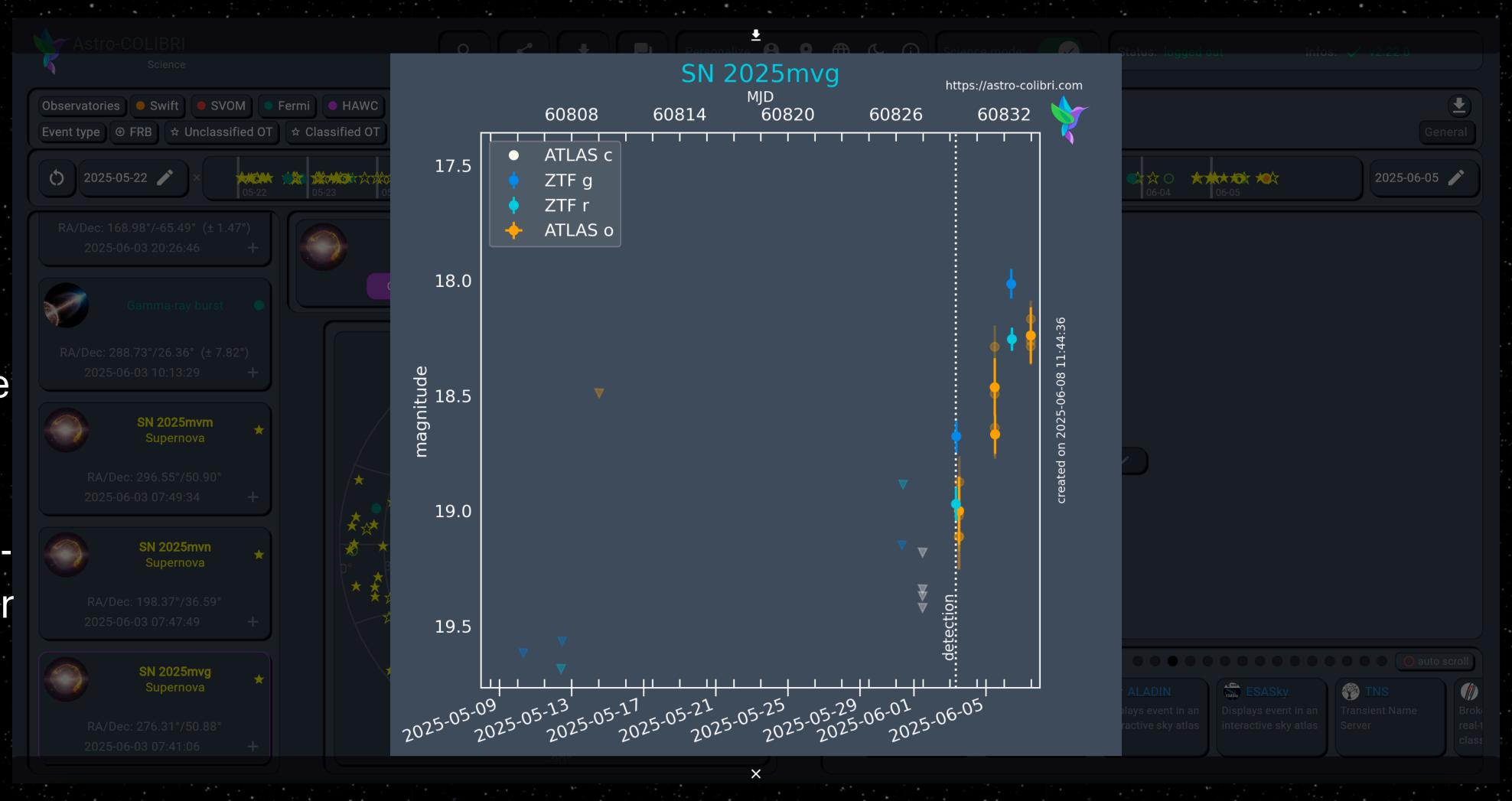




Light curve

Time changeable

If time range long - takes longer



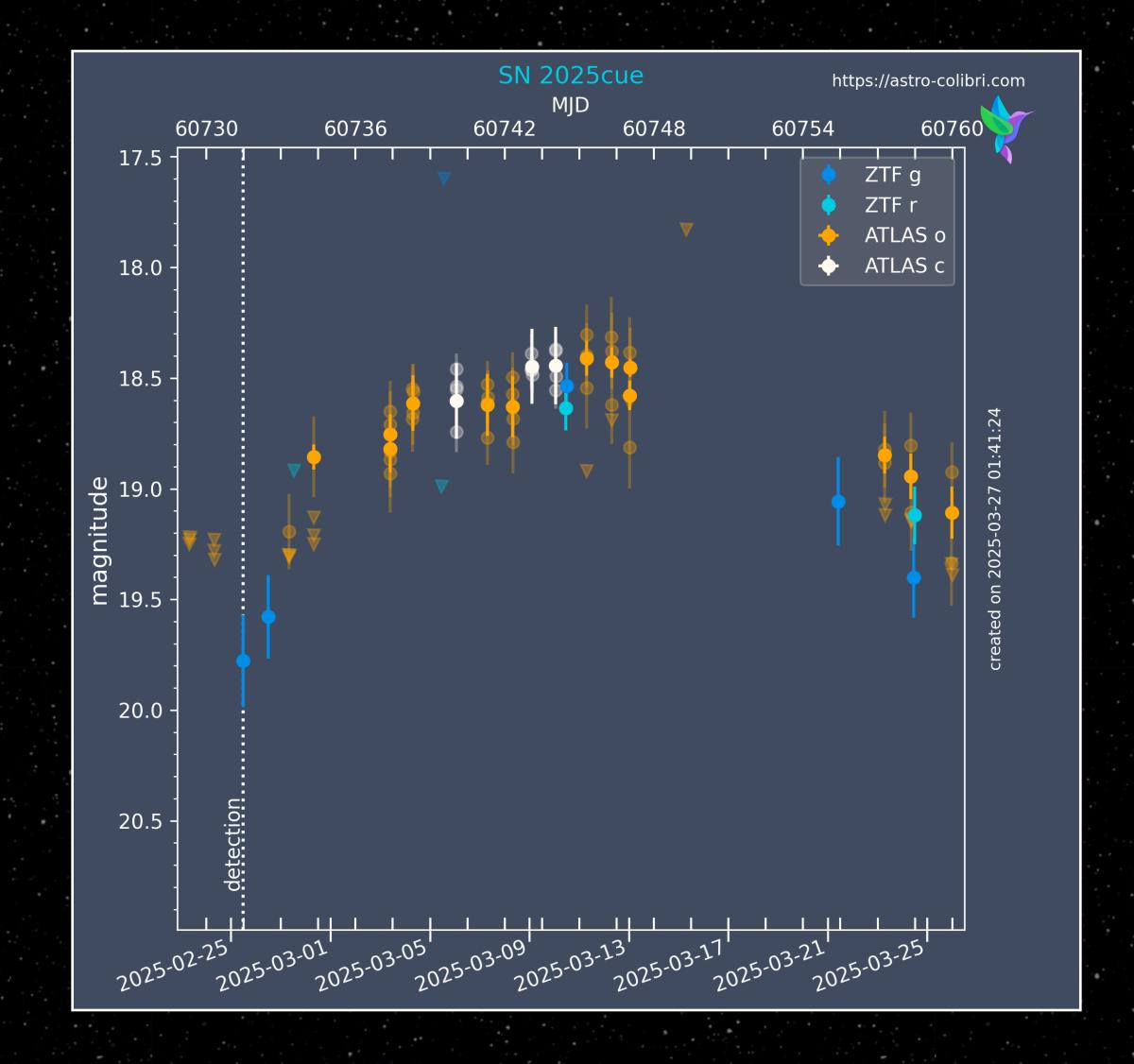






#### Light curve

Follow interesting events and decide when to do your own observations

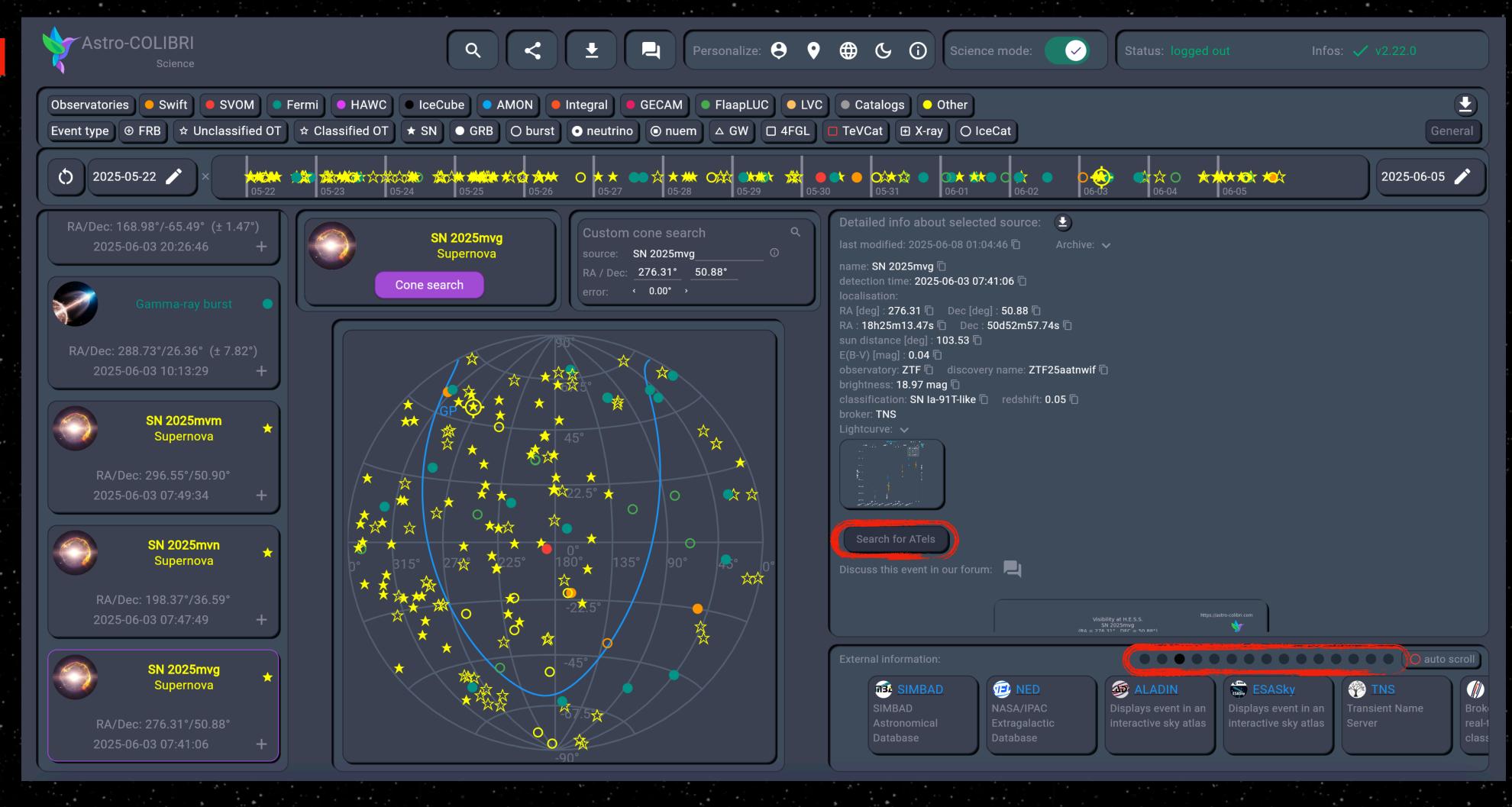








#### **External**









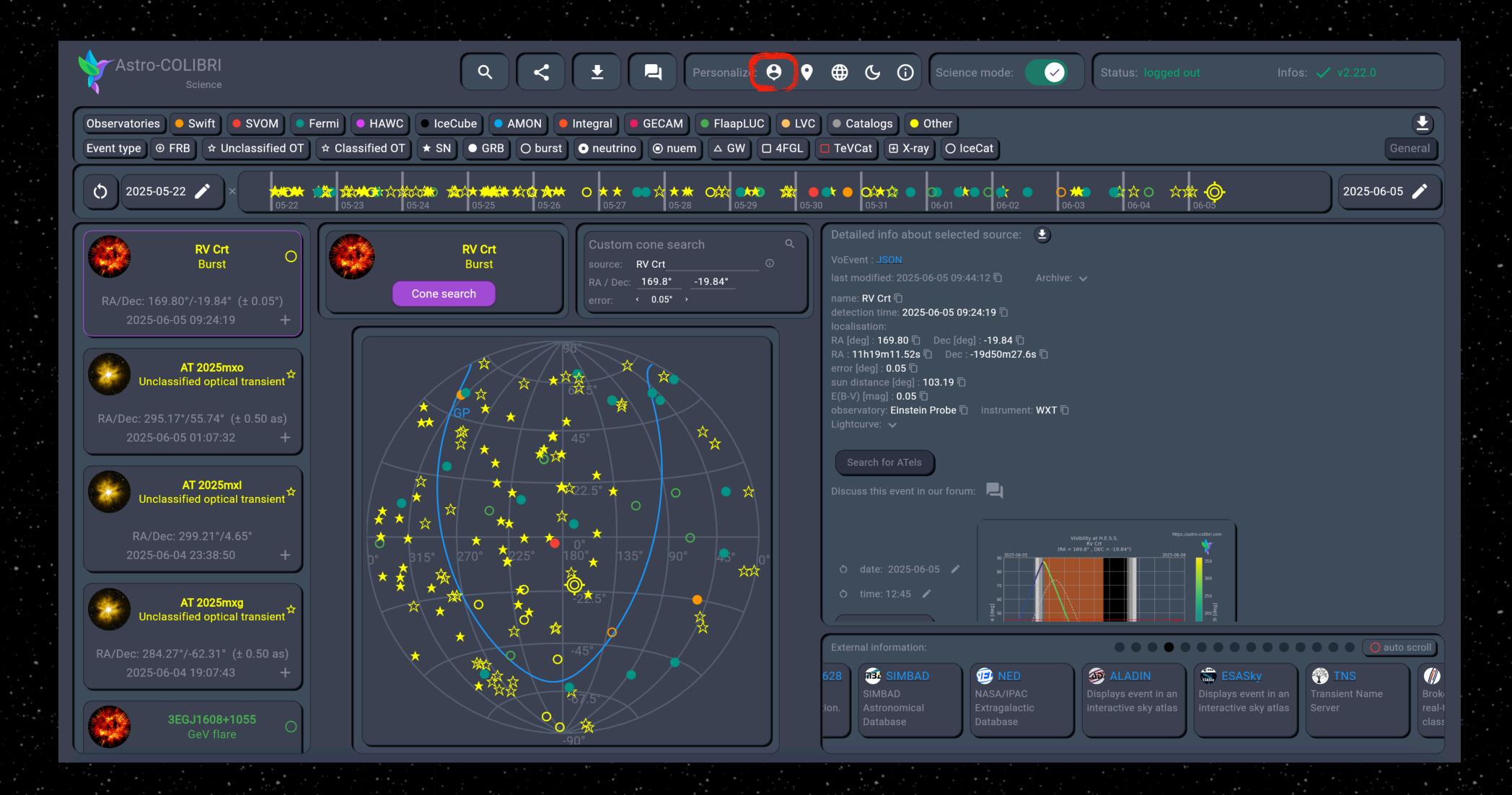
#### Webpage User Account

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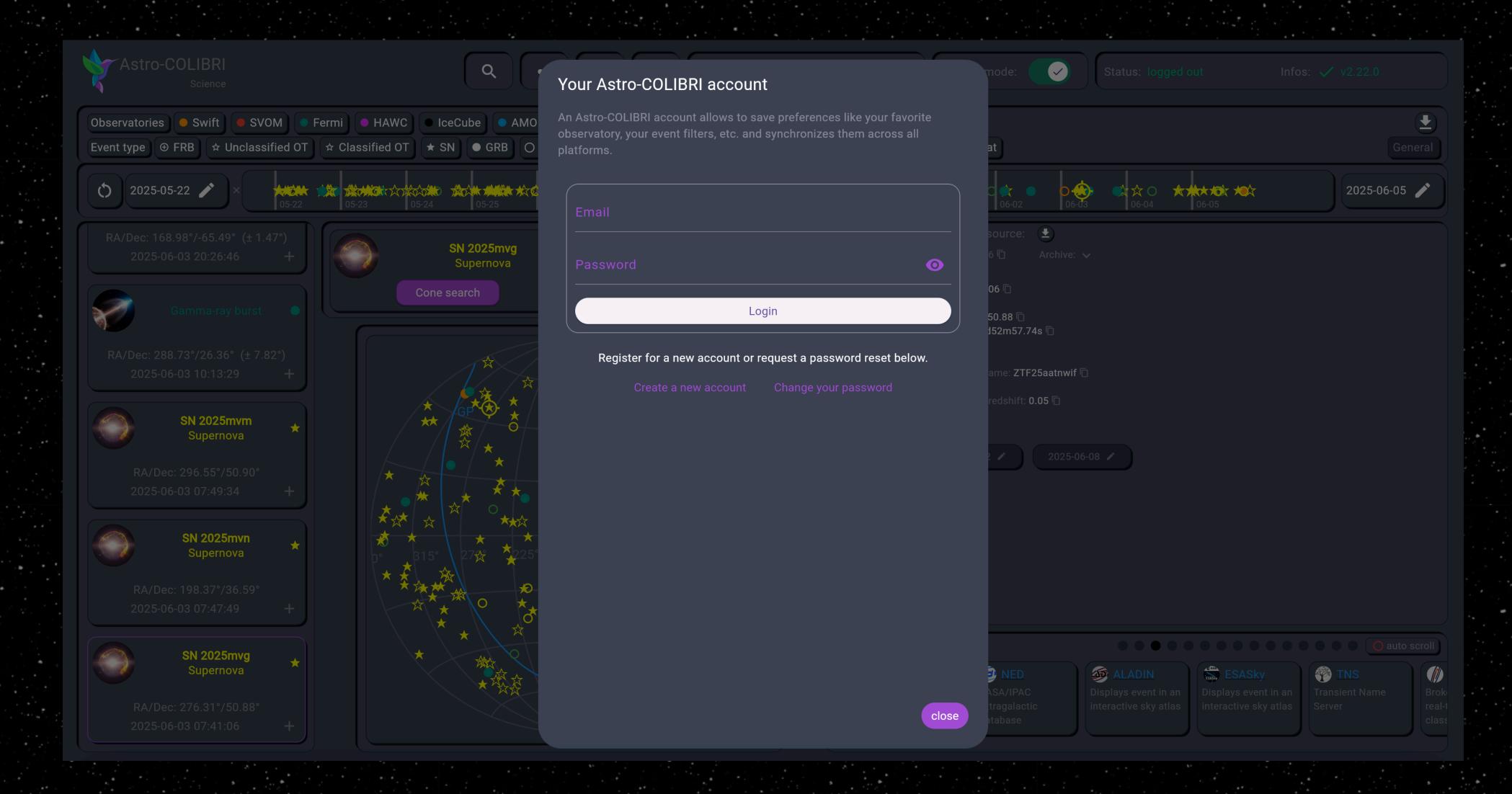






