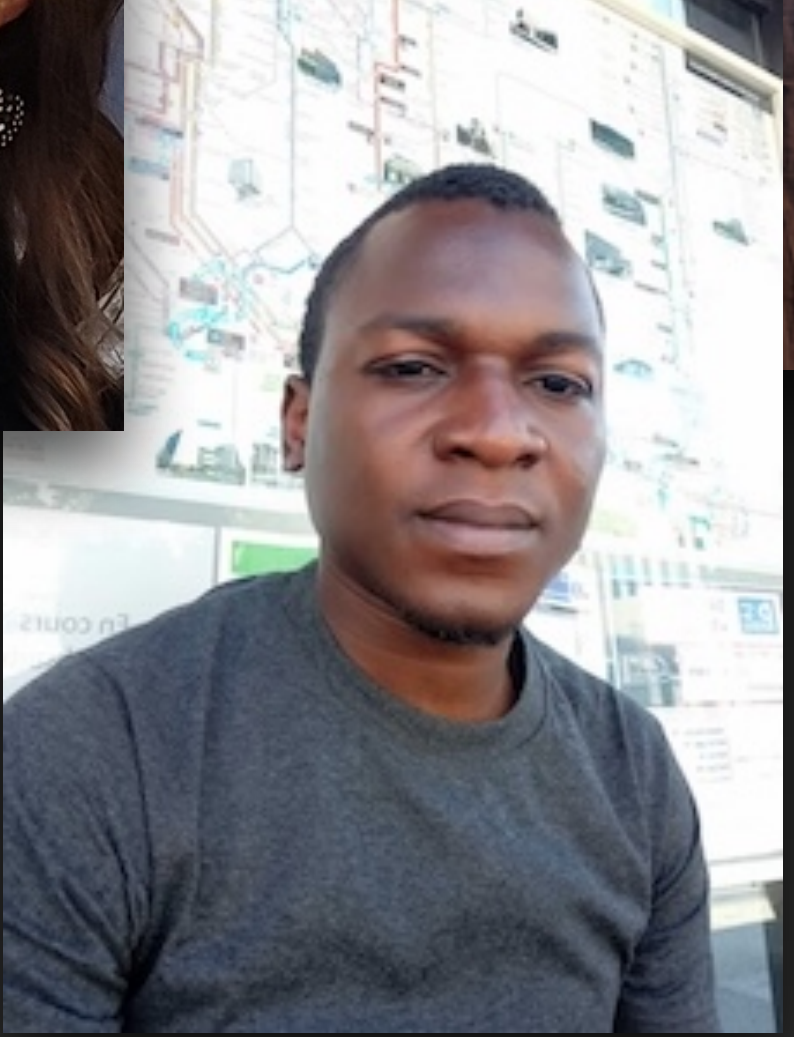
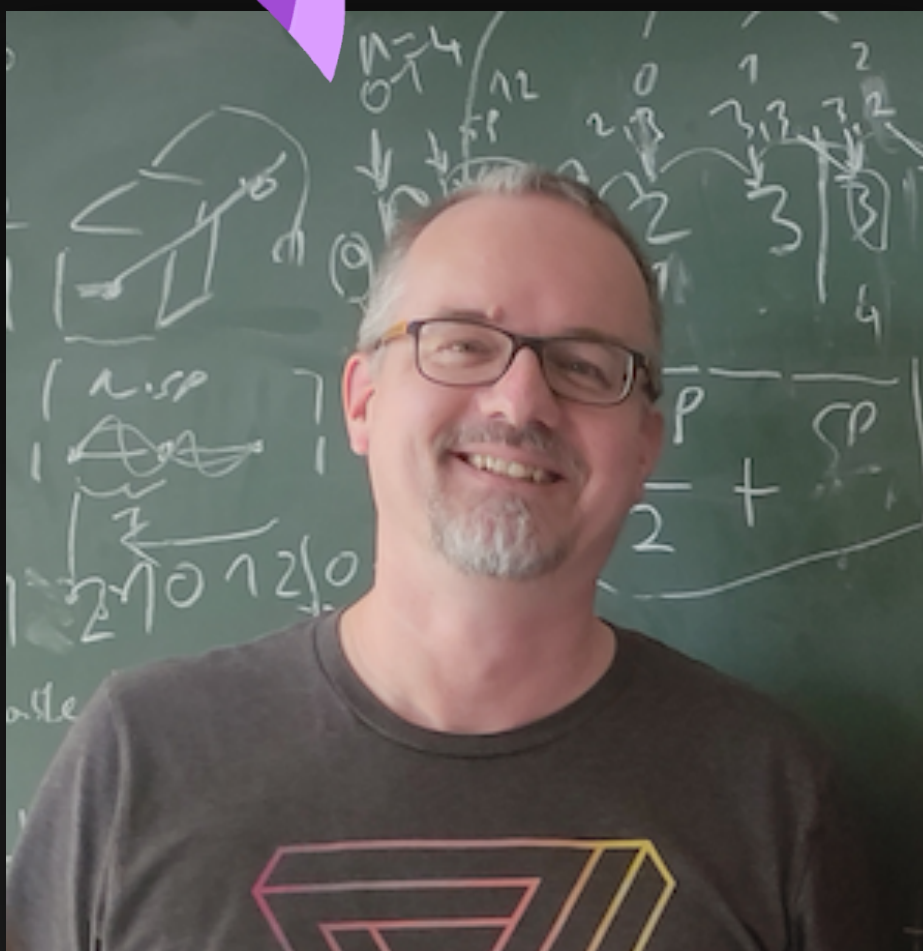




# Astro-COLIBRI



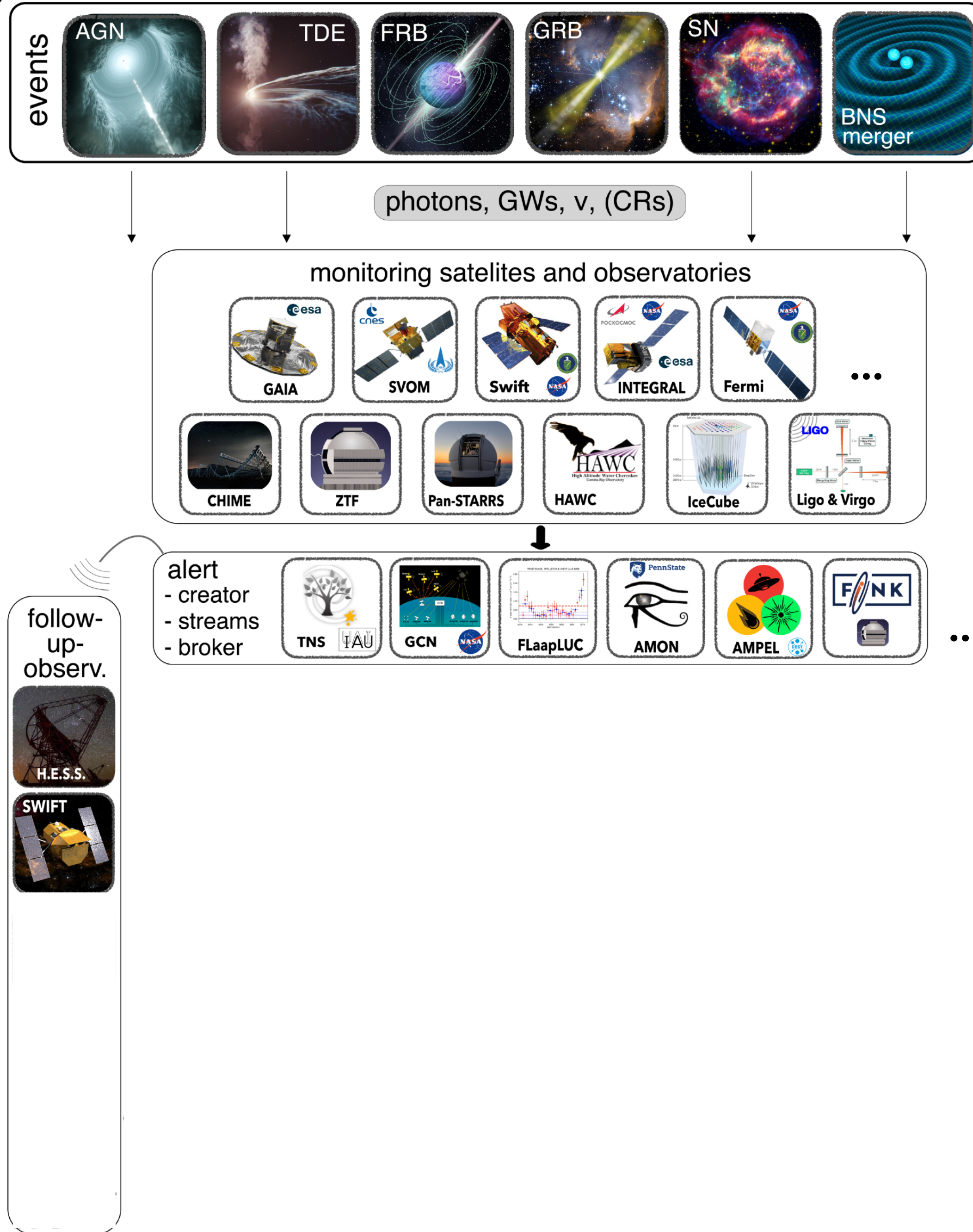
+ many contributions from the community

Fabian Schüssler (IRFU, CEA Paris-Saclay)