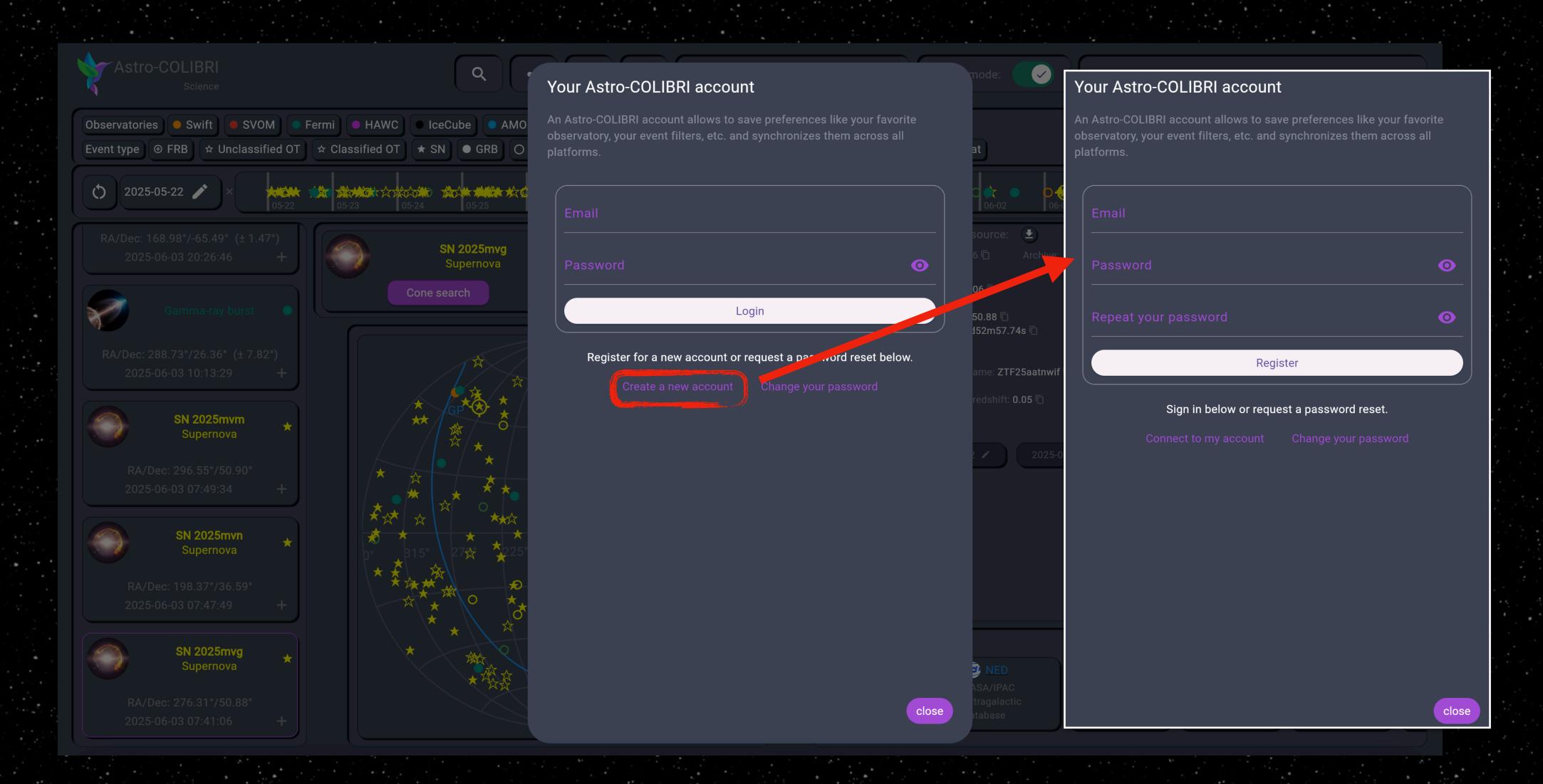










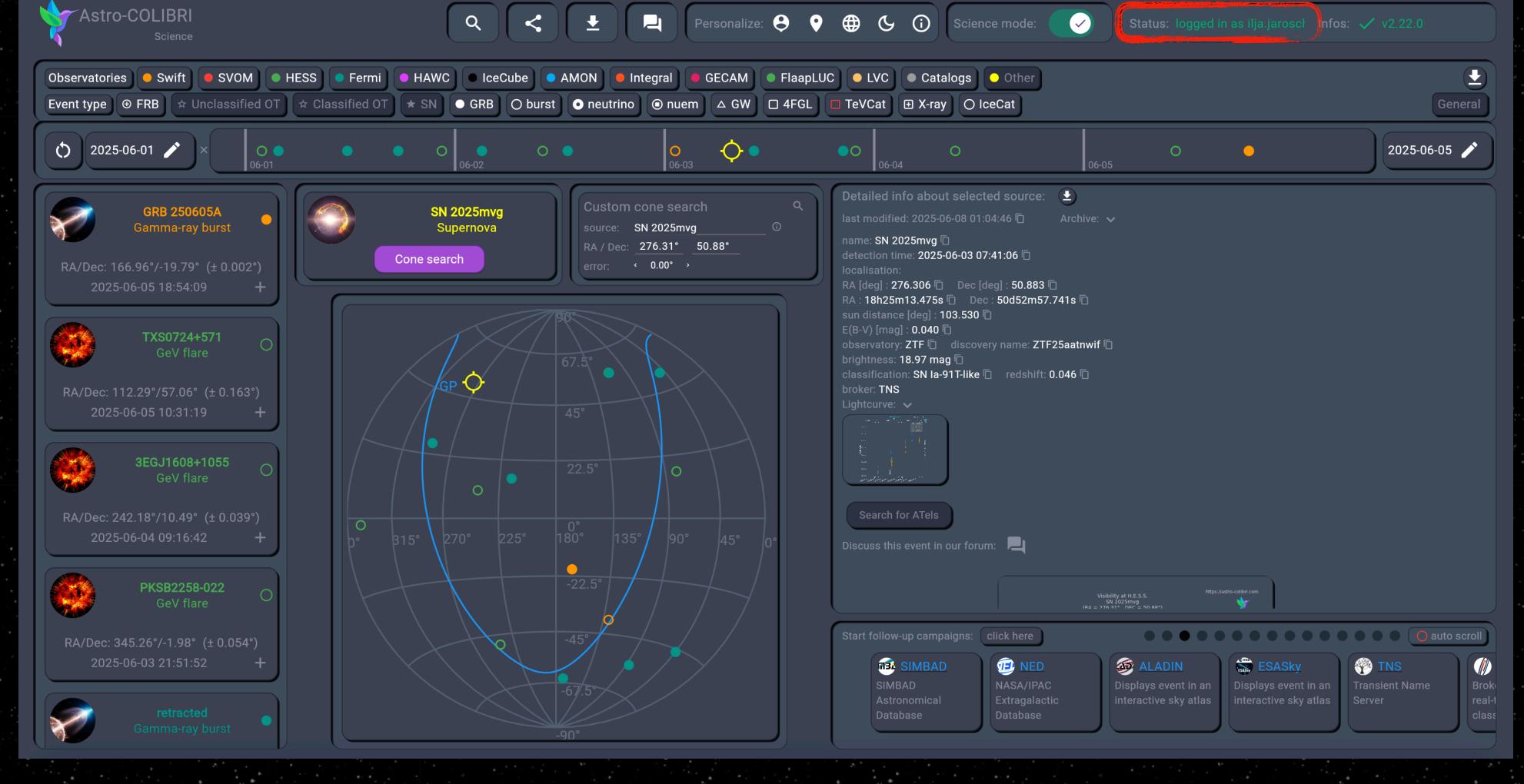










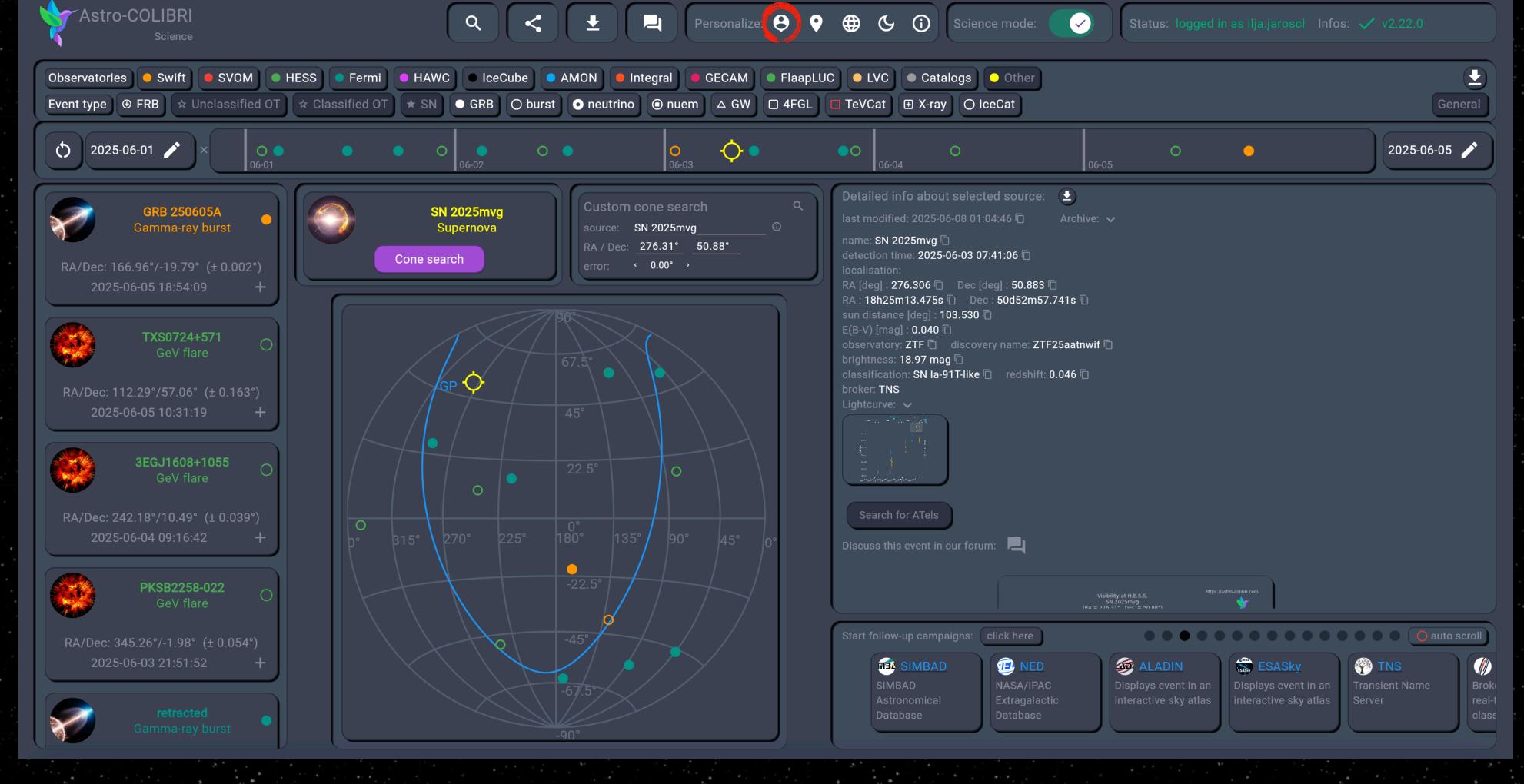








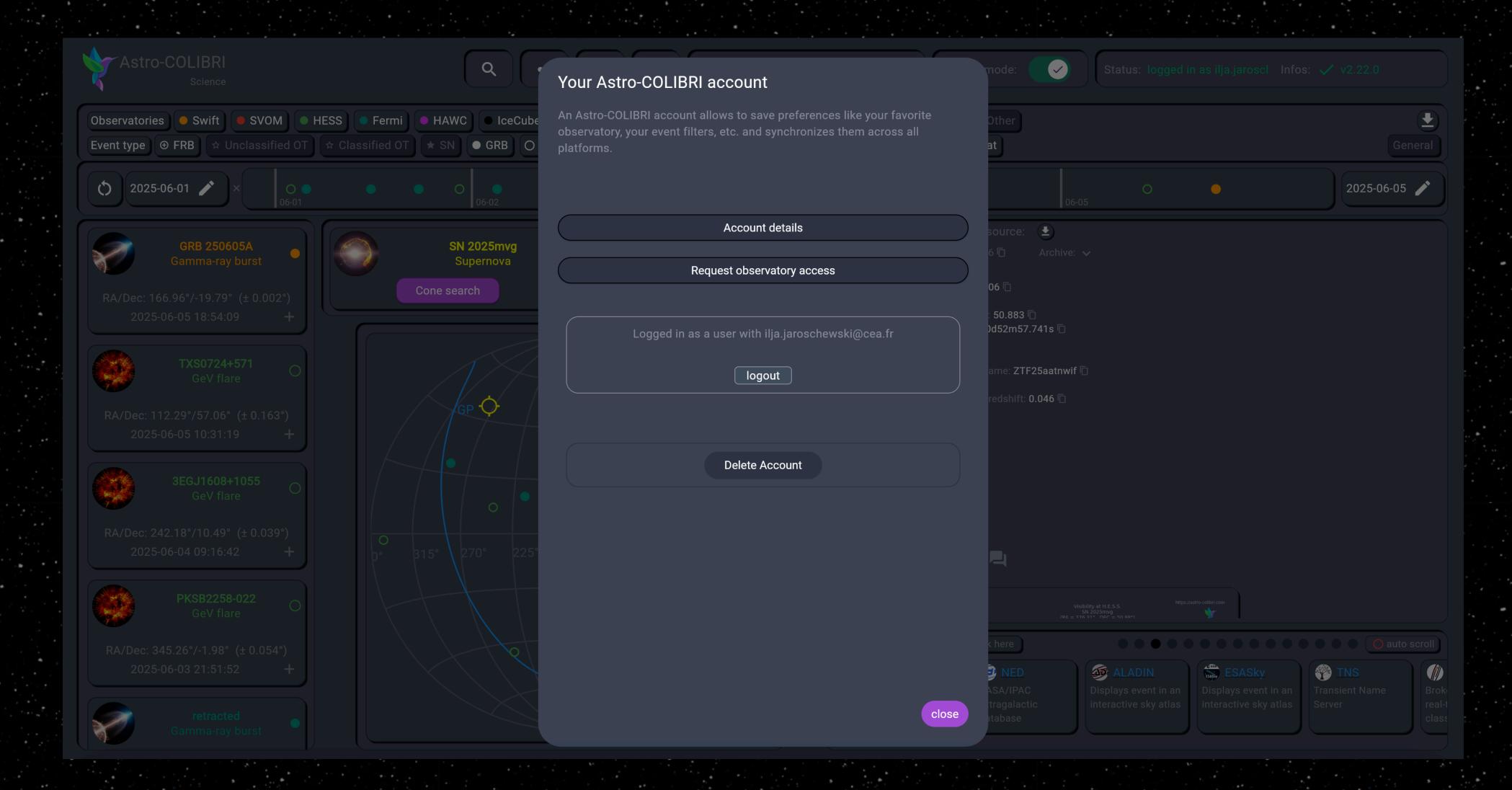








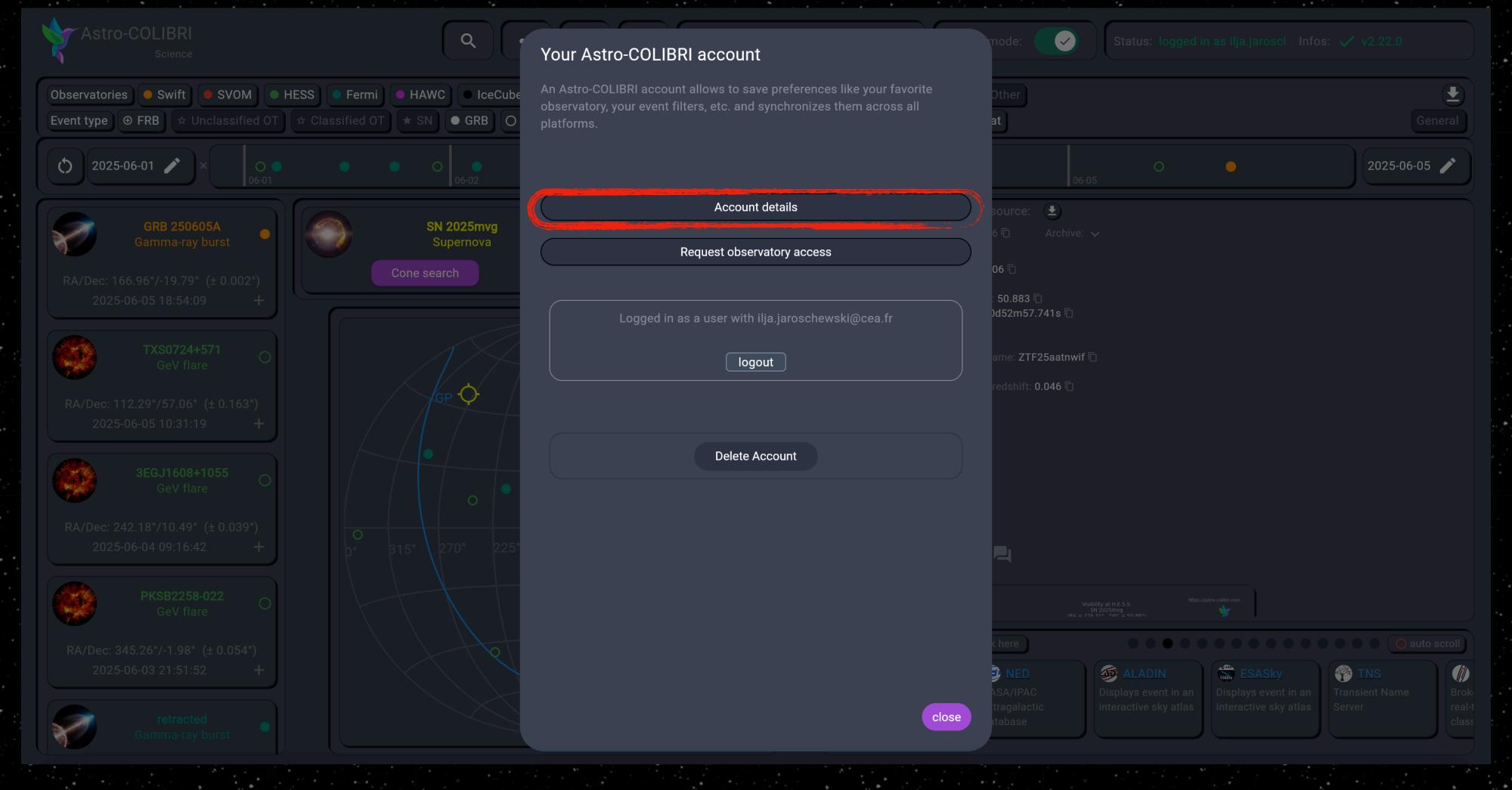








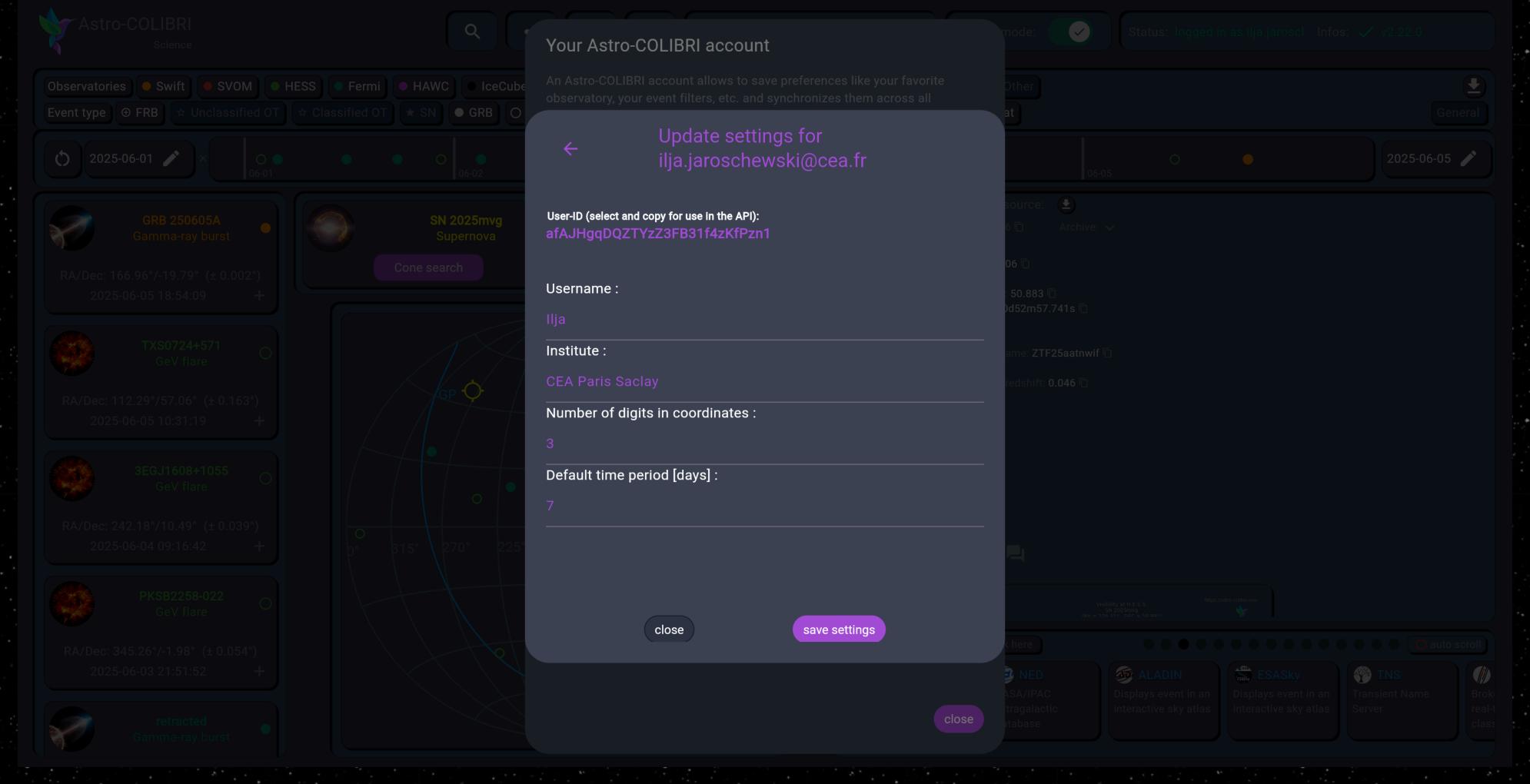










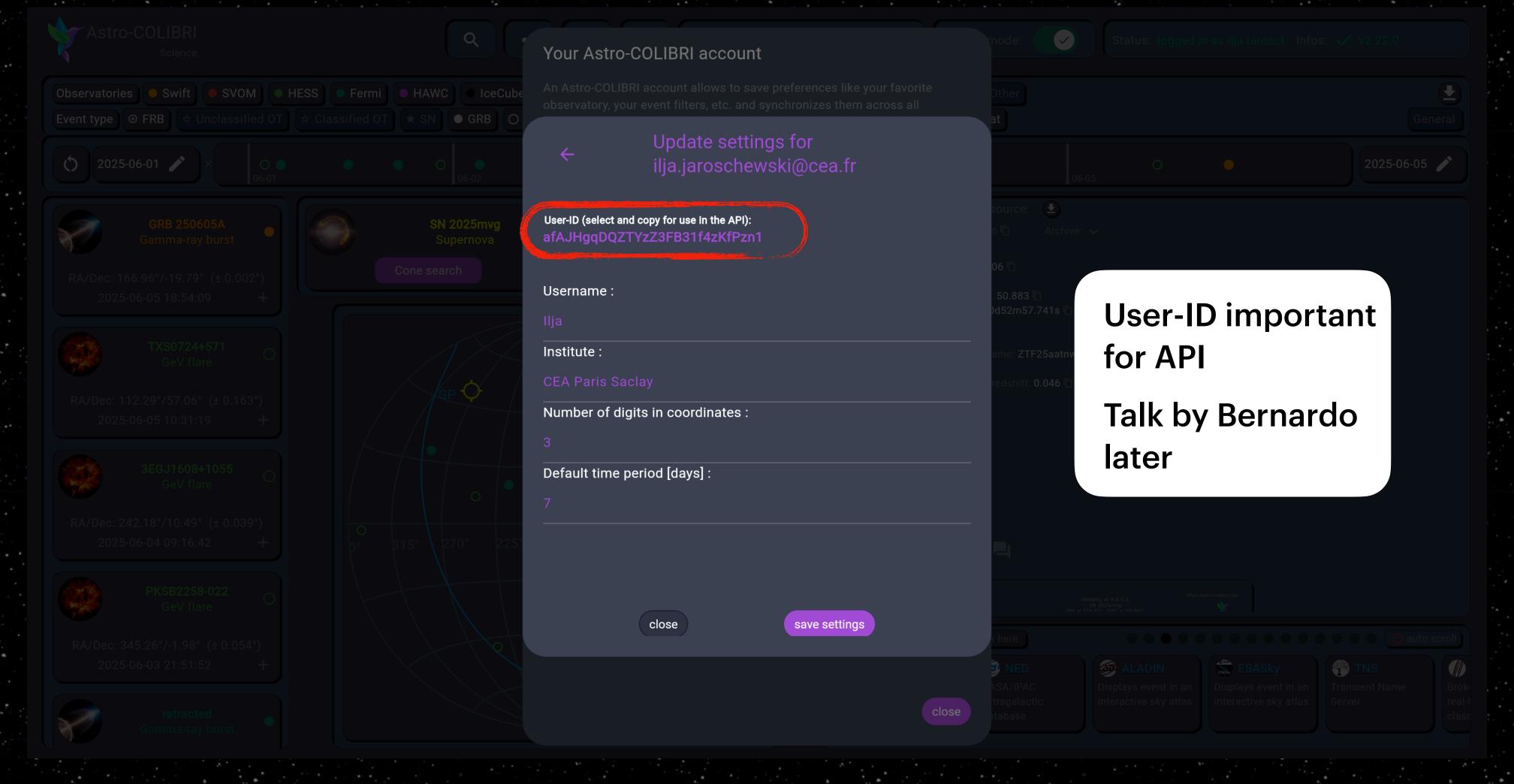








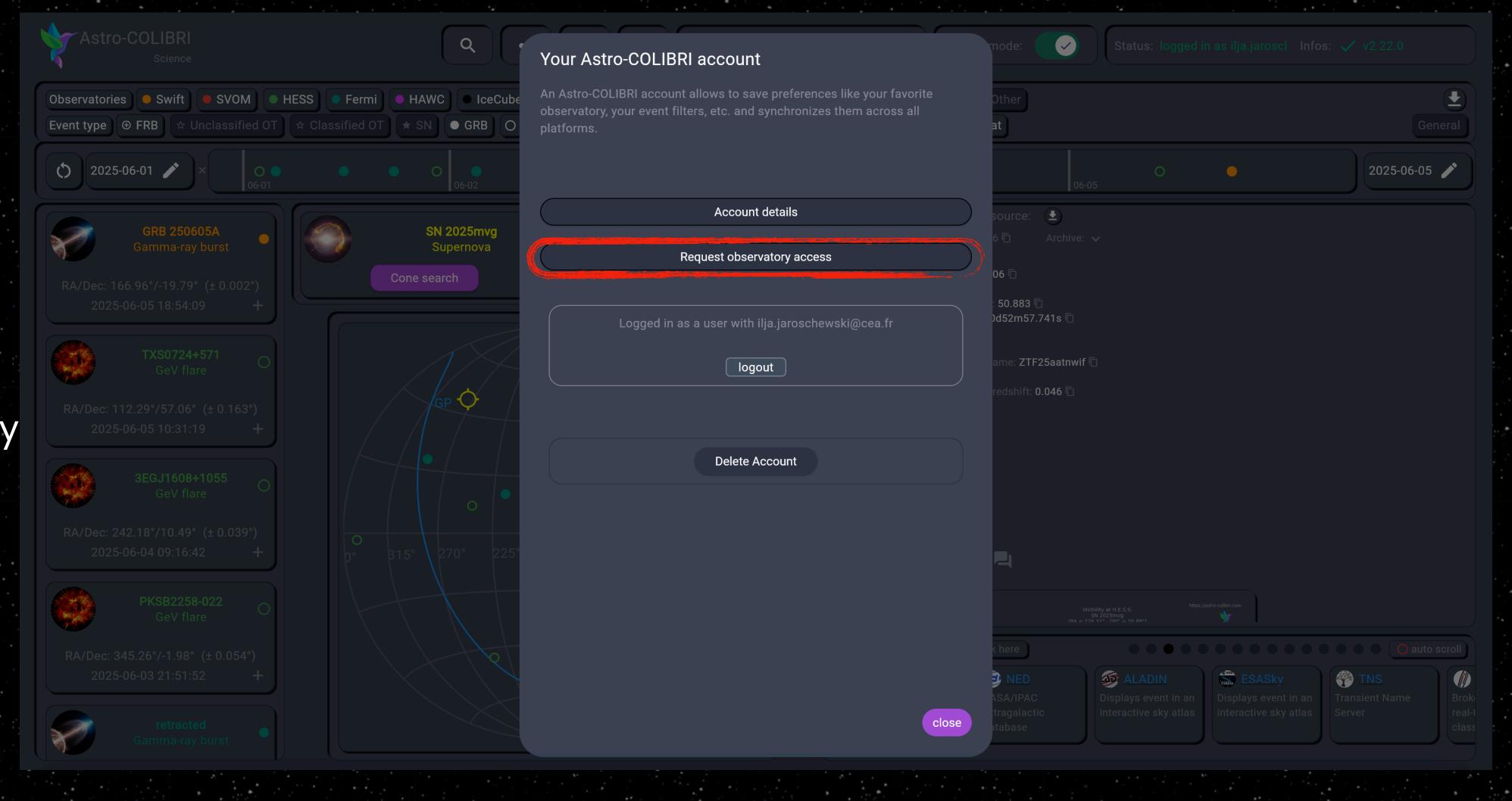
Account settings







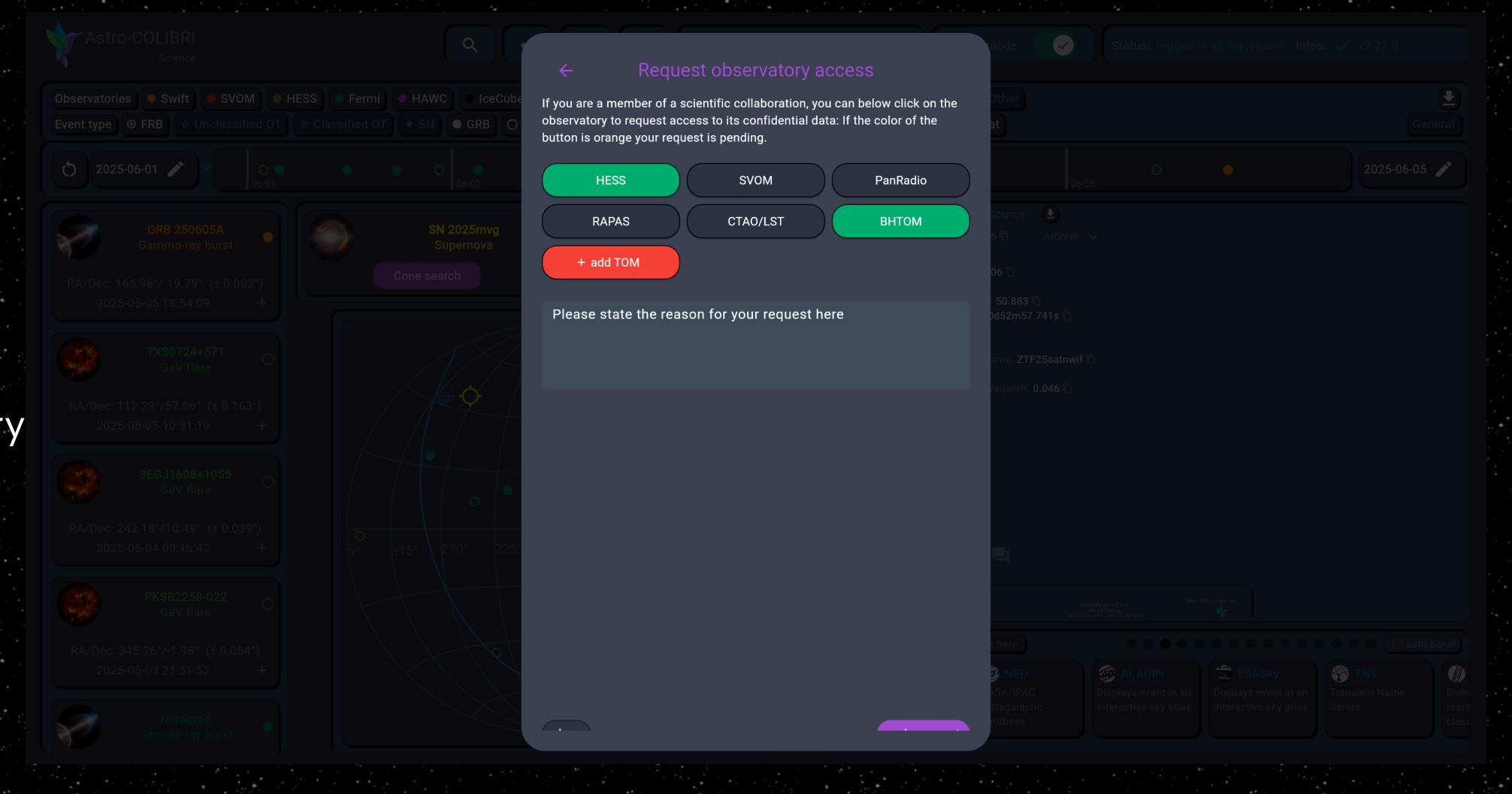










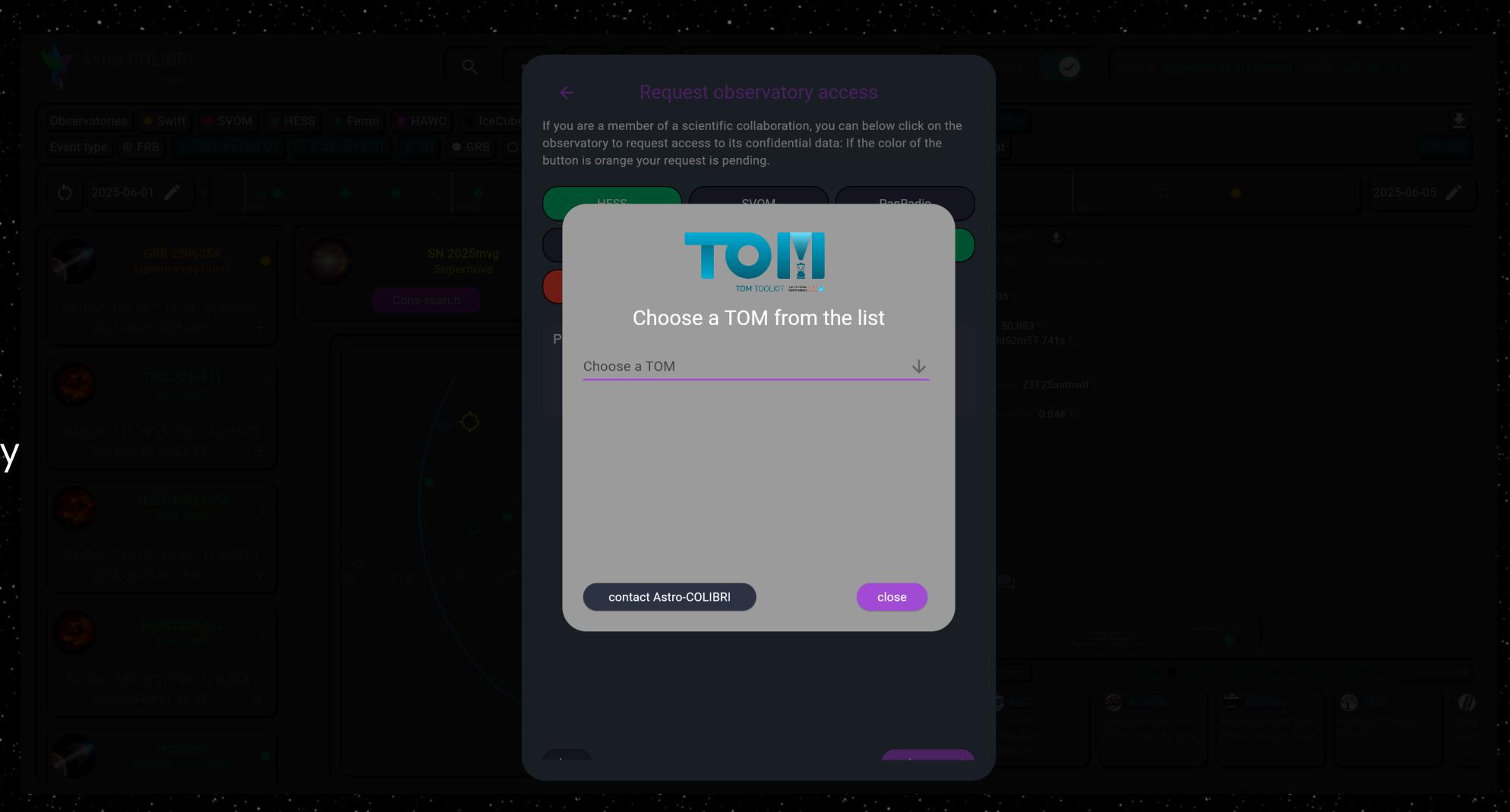








**TOMs** 



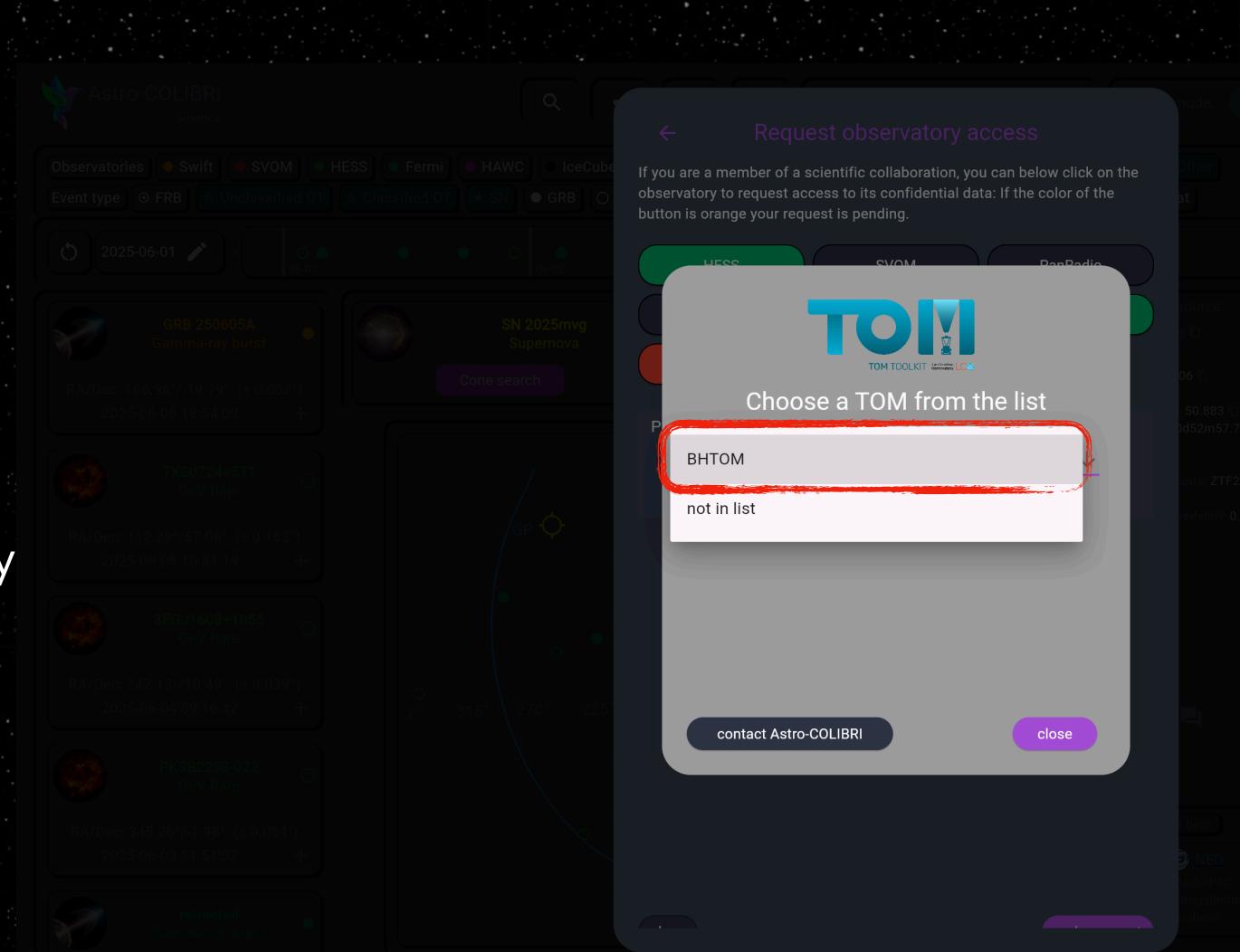






**TOMs** 

Link account to an observatory



**DHIUM** 

More about BHTOM:

Talks by Lukasz in the afternoon (15:00)