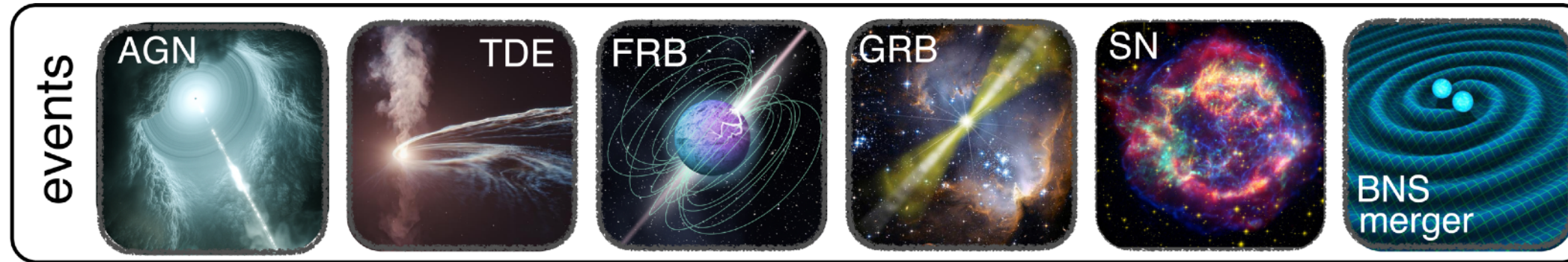


# Improve time domain astrophysics

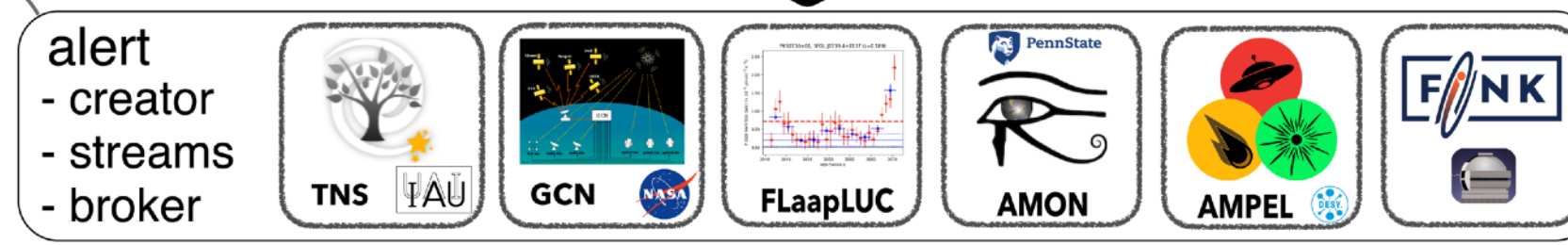
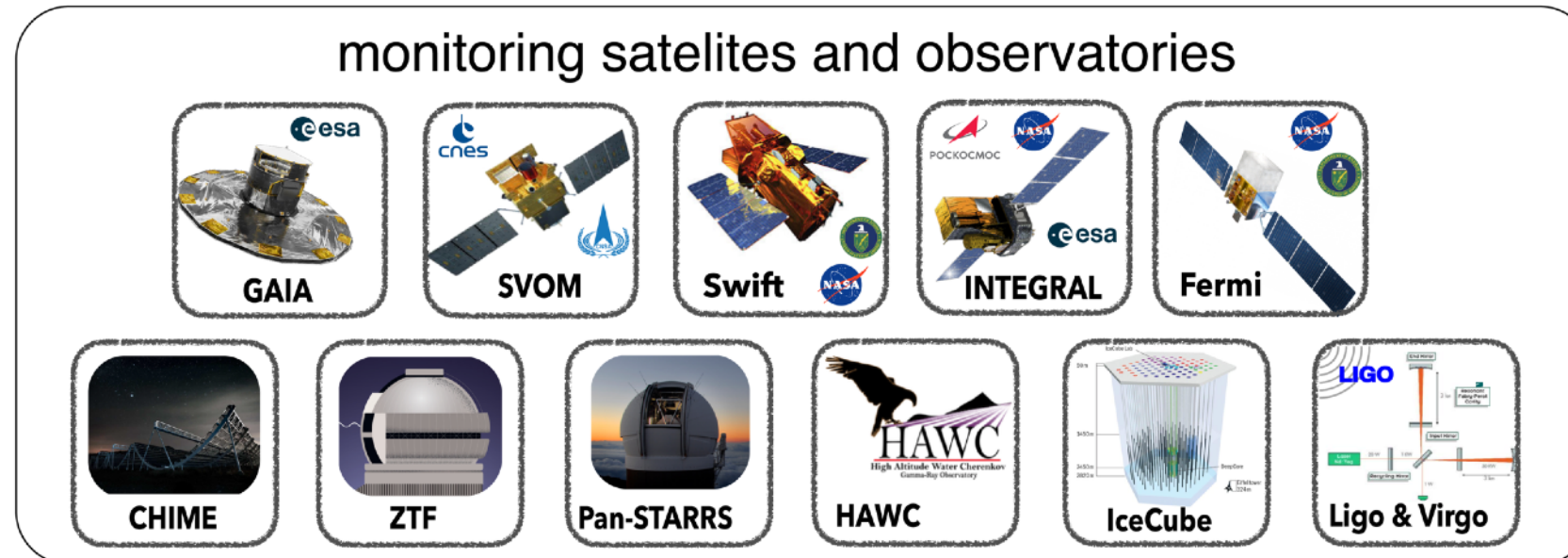