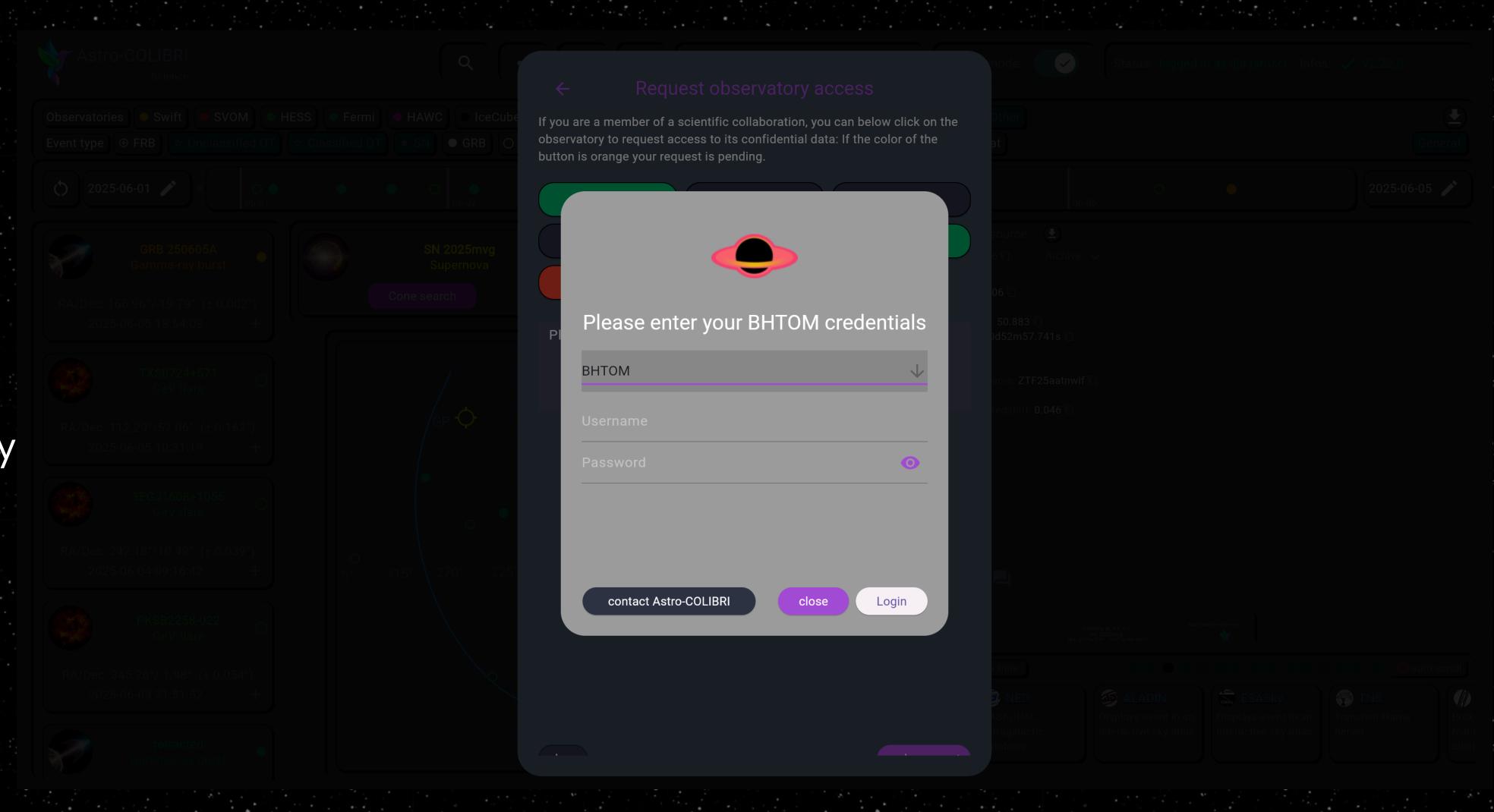






#### **TOMs**

Link account to an observatory



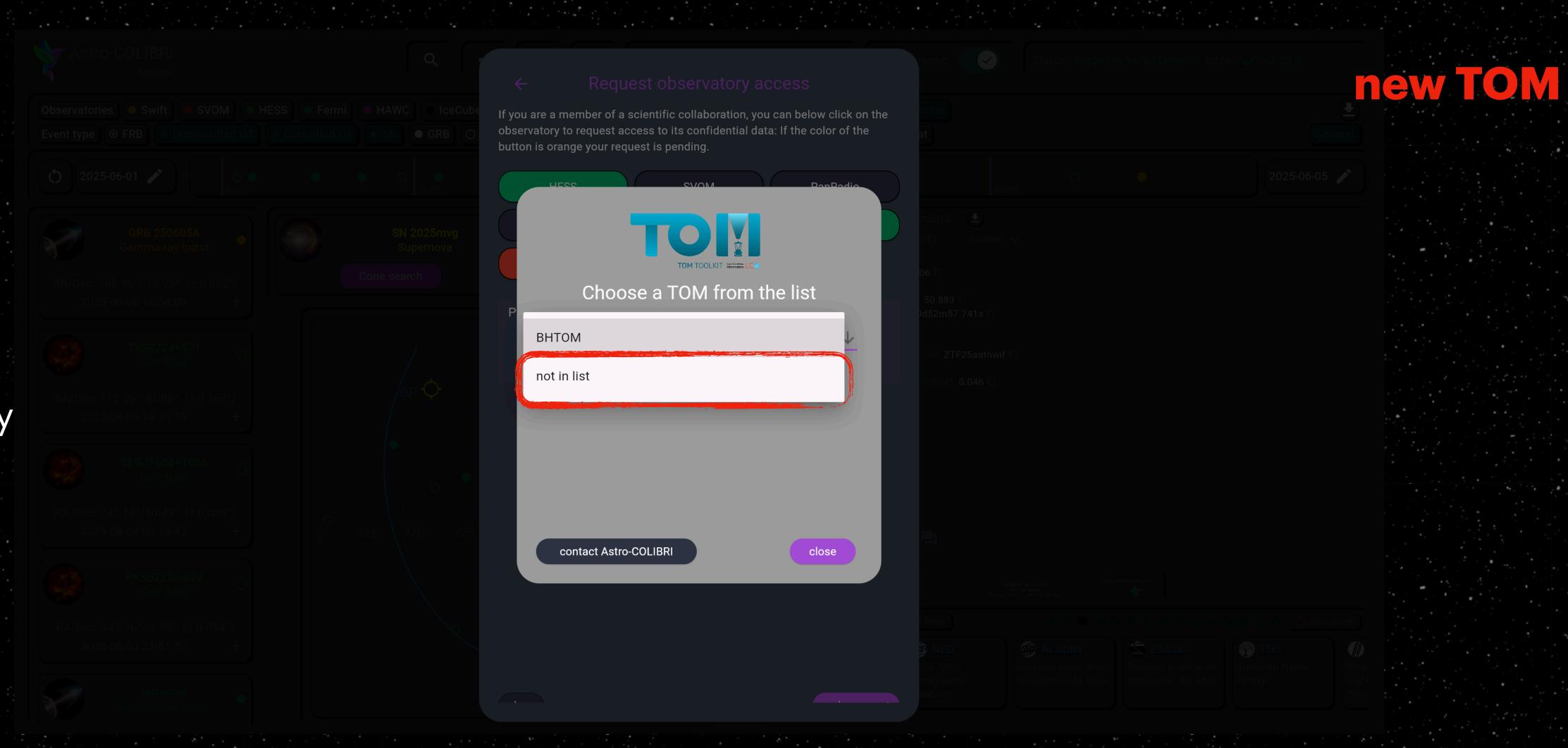
BHTOM







**TOMs** 









new TOM

**TOMs** 

Link account to an observatory

	TOM TOOLKIT In Order LC			
Choose a TOM from the list				
not in list				
TOM Name				
URL				
Login URL				
/accounts/re	gister/			
/targets				
/api/token-au				
Create new Targe				
/targets/crea	ite i arget/ 			
Authentication				
	<b>⇔</b> TOM Toolk	it github		
	CO TOM API			

Create new entry in our data base if new TOM.

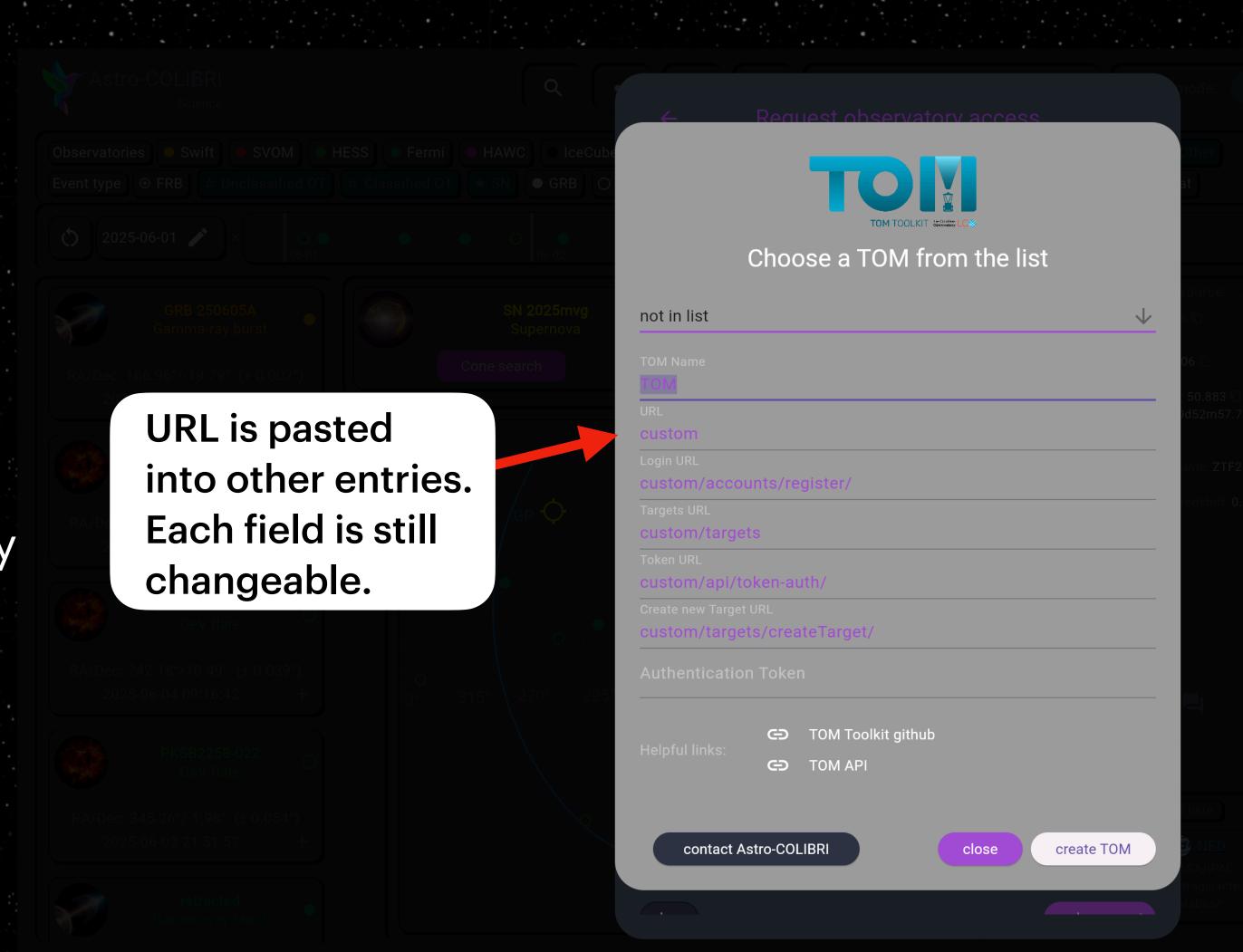






#### **TOMs**

Link account to an observatory

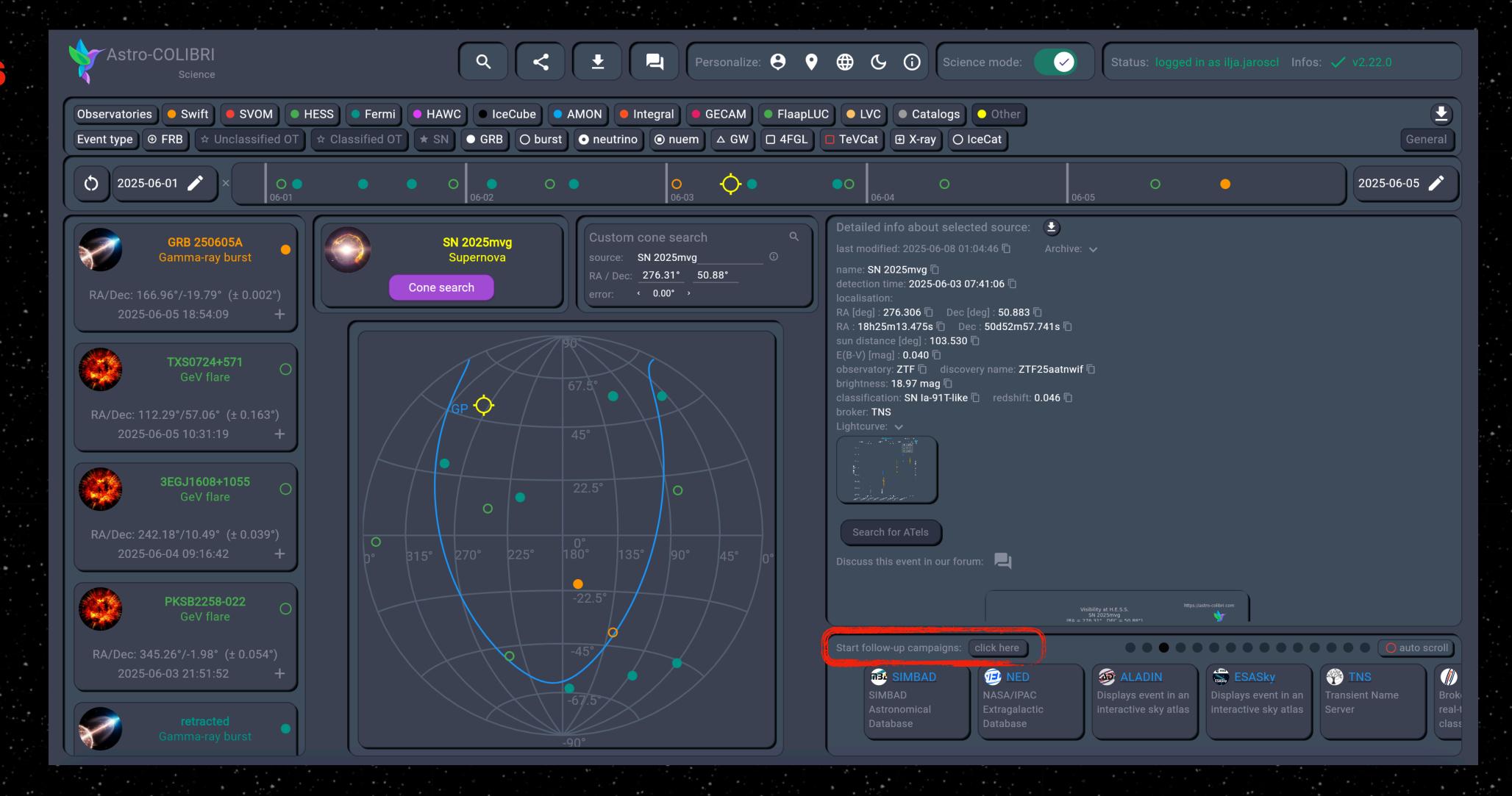


Create new entry in our data base if new TOM.