# Improve time domain astrophysics



photons, GWs, v, (CRs)



```
The following new classification/s were reported on:
2021agrk RA=16:31:36.210, DEC=+13:38:14.93, Classification=SN II, Redshift=0.001
group: ePESSTO+
2022dkw RA=14:35:50.295, DEC=+24:40:58.20, Classification=SN IIn, Redshift=0.001
group: ePESSTO+
2022dlf RA=13:24:06.914, DEC=-00:41:34.50, Classification=SN Ia-91T-like, Redshift=0.001
Source group: ePESSTO+
2022dsu RA=14:05:30.767, DEC=+15:43:15.52, Classification=SN Ia-91bg-like, Redshift=0.001
Source group: ePESSTO+
2022efq RA=16:40:00.000, DEC=+13:38:14.93, Classification=SN II, Redshift=0.001
group: ePESSTO+
2022ehu RA=20:10:00.000, DEC=+13:38:14.93, Classification=SN II, Redshift=0.001
group: ePESSTO+
2022eml RA=10:20:00.000, DEC=+13:38:14.93, Classification=SN II, Redshift=0.001
group: ePESSTO+
2022enc RA=14:40:00.000, DEC=+13:38:14.93, Classification=SN II, Redshift=0.001
group: ePESSTO+
{
  "$schema": "https://gcn.nasa.gov/schema/v4.2.0/voe",
  "type": "IceCube LVK Alert Nu Track Search",
  "reference": {
    "gcn.notices.LVK.alert": "S230914ak-2-Preliminary"
  },
  "ref_ID": "S230914ak",
  "alert_datetime": "2023-09-14T11:49:16.526Z",
  "trigger_time": "2023-09-14T11:14:01Z",
  "observation_start": "2023-09-14T11:05:41.000Z",
  "observation_stop": "2023-09-14T11:22:21.000Z",
  "observation_livetime": 1000,
  "pval_generic": 0.0191,
  "pval_bayesian": 0.0549,
  "n_events_coincident": 2,
  "coincident_events": [
    {
      "event_dt": 12.91,
      "localization": {
        "ra": 17.48,
        "dec": 16.15,
        "ra_dec_error": 0.5,
        "containment_probability": 0.9,
        "systematic_included": false
      },
      "id": [
        "138590_39138551"
      ],
      "event_pval_generic": 0.0191,
      "event_pval_bayesian": null
    }
  ]
}
```

```
<voe:VOEvent xmlns:voe="http://www.ivoa.net/xml/VOEvent/v2.0" xmlns:xsi="http://www.ivoa.net/xml/VOEvent/v2.0" http://www.ivoa.net/xml/VOEvent/v2.0 http://www.ivoa.net/xml/VOEvent/v2.0">
  <Who>
    <AuthorIVORN>ivo://nasa.gov/fermi/ops/AuthorIVORN
    <Author>
      <shortName>VO-GCN</shortName>
      <contactName>Scott Bart
      <contactPhone>+1-301-281-1000
      <contactEmail>scott.bart@nasa.gov
    </Author>
    <Date>2022-05-01T19:52:11Z
    <Description>This VOEvent
  </Who>
  <What>
    <Param name="Packet_Type" value="GRB" />
    <Param name="Pkt_Ser_Num" value="241209B" />
    <Param name="TrigID" value="VT" />
    <Param name="Segment_Num" value="1" />
    <Param name="Burst_TJD" value="2456555.5" />
    <Param name="Burst_SOD" value="8750" />
    <Param name="Burst_Inten" value="0.0001" />
    <Param name="Burst_Peak" value="0.0001" />
    <Param name="Integ_Time" value="1000" />
    <Param name="Phi" value="0.0" />
    <Param name="Theta" value="0.0" />
    <Param name="Trig_Index" value="0" />
  </What>
  <Text>
    SVOM/VT commissioning team: Y. L. Qiu, H. Cai, Y. Xu, Y. J. Xiao, P. P. Zhang, J. S. Zhang, L. J. Dan, G. Y. Zou, C. J. Wang,
    SVOM JSWG: Jian-Yan Wei (NAOC), Bertrand Arnaud Claret (CEA), Zi-Gao Dai (USTC), F. (IRAP), Andrea Goldwurm (APC), Diego Götz (GXU), Yu-Lei Qiu (NAOC), Susanna Vergani (NAOC), Shao-Lin Xiong (IHEP), Bing Zhang
    report on behalf of the SVOM team:
    SVOM/VT revisited GRB 241209B (Xie et al., 2024) at a magnitude of 23.70 +/- 0.30 in VT_R. Not simultaneous channel VT_B.
  </Text>
  <Text>
    The Space Variable Objects Monitor (SVOM) Space Administration (CNSA, China), National Academy of Sciences (CAS, China), which is phenomena in the energetic universe. VT w Mechanics (XIOPM), CAS and National astro
  </Text>
</VOEvent>
```

**Recurrent Nova M31N 2008-12a: Discovery of the 2024 eruption**

ATel #16942; *Jingyuan Zhao (Xingming Observatory), A. W. Shafter, J. C. Horst, R. M. Quimby (SDSU), M. J. Darnley, M. W. Healy-Kalesh (LJMU), K. L. Page (U. Leicester), on behalf of the 12a Collaboration*

on 13 Dec 2024; 04:31 UT

Distributed as an Instant Email Notice Novae

Credential Certification: Allen W. Shafter (ashafter@sdsu.edu)