#### TOMs

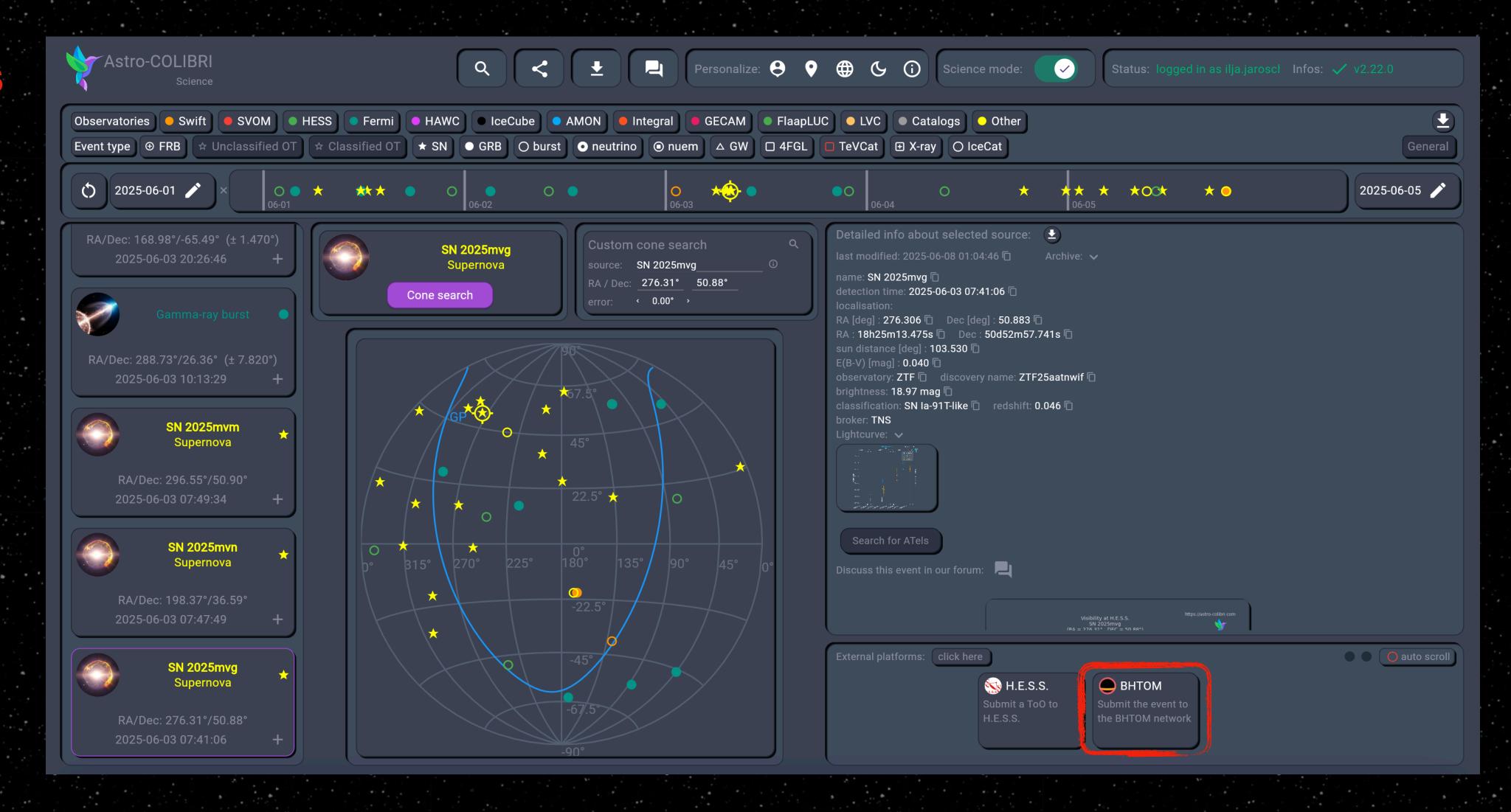








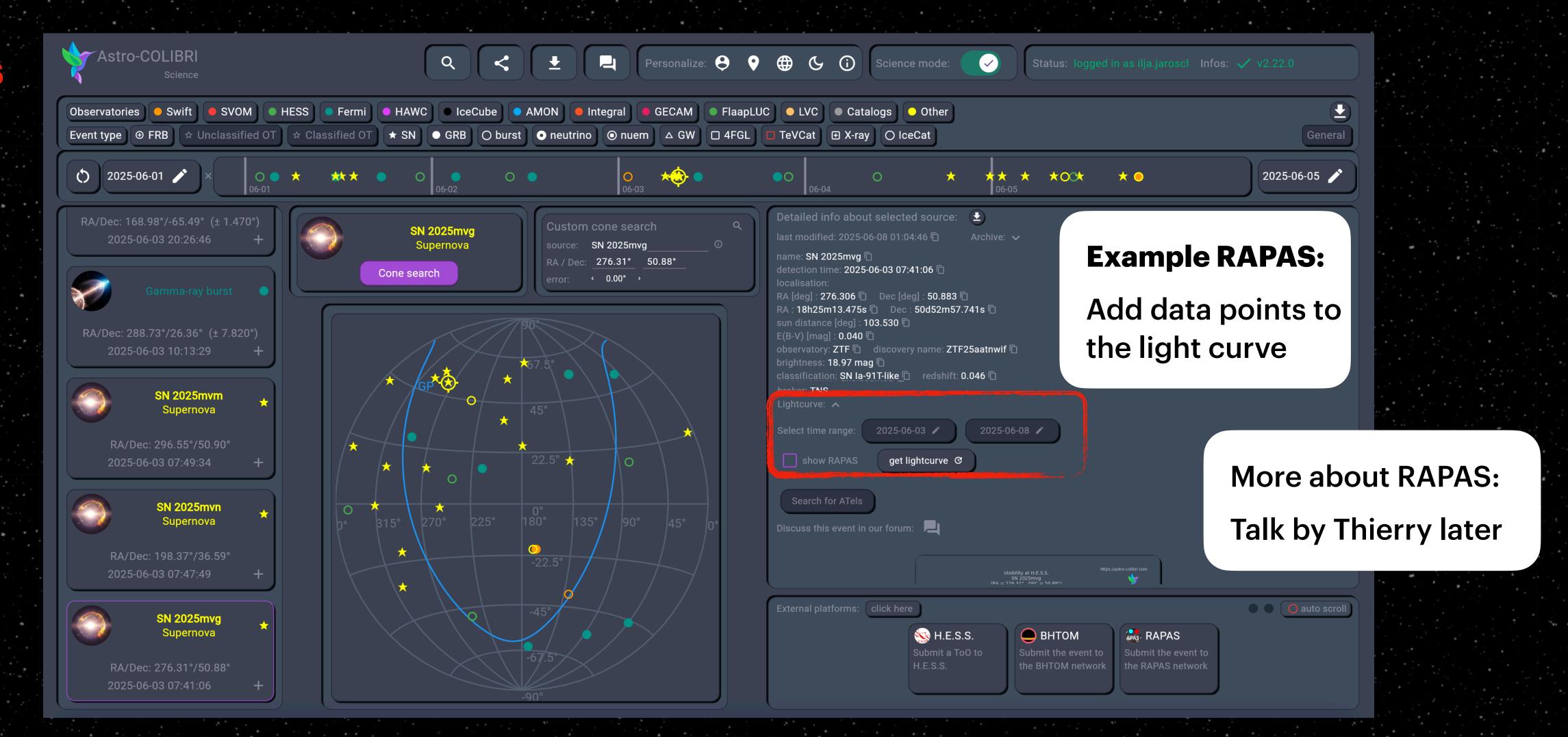
#### TOMs







#### TOMs









#### Watchlist

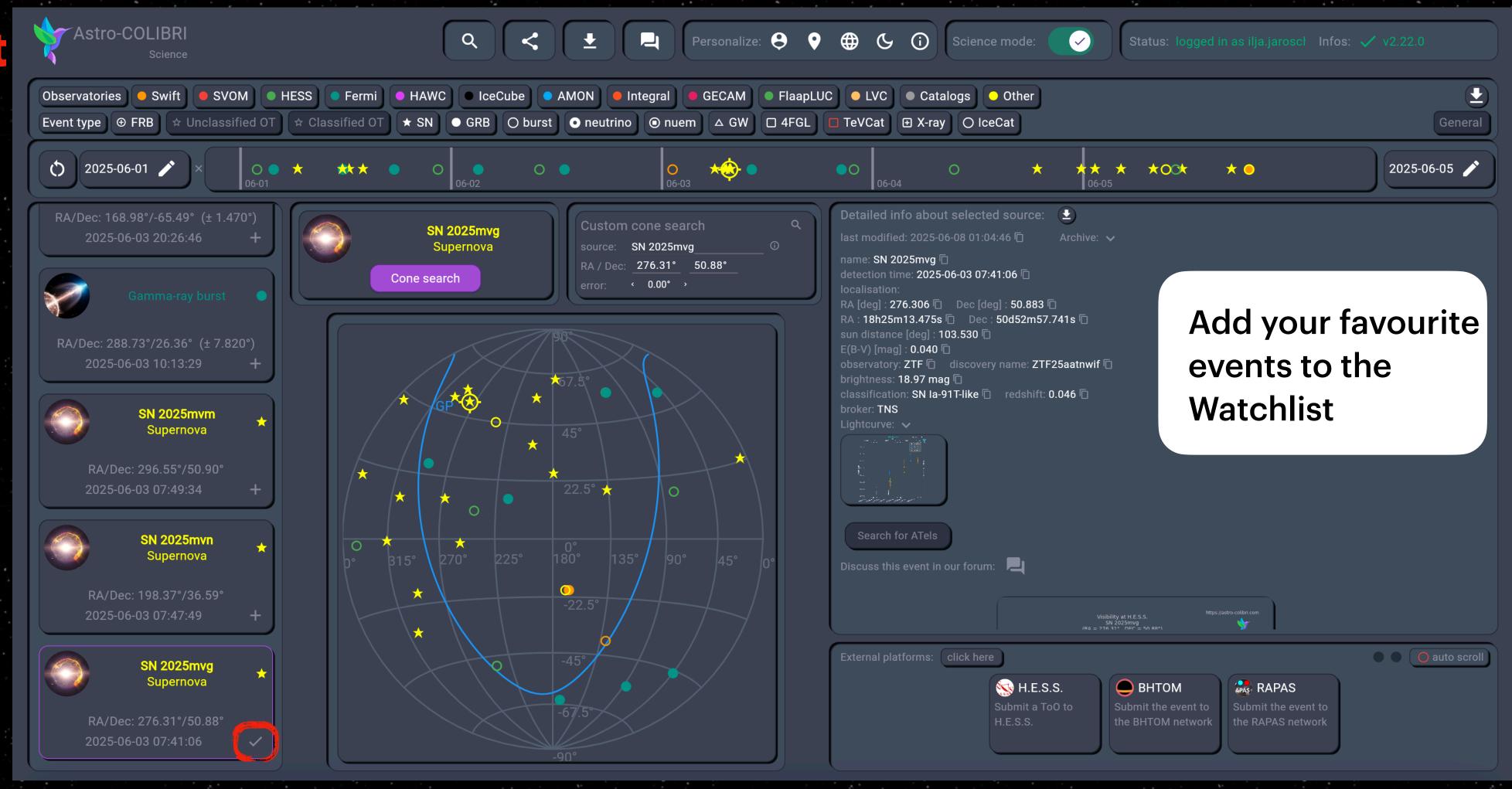








#### Watchlist



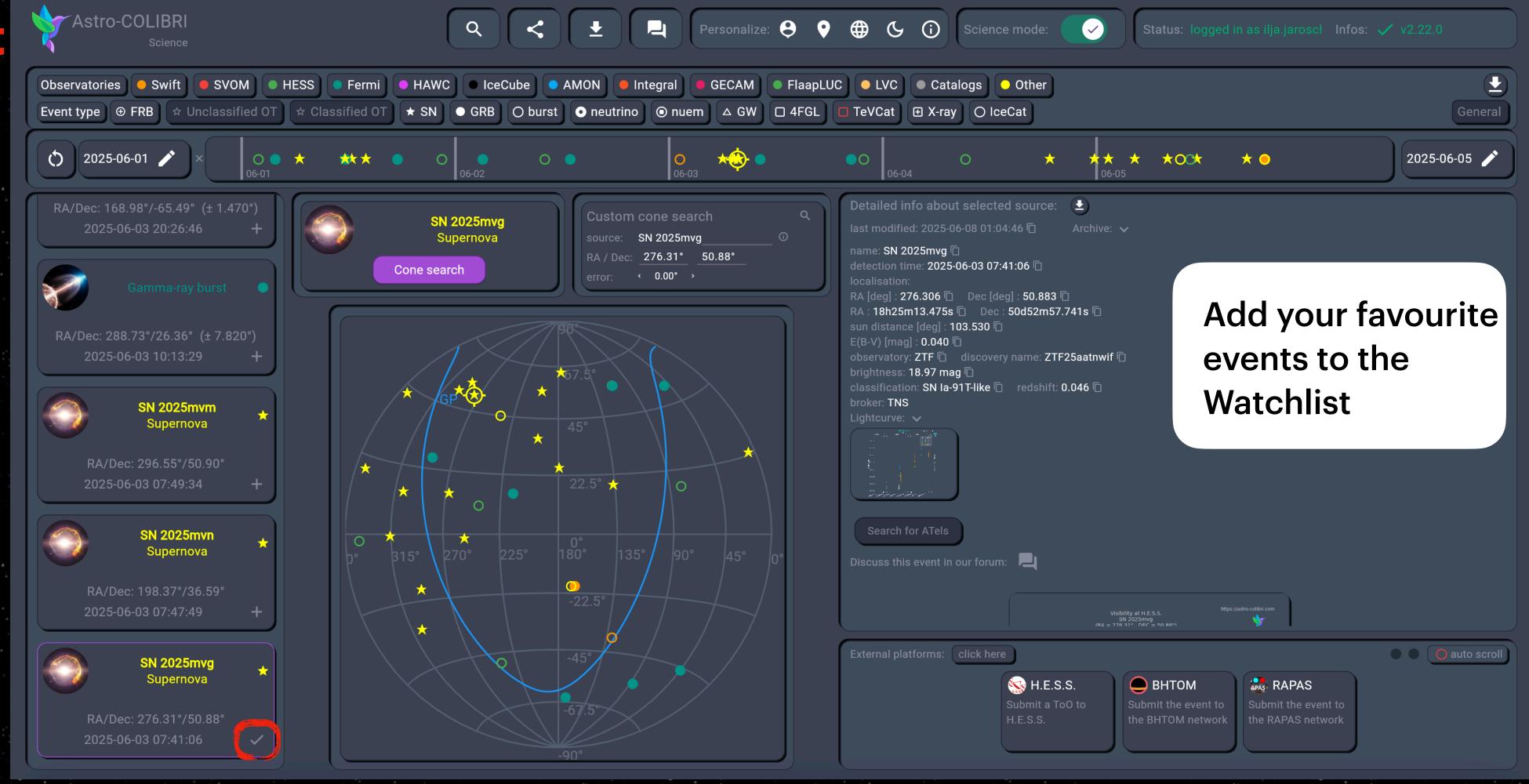






#### Watchlist

If outside the current time range, they will appear at the end of the event card tiles









# Webpage Additional Features

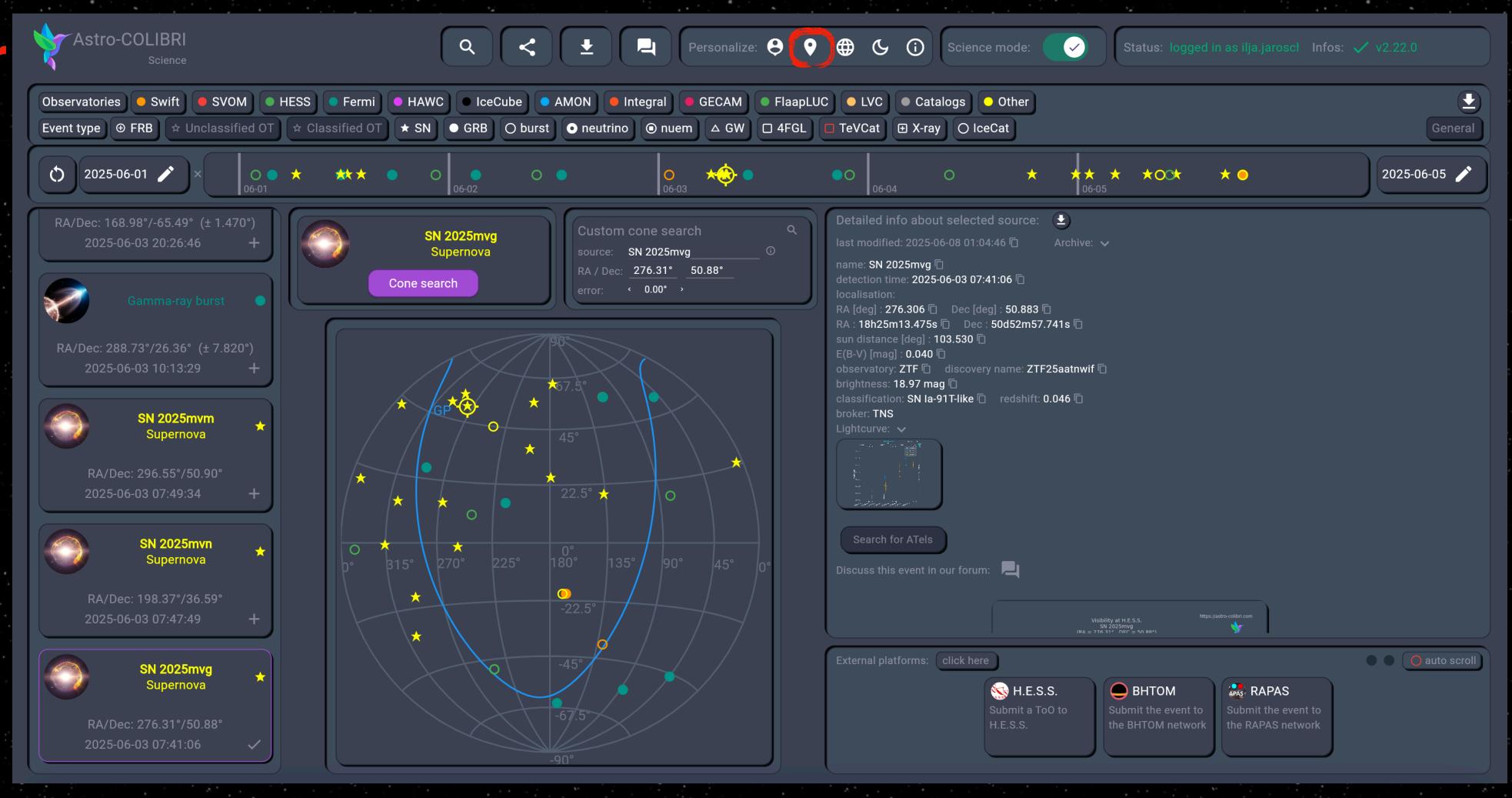
www.astro-colibri.com







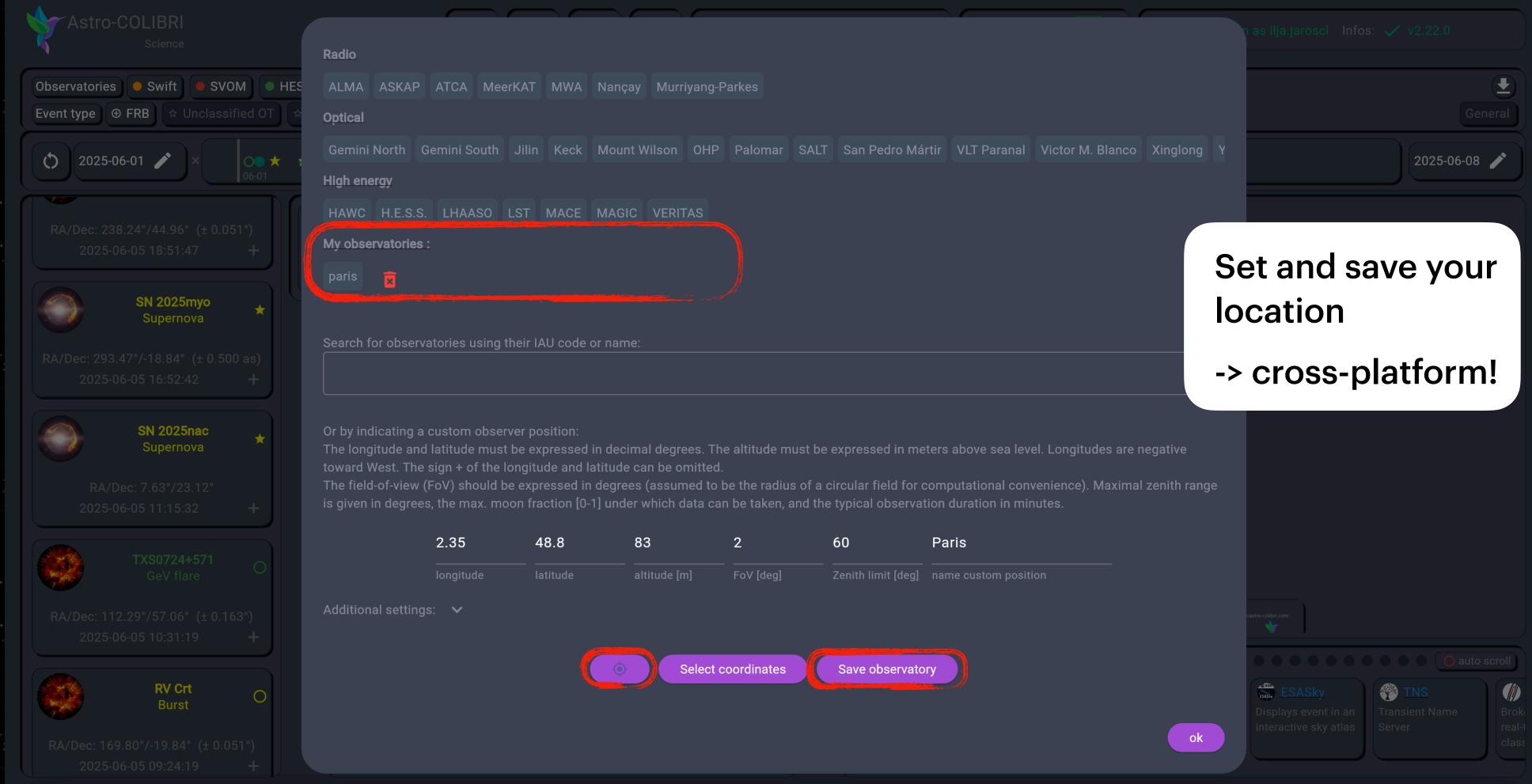
#### Observer Location









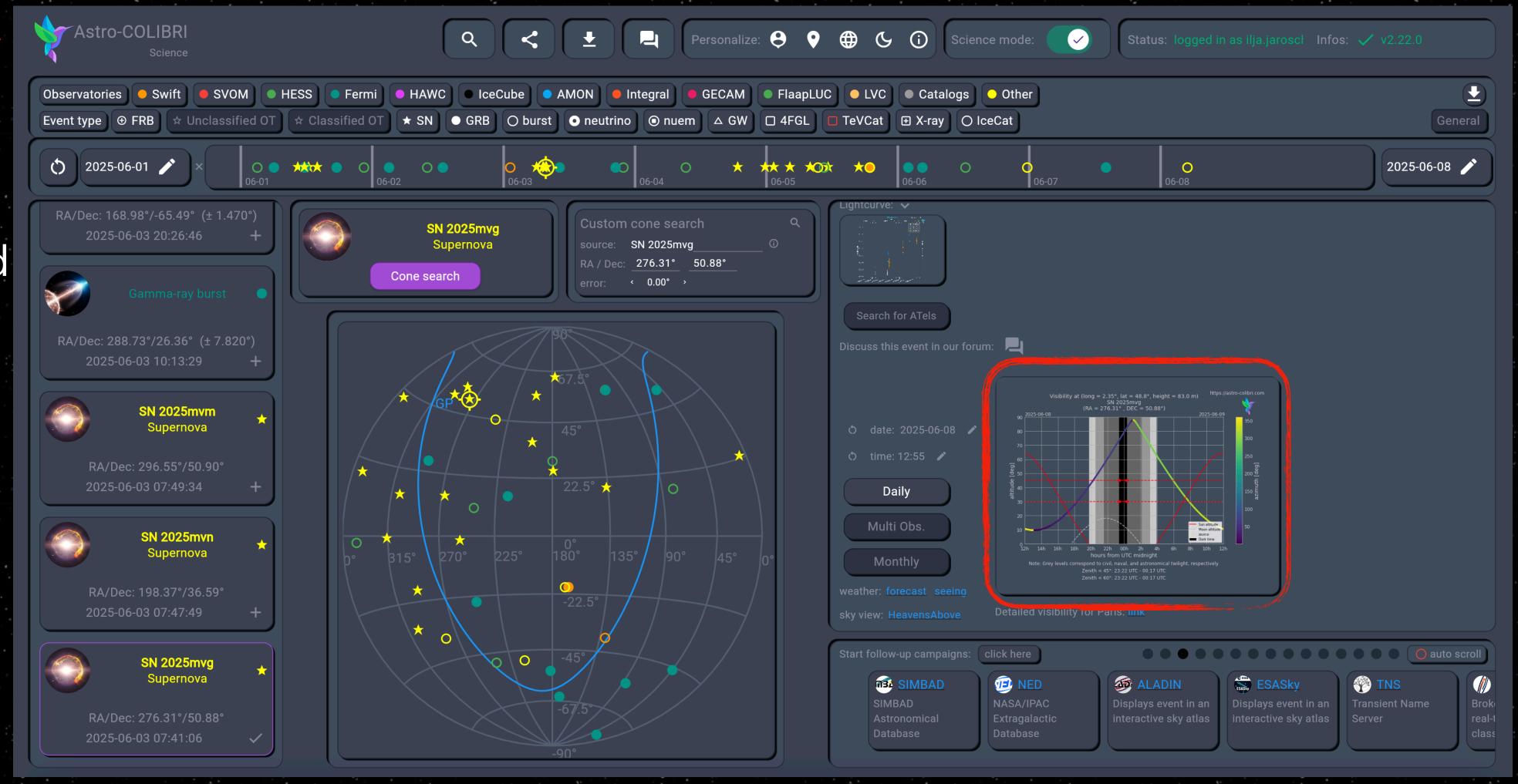








Visibility plot

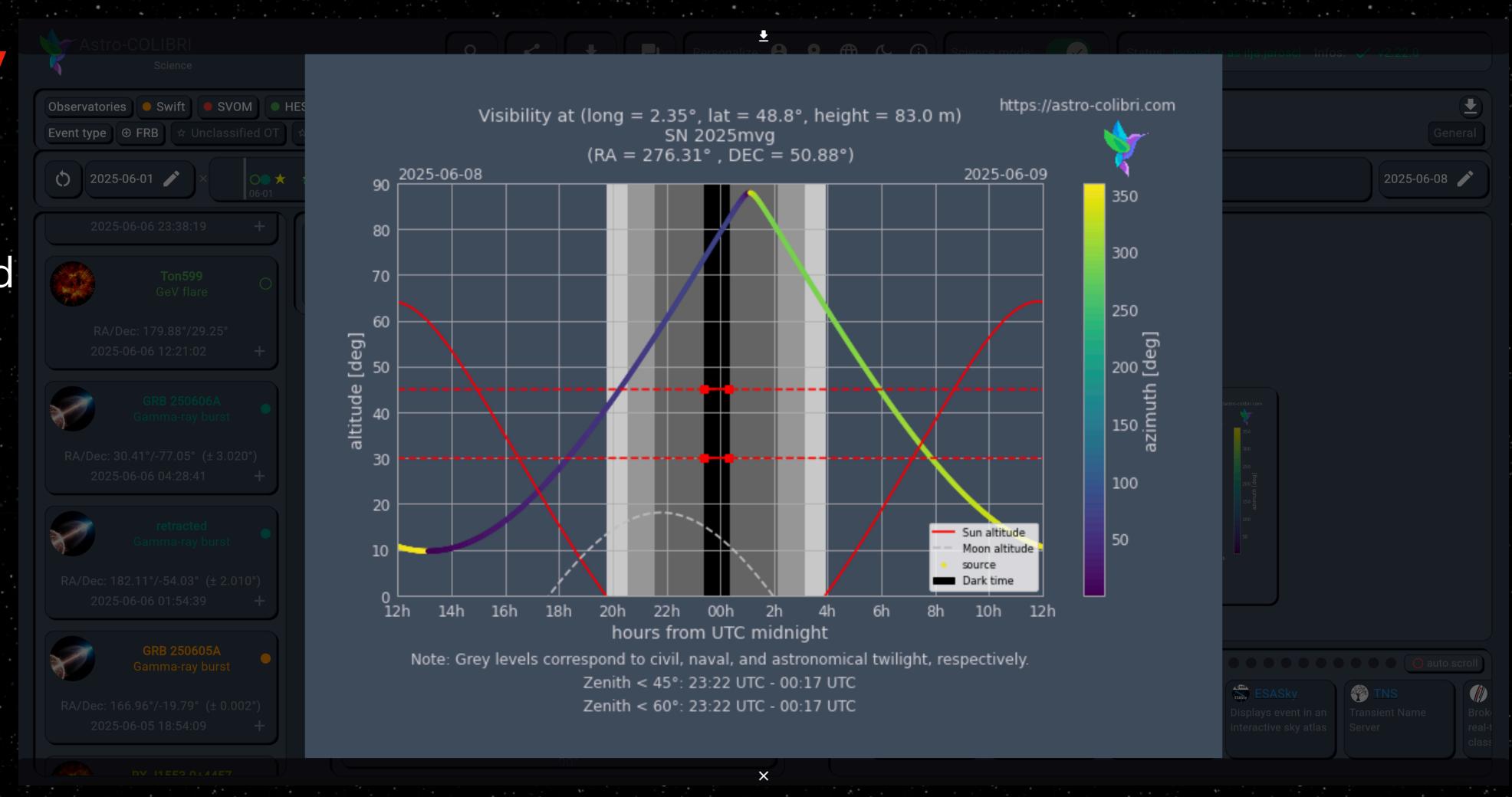








Visibility plot



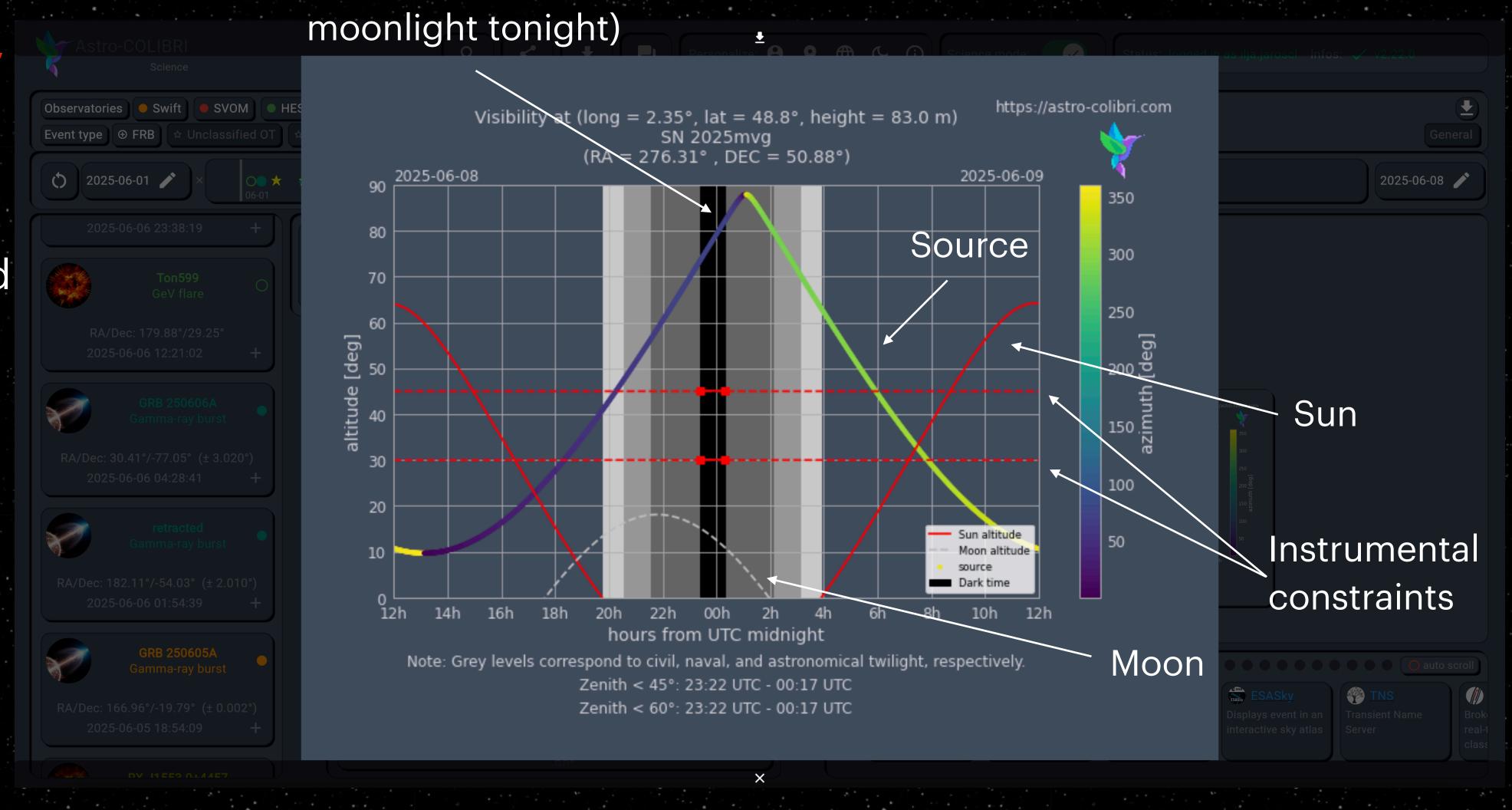






Dark time (no

Visibility plot

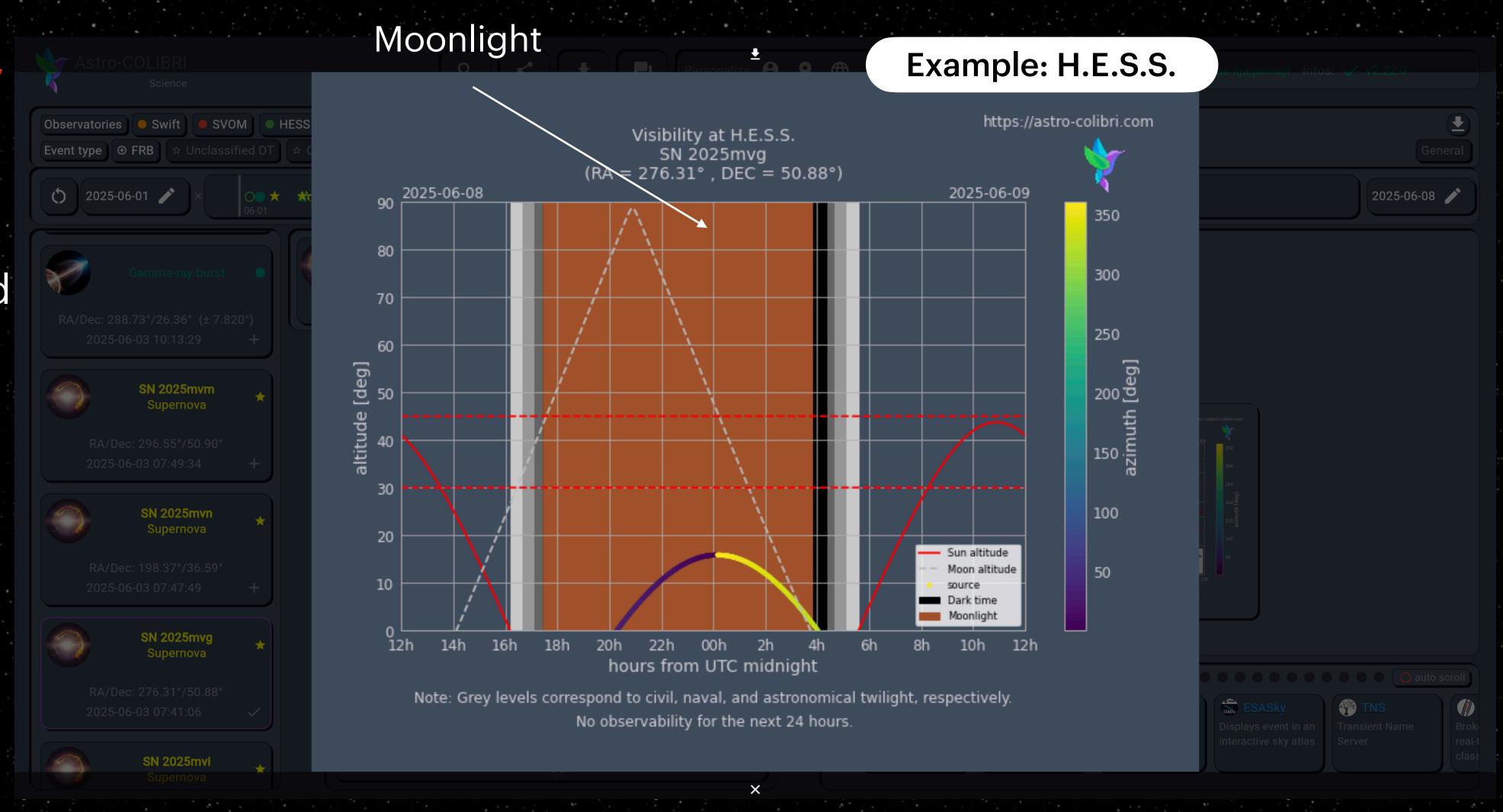








Visibility plot

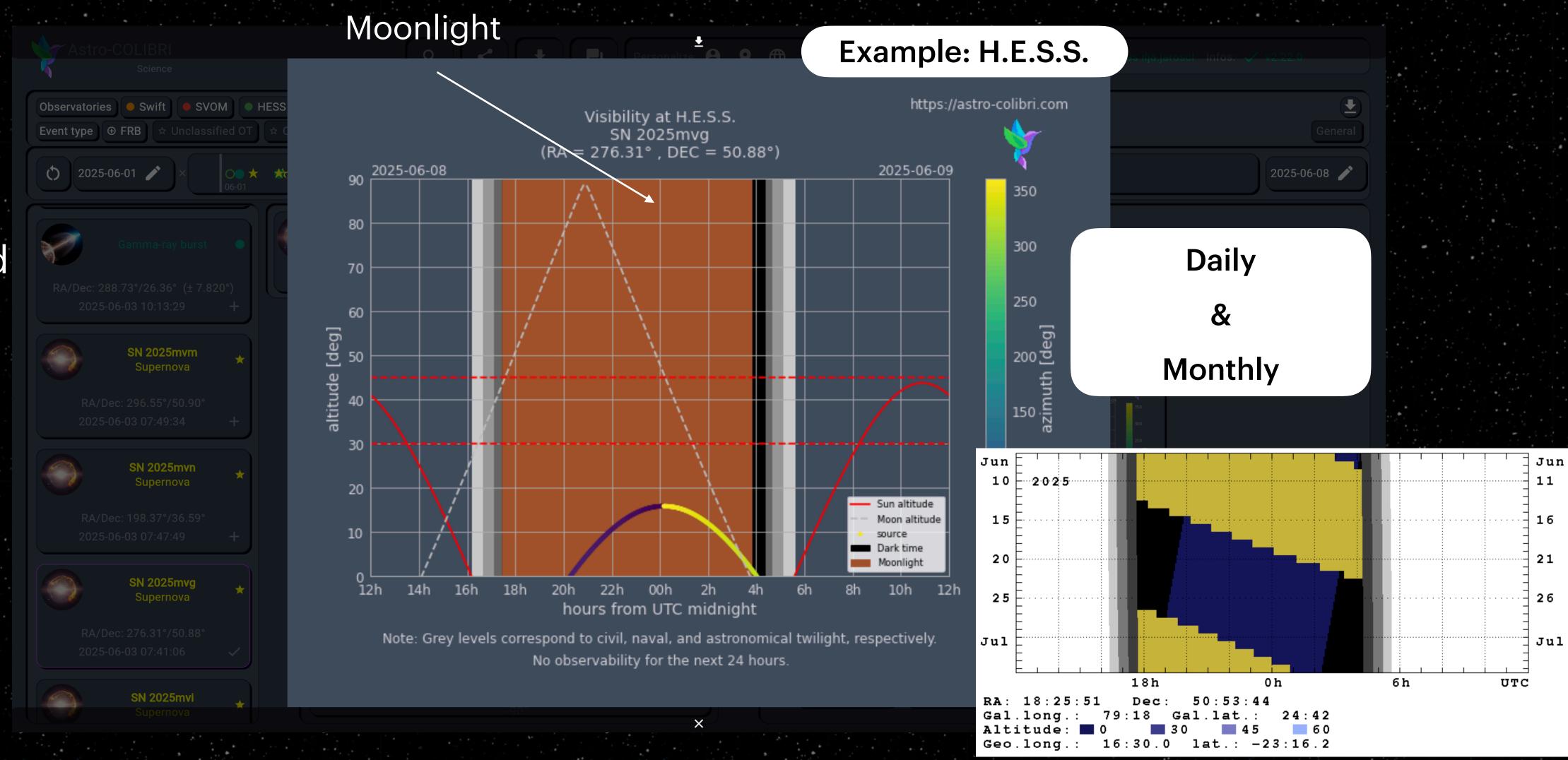








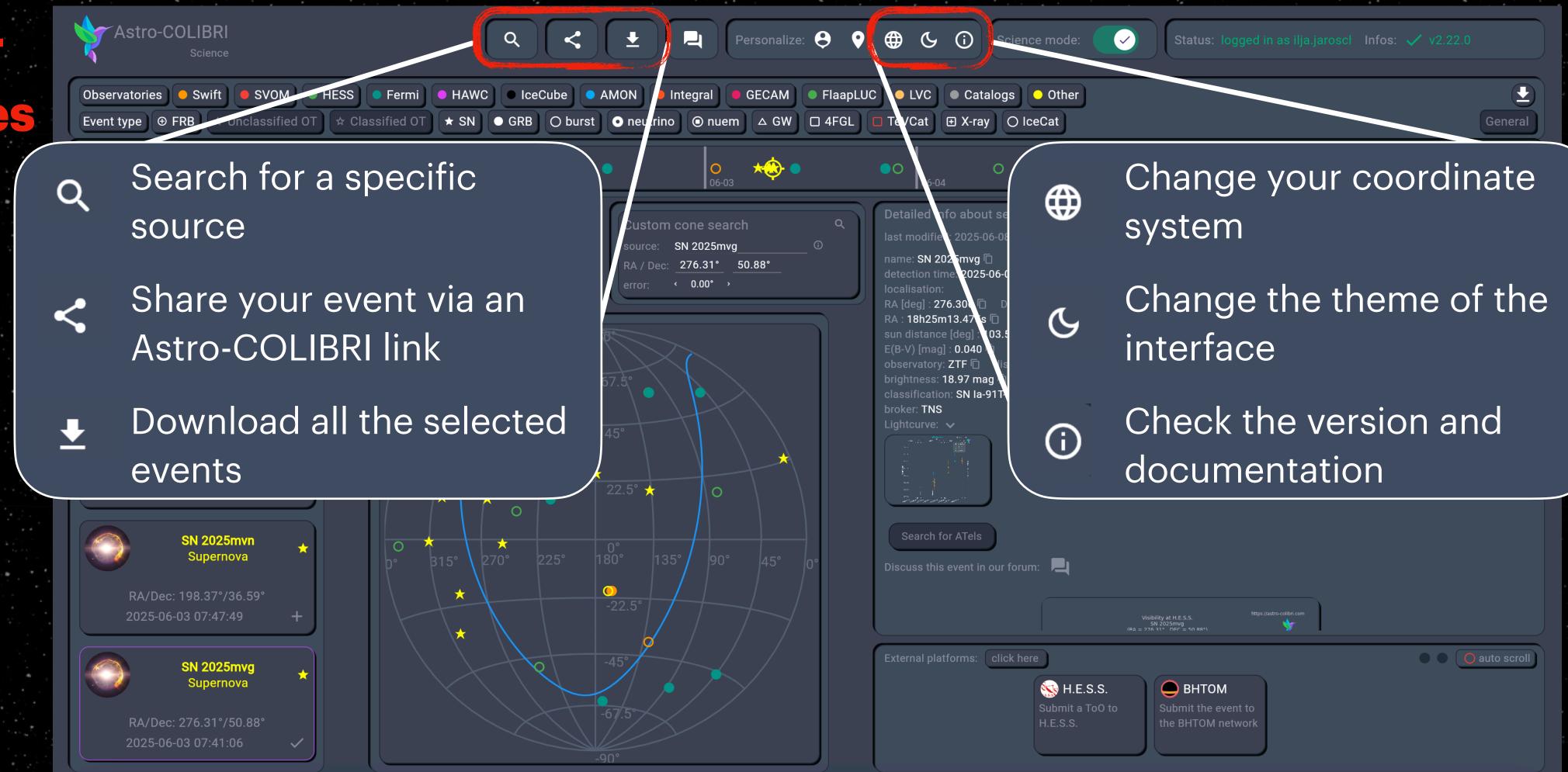
Visibility plot







#### Other features







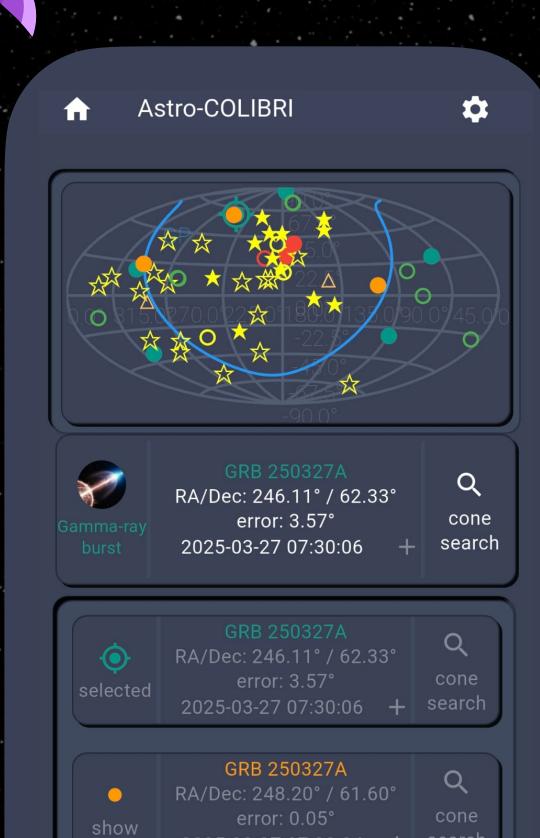


#### The App User Interfaces









AT 2025fwg RA/Dec: 253.85° / 37.36°

▦

#### The App Main interface

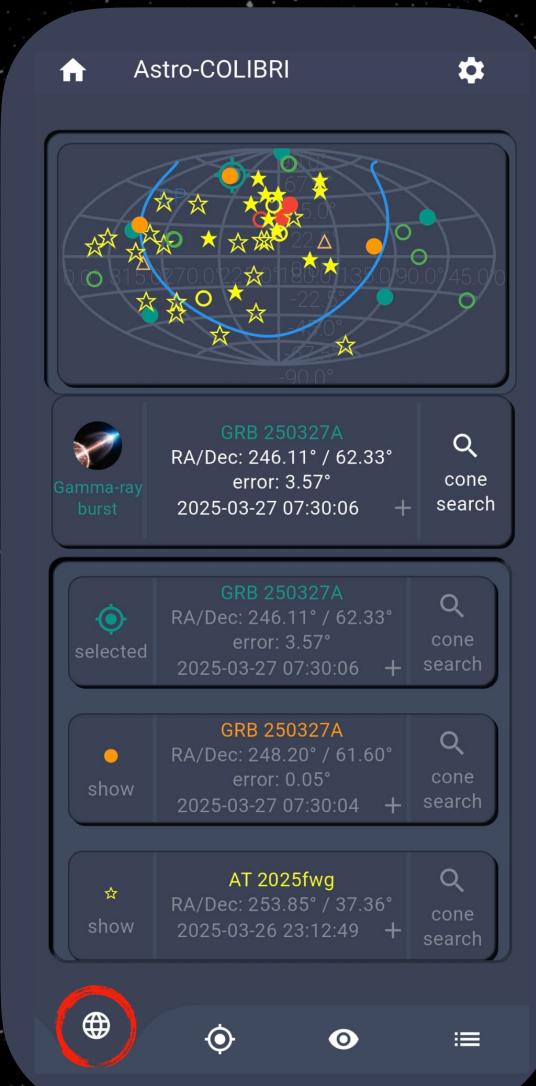