**GCN Circular 38568**

**Subject** GRB 241209B: SVOM/VT optical continuous fading

**Date** 2024-12-14T06:11:47Z (4 hours ago)

**From** Chao Wu at NAOC <cwu@nao.cas.cn>

**Via** Web form

**BHTOM Targets for 22 September, 2025**

wyrzykow@gmail.com

an bhtomtargts

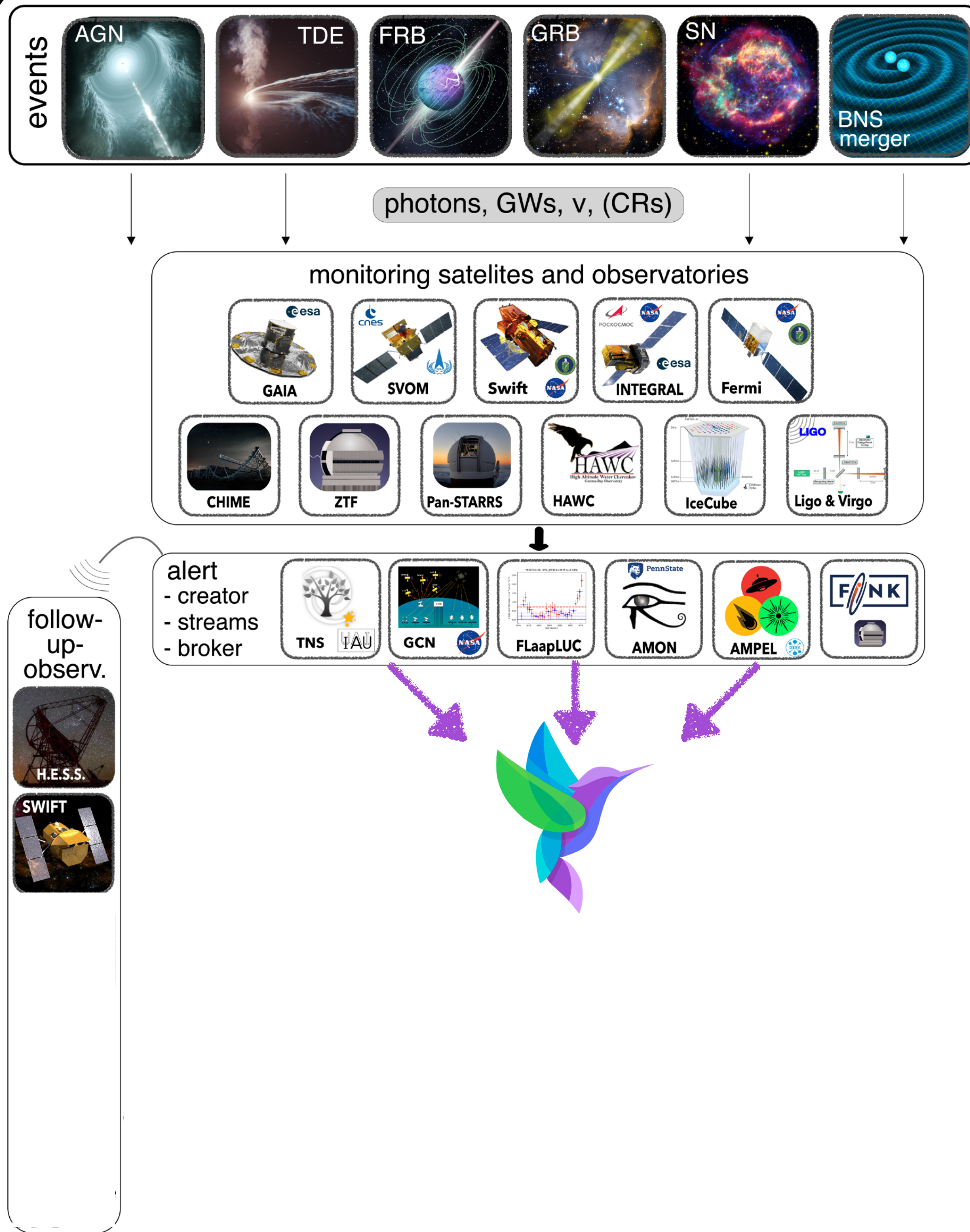
Hello,

Greetings from the BHTOM Automated Newsletter!

As of 2025-09-22 10:05:35.180466+00:00, these are the new targets added in the last week for observing (importance>=1), sorted by magnitude:

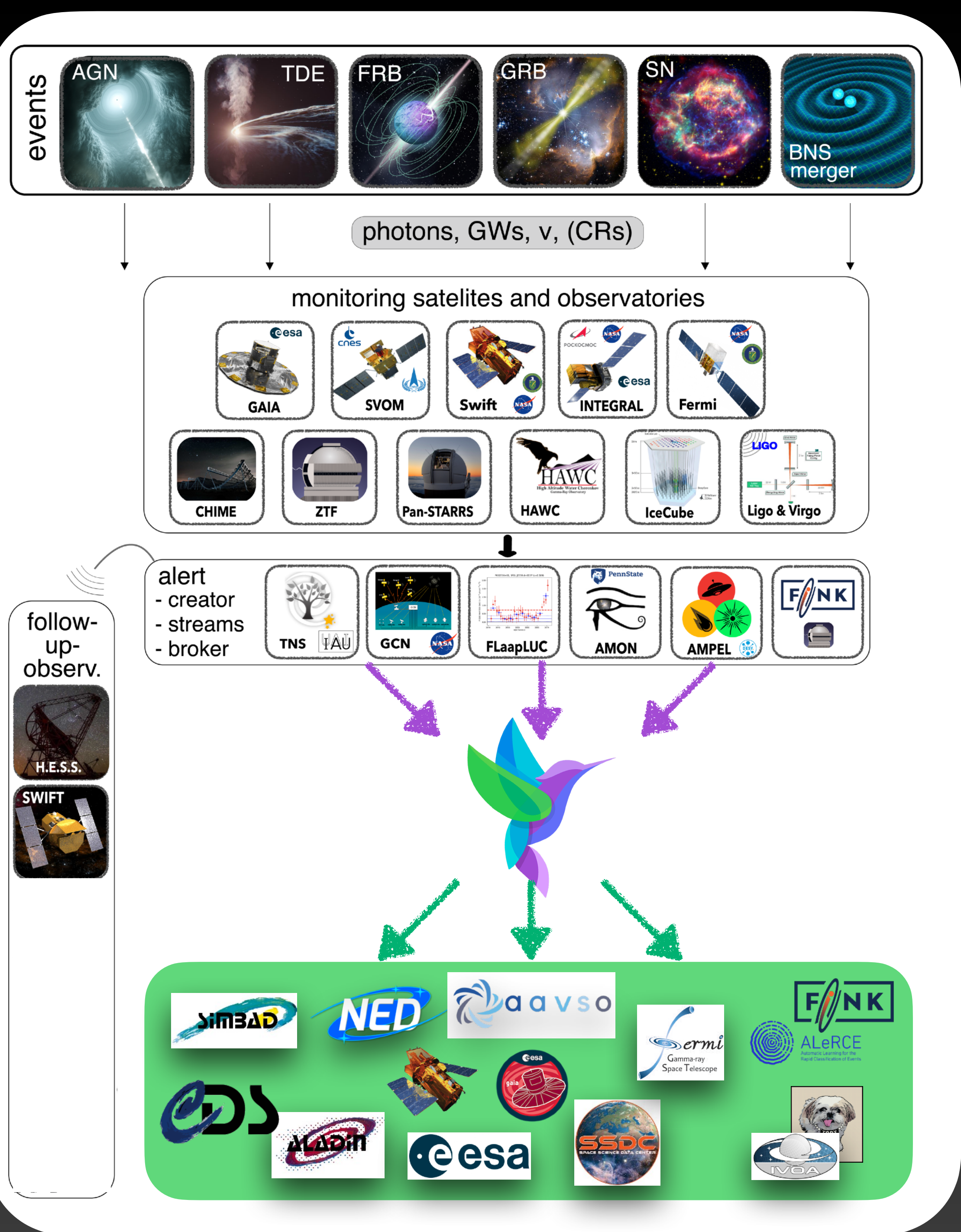
name	ra	dec	mag	last_sun_separation	classification	description
<a href="#">AT2025wyg</a>	262.551250	-27.896889	11.4	84.0	Unknown	Nova found by Tadashi Kojima
<a href="#">AT2025xes</a>	66.887308	-42.165719	15.1	107.0	Unknown	Candidate nuclear transient from ATLAS via TNS
<a href="#">AT2025xeg</a>	119.111725	-78.699383	15.5	85.0	Unknown	Candidate supernova from ATLAS and GOTO via TNS
<a href="#">AT2025xop</a>	295.930617	-18.696344	17.0	115.0	Unknown	Candidate supernova from LAST via TNS, gone already
<a href="#">ZTF25aaawfve</a>	274.631244	-20.899773	19.8	95.0	Unknown	candidate binary microlensing event from ZTF
<a href="#">AT2025xvc</a>	85.526933	-67.018517	20.2	92.0	Unknown	possible bright nova or CV in LMC from GOTO,TNS

In addition, here are some older targets that are currently visible and requested for observations. These targets have an importance>=4, a sun separation last magnitude<18, sorted by magnitude.



**Improve time domain astrophysics**

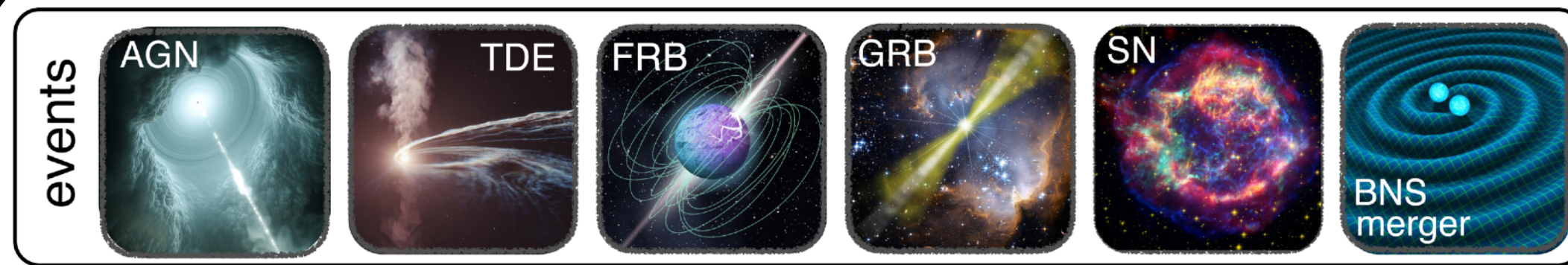
Summary of all publicly available alert channels