### The App Main interface



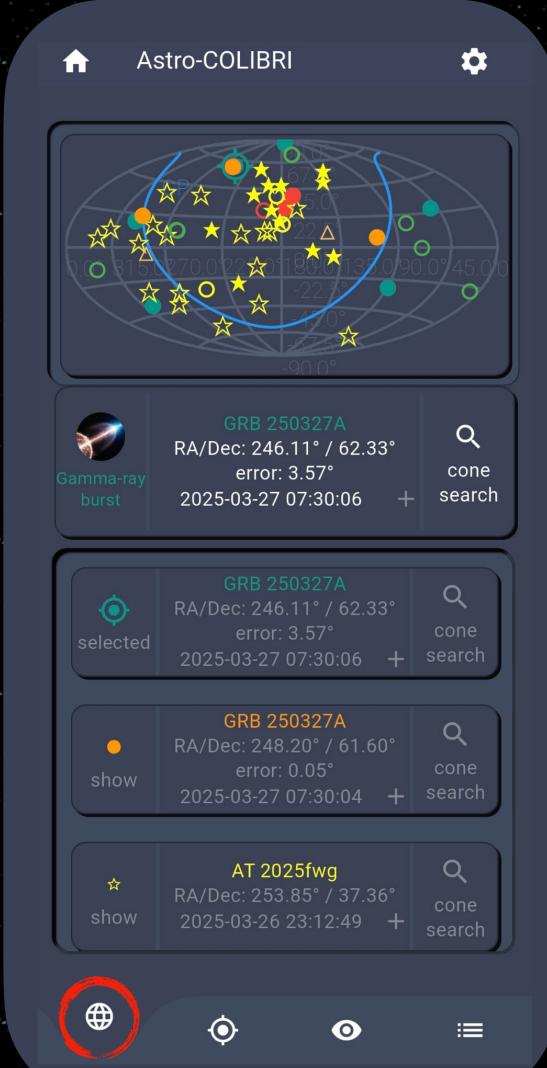




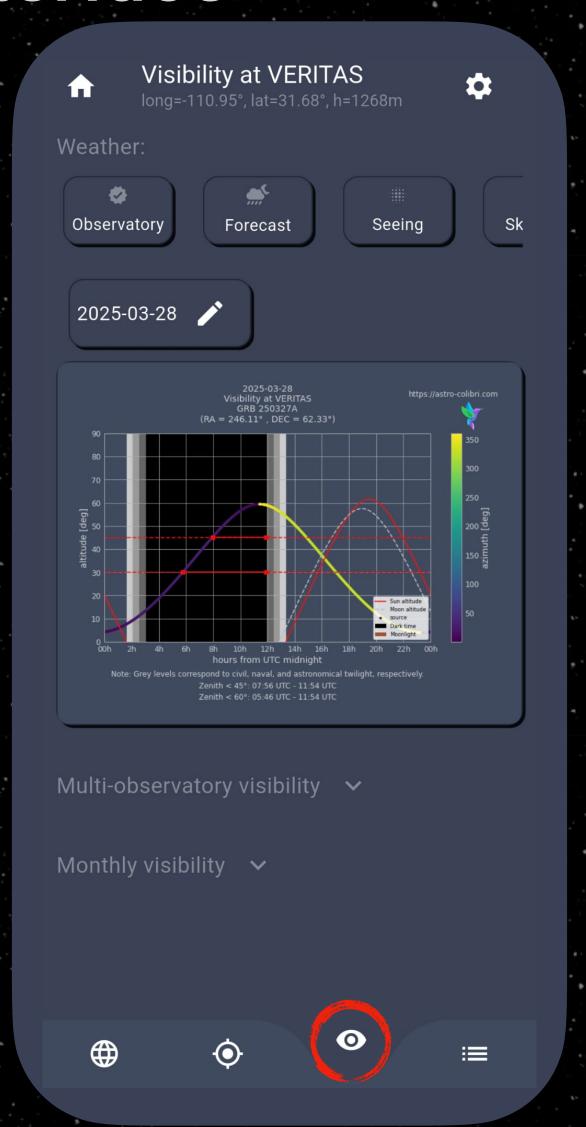


### The App Main interface





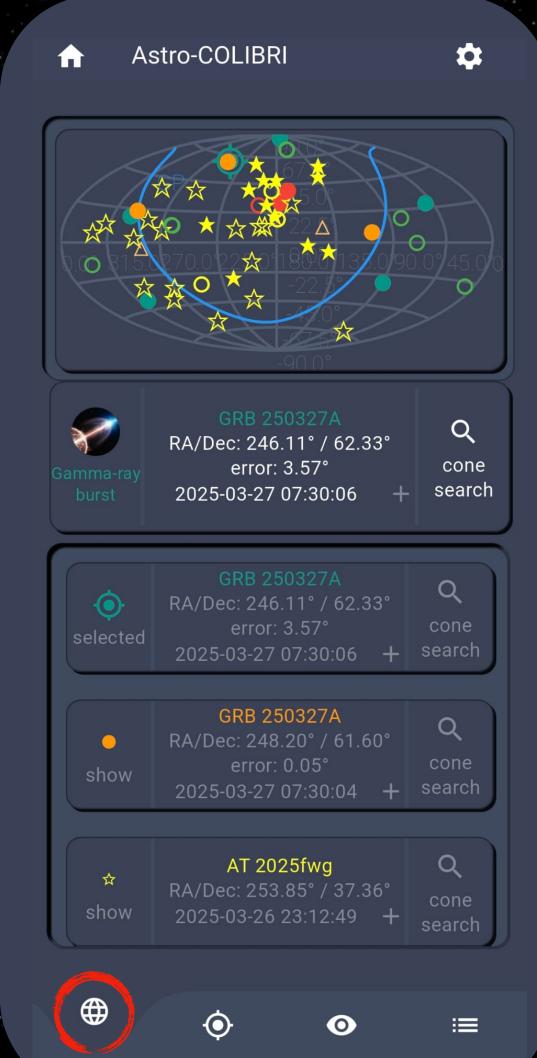


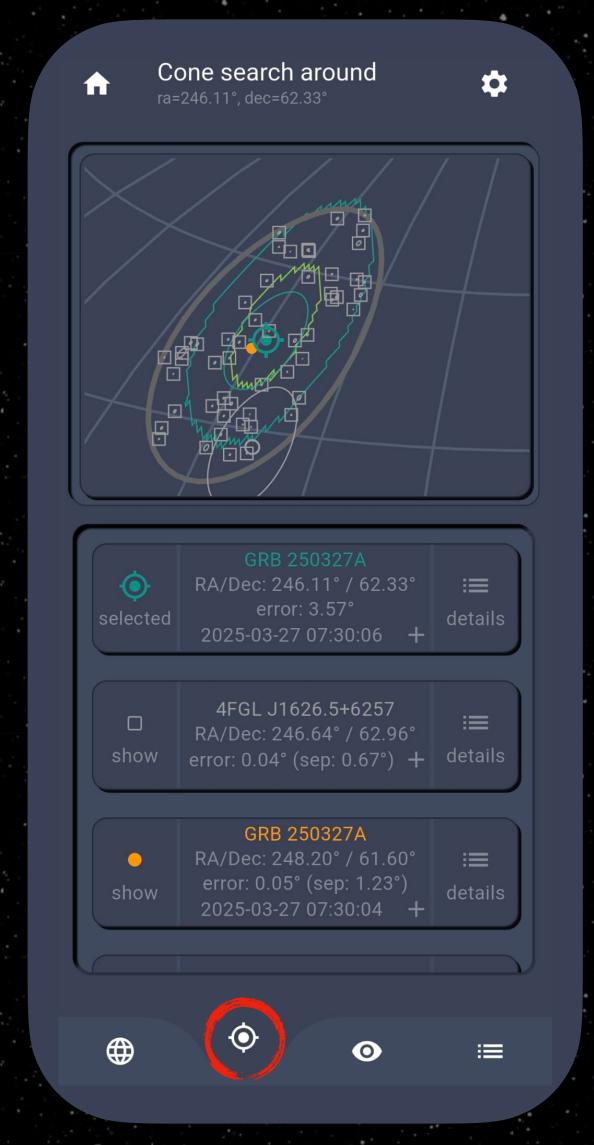


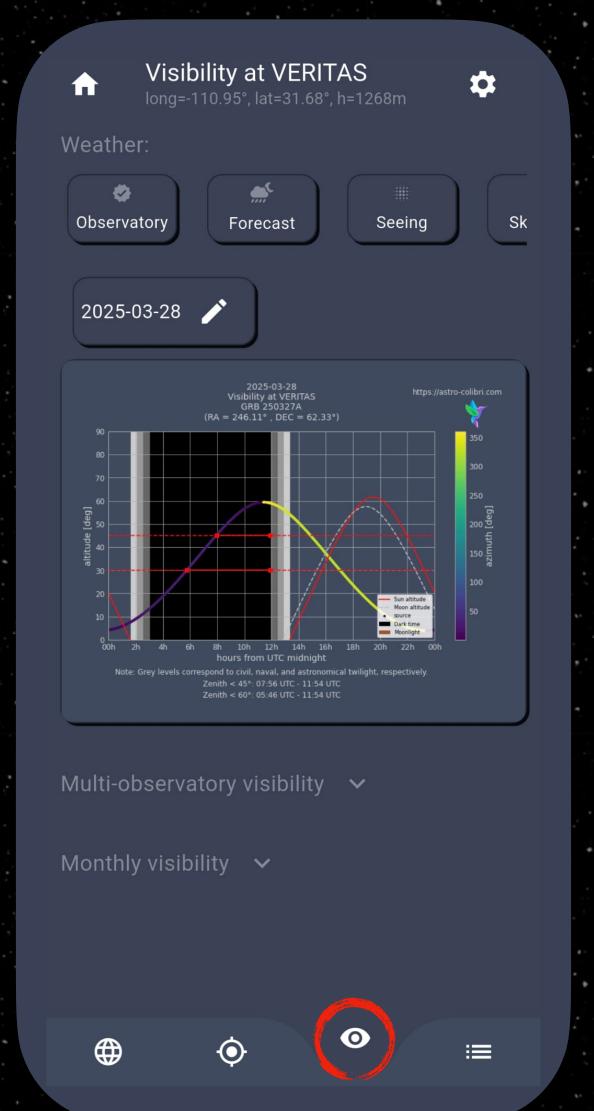


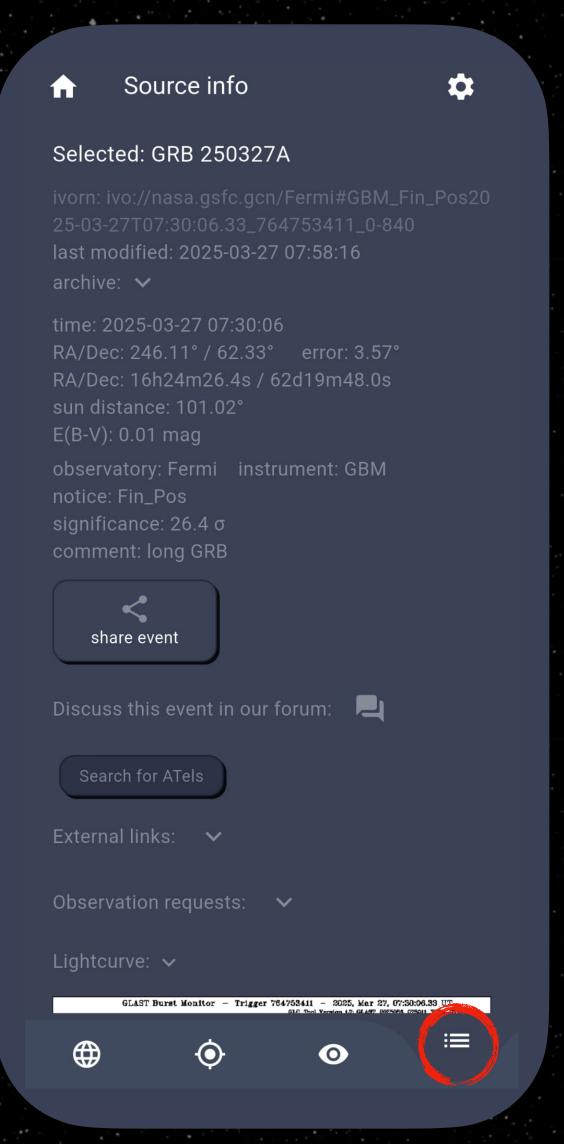
#### Ine App Main interface







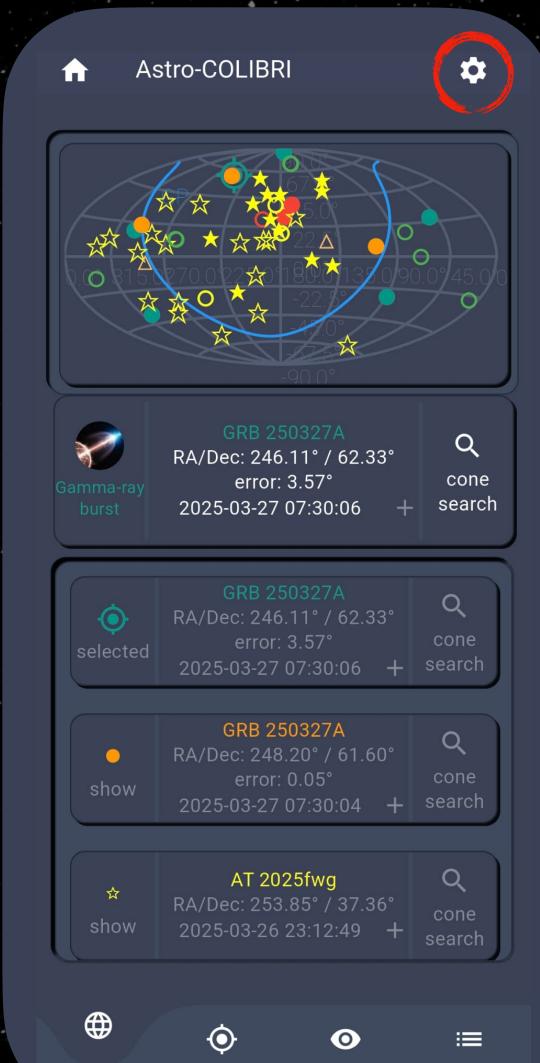


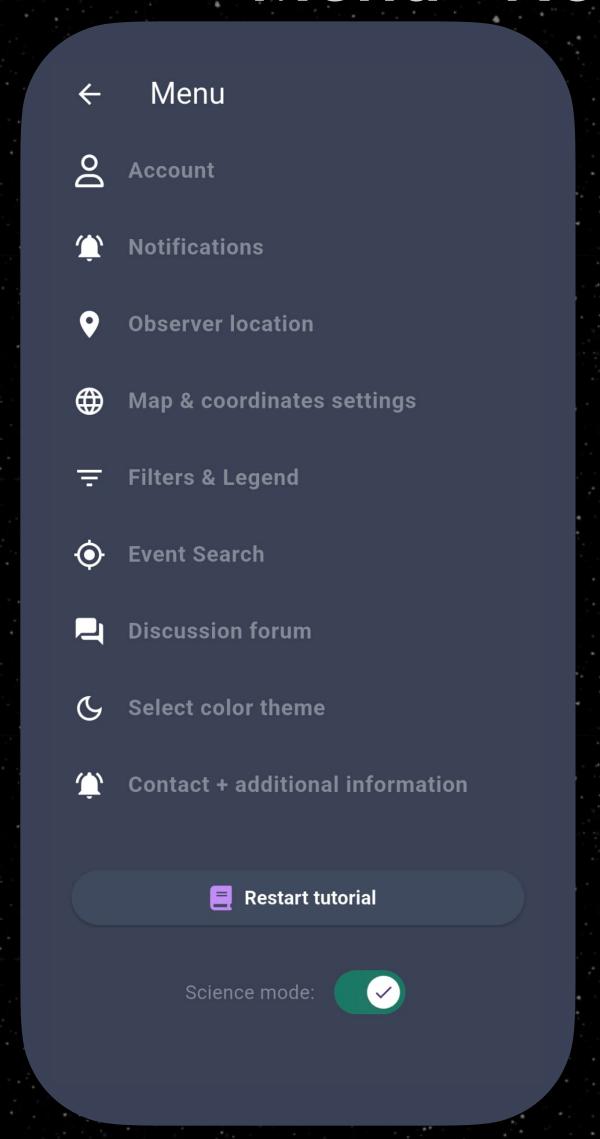




### The App Menu - Notifications







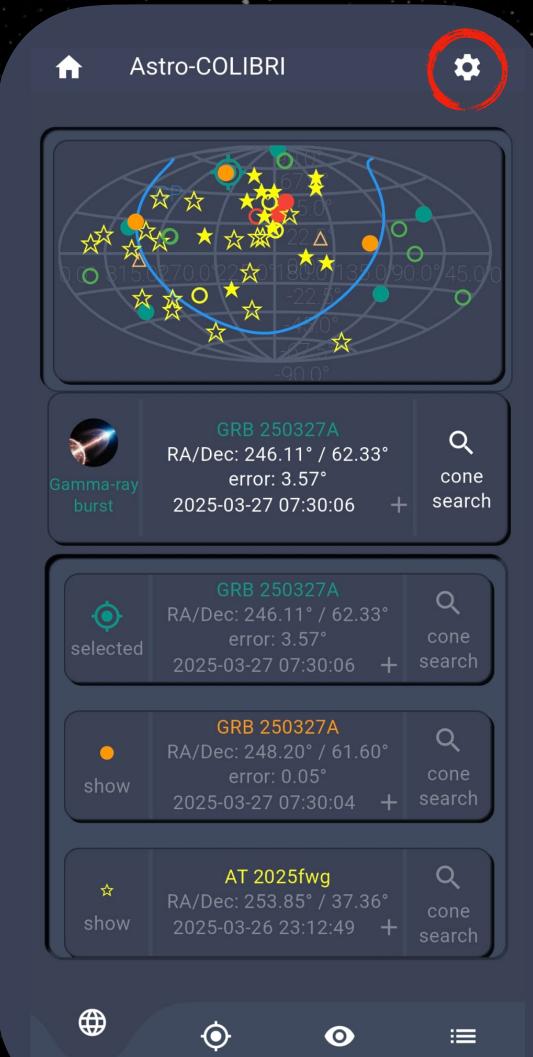
101

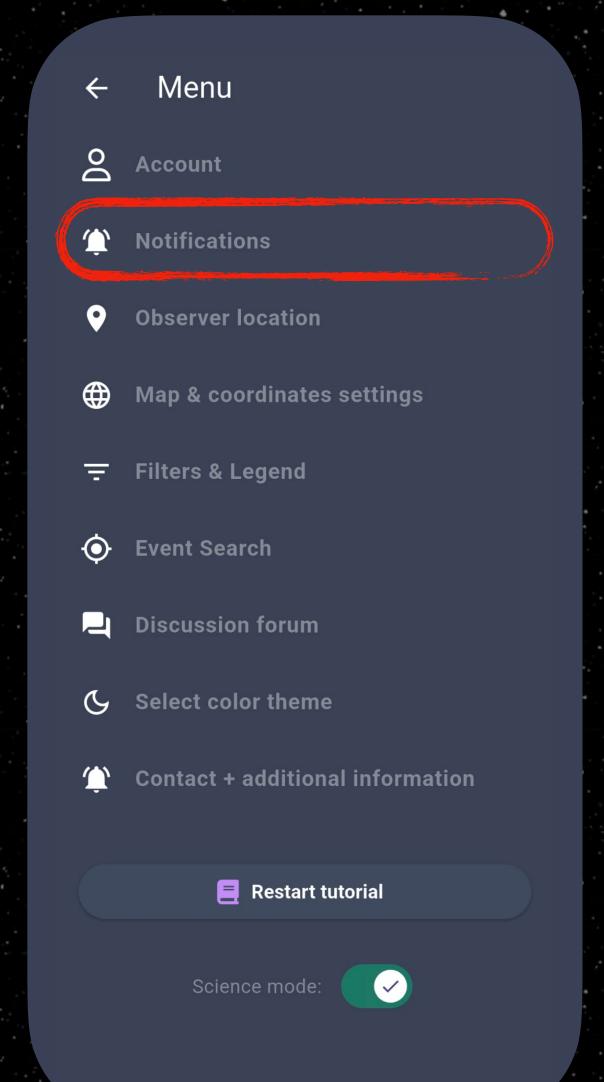


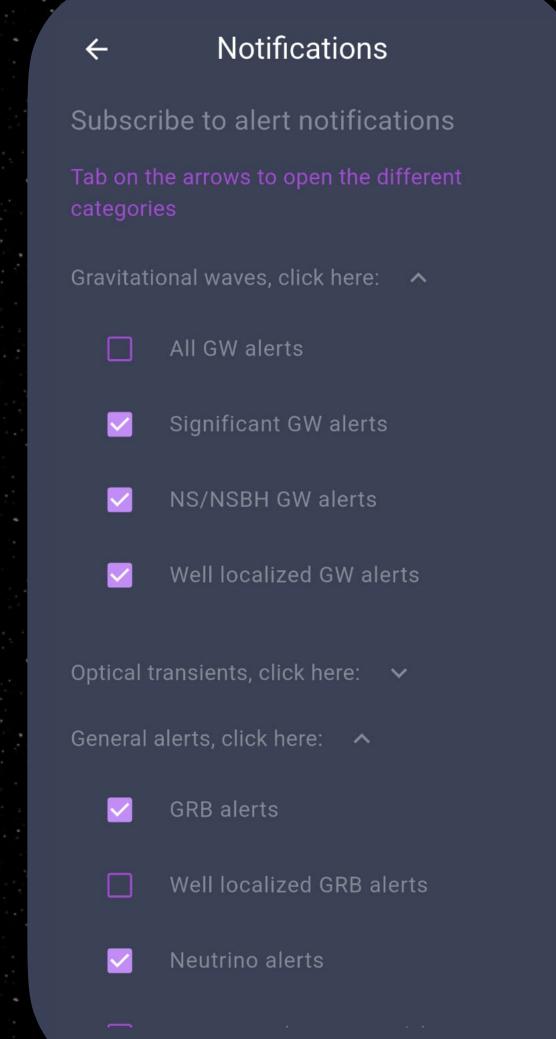
#### The App Menu - Notifications









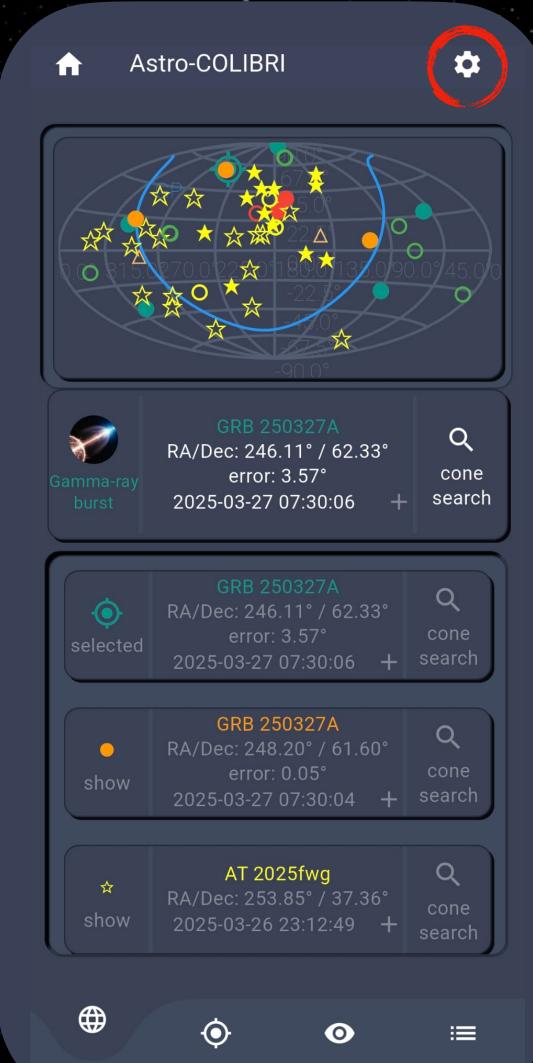


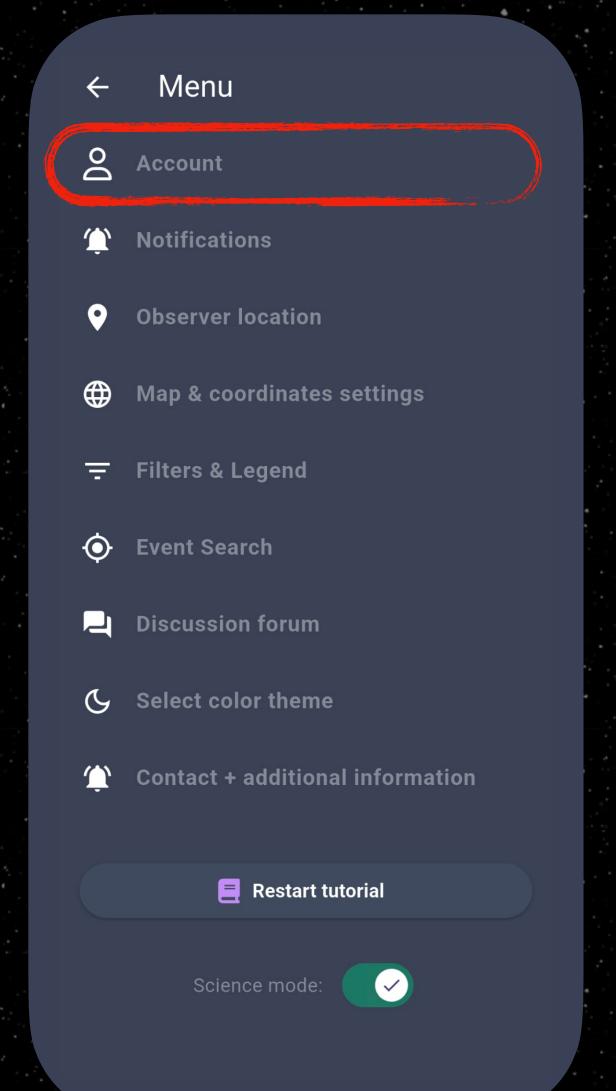
Customizable to receive notifications for alerts which you are interested in!