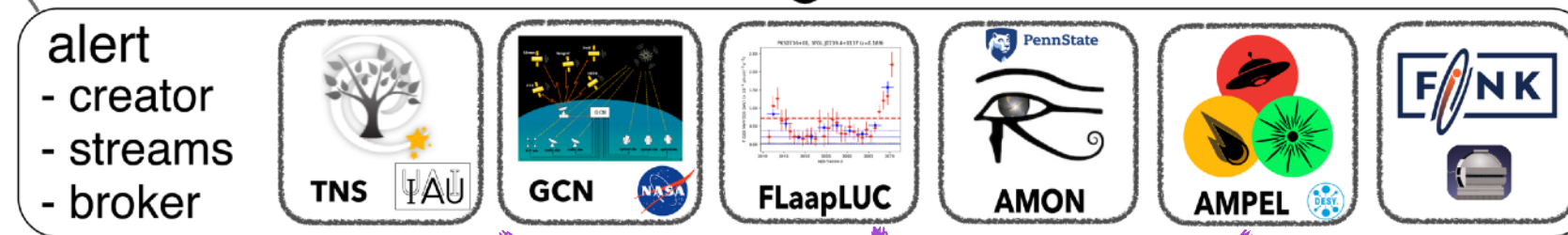
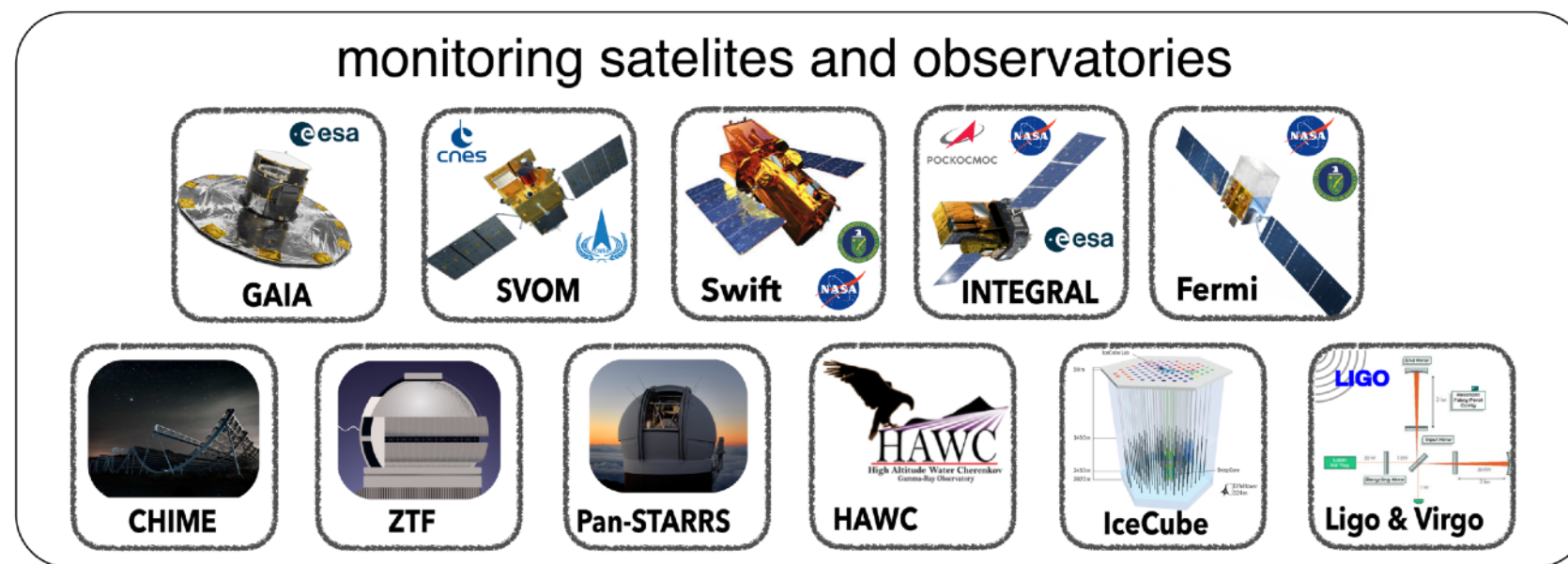
Improve time domain astrophysics

Summary of all publicly available alert channels

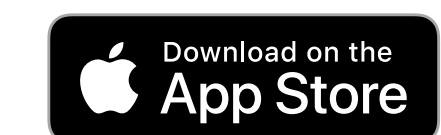
Complement existing platforms



photons, GWs,  $\nu$ , (CRs)



follow-up-observ.



Improve time domain astrophysics

Summary of all publicly available alert channels

Complement existing platforms

Modern platforms: API + web + smartphones

professional + amateur astronomers



# User interfaces

<https://astro-colibri.com>



The screenshot shows the Astro-COLIBRI web interface. At the top, there are navigation buttons for 'Select action', 'Latest transients', 'Cone search', 'Personalize', and 'Status: logged out'. Below this is a filter bar for 'Observatories' (Swift, Fermi, HAWC, IceCube, AMON, Integral, GECAM, FlaapLUC, LVC, Catalogs, Other) and 'Event type' (FRB, Unclassified OT, Classified OT, SN, GRB, burst, neutrino, nuem, GW, 4FGL, TeVCAT, SGR/AXP, IceCat). A timeline shows events from 2023-11-08 to 2023-11-23. The main content area is divided into three columns: a list of recent events (e.g., S231123cg Gravitational wave, GRB 231123A Gamma-ray burst), a central sky map with a cone search overlay, and a detailed view of the selected source (S231123cg) with its coordinates, detection time, and classification. At the bottom, there are links to external services like GraceDB, TreasureMap, ALADIN, ESASky, and Transient Server.