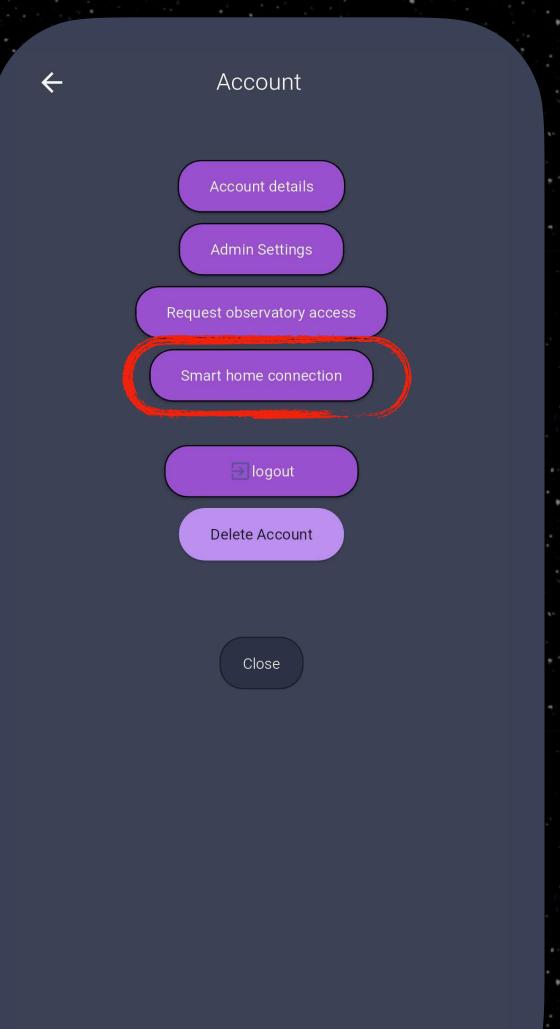


#### Ine App Menu - Notifications









You can also connect your alerts to your smart home







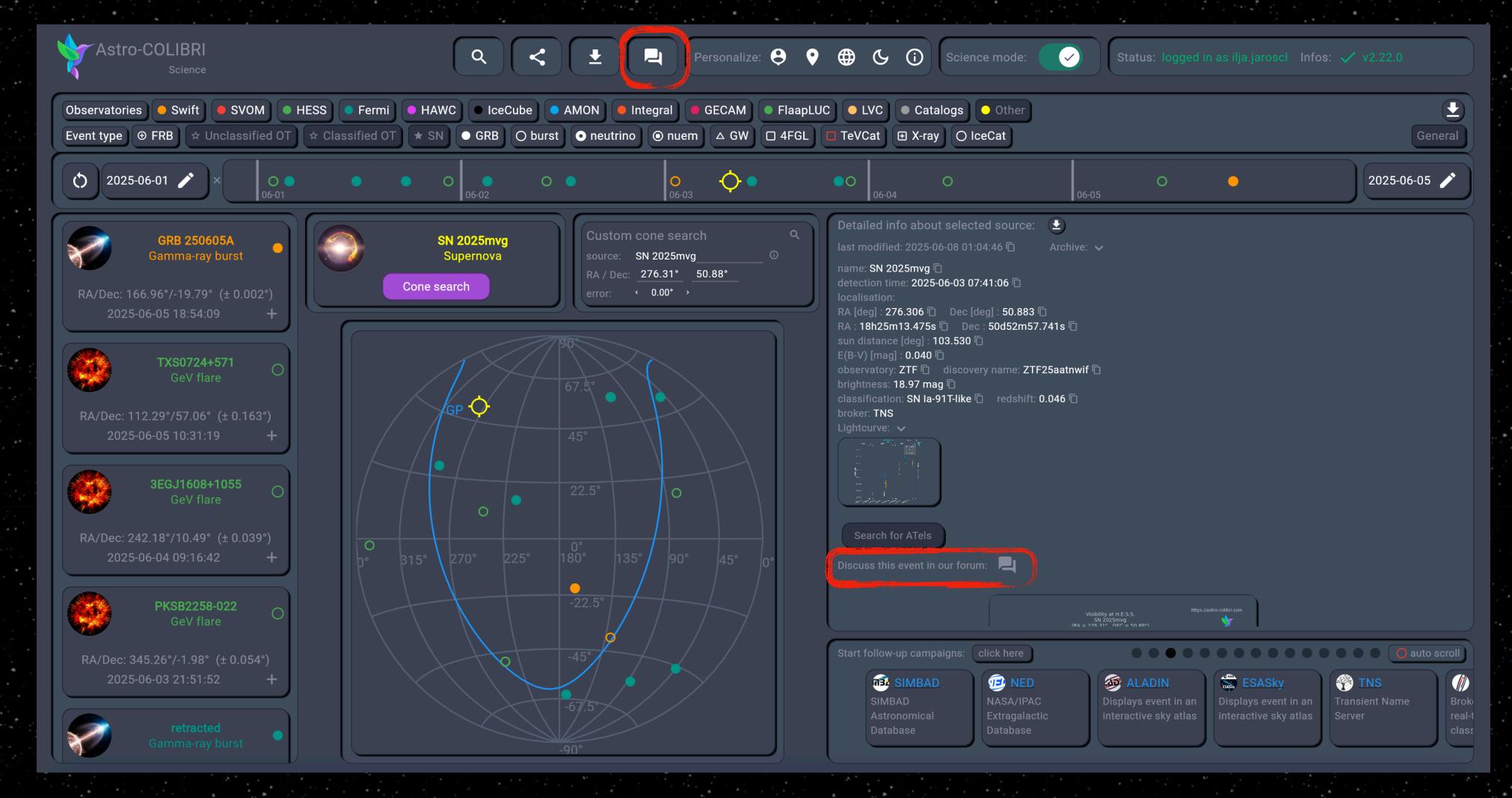
#### The Community



### Web-Interface The Community





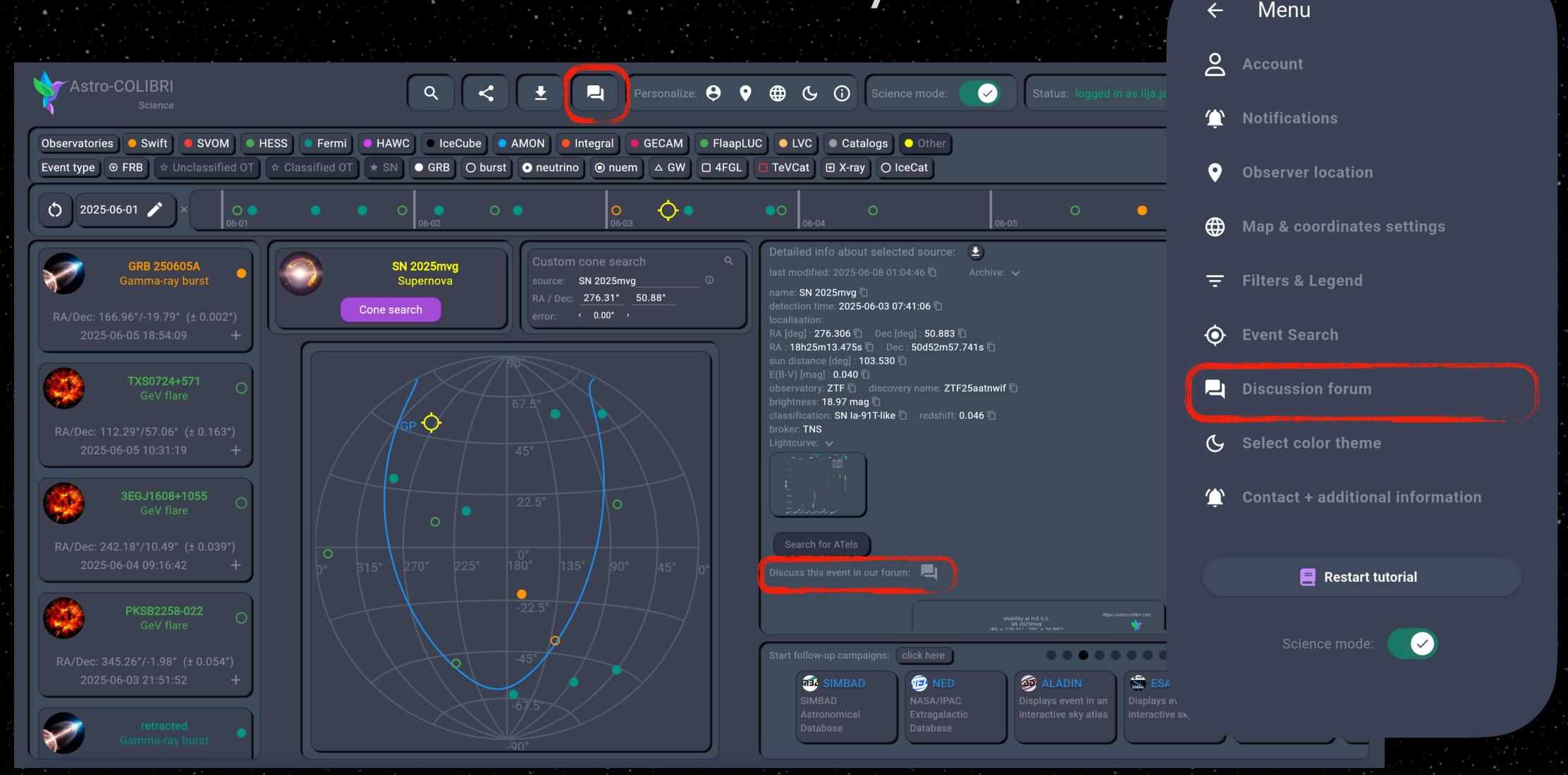




# Web-Interface & App The Community







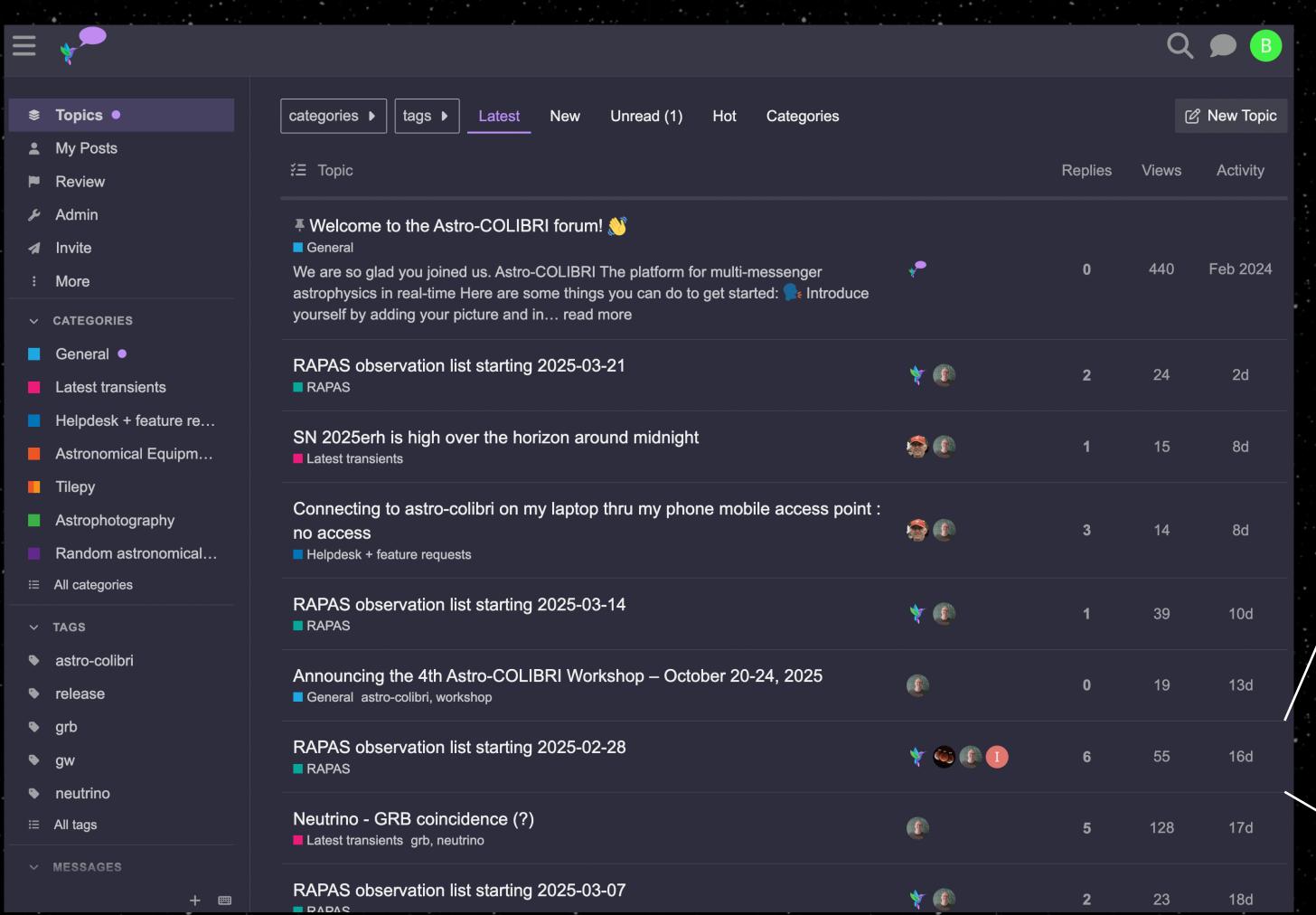


#### The Community Forum

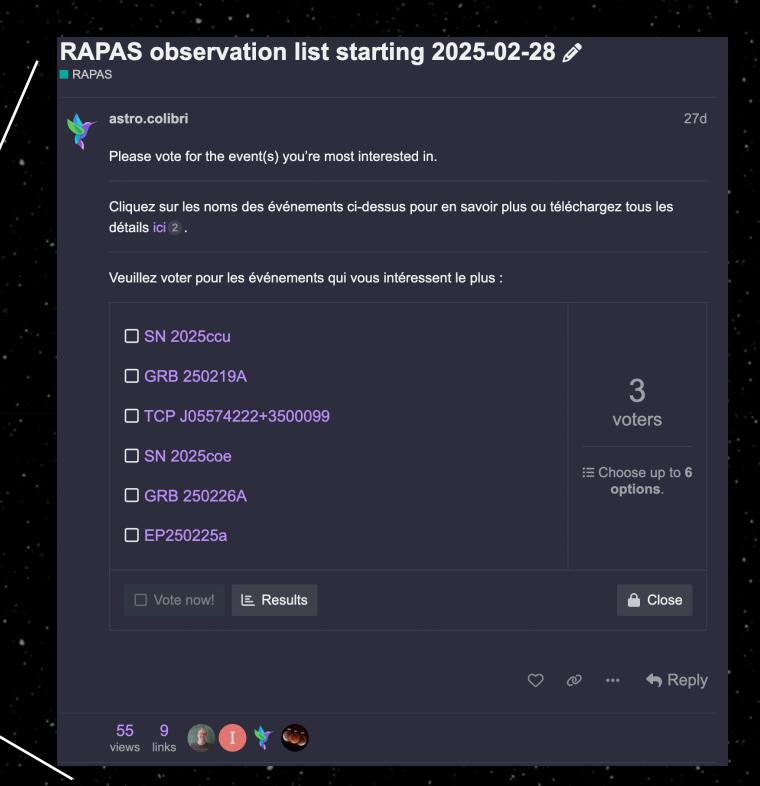




#### forum.astro-colibri.science



Discuss with the community!









#### More in next Talk

Thank you!









Contact: astro.colibri@gmail.com







#### More in next Talk

Thank you!

# Feel free to contact us if you have any questions, issues or need help!

Contact: astro.colibri@gmail.com