The image shows three smartphone screens displaying the Astro-COLIBRI mobile app. The first screen shows a 'Cone ...' view with a sky map and a list of nearby sources with their RA/Dec coordinates and separation. The second screen shows 'Source info' for GRB 220107A, displaying its coordinates, detection time, and other details. The third screen shows 'Visibility at H.E.S.S.' with a graph of altitude vs. azimuth and a monthly visibility calendar for 2022.



<https://astro-colibri.science>



# Astro-COLIBRI Multi-messenger Astrophysics workshops

Series of workshops including Hackathon/Sciathon (Institut Pascal, Paris-Saclay, France)

**5th ASTRO-COLIBRI**  
MULTI-MESSENGER ASTROPHYSICS WORKSHOP  
CONNECTING SOFTWARE TOOLS  
FOR REAL-TIME ASTRONOMY

PHOTONS  
GRAVITATIONAL WAVES  
NEUTRINO

5<sup>th</sup>

ID: October 12 to October 16-2026

DATA STREAMS  
CODE COLLABORATION  
REAL-TIME ANALYSIS

INTERNATIONAL WORKSHOP | FOR SCIENTISTS & DEVELOPERS

EVT\_COLIBRI\_8892\_RXT\_DATA\_STREAM\_v5.0\_STABLE COORD: 48.8566 N, 2.3522 E

Google Play App Store [www.astro-colibri.science](http://www.astro-colibri.science) [www.astro-colibri.com](http://www.astro-colibri.com)



no registration fees  
local expenses covered



October 12-16, 2026

Applications until  
end of June

<https://www.multimessenger-astrophysics.com>



# Astro-COLIBRI

- Overview of transient detections (optical transients, GRBs, FRBs, TDEs, high-energy neutrinos, GWs, etc.) + tools to facilitate follow-up observations (incl. observation planning)
  - interfaces: <https://astro-colibri.com> + Android + iOS
  - API + documentation: <https://astro-colibri.science>
  - Forum: <https://forum.astro-colibri.science>
- Looking forward to your feedback and questions!
  - **What features/components would you like to learn more about?**
    - => next ACME hands-on session(s)
  - **What features are missing/incomplete for your use-case?**
    - => hackathon at the workshop
- P. Reichherzer et al., ApJS 256, 2021 ([link](#)) + Galaxies 11, 2022 ([link](#))



# Astro-COLIBRI

<https://astro-colibri.com>



The screenshot shows the Astro-COLIBRI web interface. At the top, there are navigation buttons for 'Select action', 'Latest transients', 'Cone search', 'Personalize', and 'Status: logged out'. Below this is a filter bar for 'Observatories' (Swift, Fermi, HAWC, IceCube, AMON, Integral, GECAM, FlaapLUC, LVC, Catalogs, Other) and 'Event type' (FRB, Unclassified OT, Classified OT, SN, GRB, burst, neutrino, nuem, GW, 4FGL, TeVCAT, SGR/AXP, IceCat). A timeline shows dates from 2023-11-08 to 2023-11-23. The main content area is divided into three columns: a list of recent events (e.g., S231123cg Gravitational wave, GRB 231123A Gamma-ray burst), a central sky map with a cone search overlay, and detailed information for the selected event (S231123cg), including its coordinates, detection time, and classification.

The image shows three smartphones displaying the Astro-COLIBRI mobile application. The leftmost phone shows a 'Cone search' interface with a sky map and a list of nearby objects. The middle phone shows the main 'Astro-COLIBRI' interface with a sky map and a list of selected events, including MS230110g, SN 2022bf, GRB 220103A, and HAWC-220103A. The rightmost phone shows a 'Visibility at H.E.S.S.' interface with a weather forecast, a daily visibility graph, and a monthly visibility calendar.



<https://astro-colibri.science>



# Astro-COLIBRI

API + documentation: <https://astro-colibri.science>

- Looking forward to your feedback and questions!
  - **What features/components would you like to learn more about?**
    - ACME Platform: <https://support.acme-astro.eu>
    - => direct help + topics for the next ACME hands-on session(s)
  - **What features are missing/incomplete for your use-case?**
    - hackathon at the workshop in October
    - forum: <https://forum.astro-colibri.science>
    - ACME Platform: <https://support.acme-astro.eu>

ACME-Survey: <https://www.acme-astro.eu/survey-hands-on-sessions-xwj4jm9/>





# Astro-COLIBRI

Contact: [astro.colibri@gmail.com](mailto:astro.colibri@gmail.com)

- Central webpage: [\*\*https://astro-colibri.science\*\*](https://astro-colibri.science)

Android Play Store



Apple iOS App Store



Introductions/tutorials on YouTube



[Mastodon](#), [Insta](#), [Threads](#)



# Architecture

