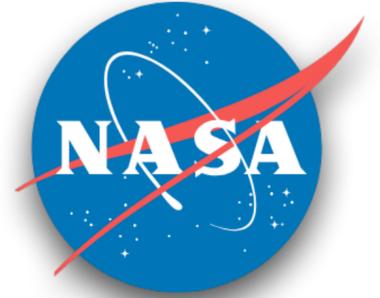


National Aeronautics and
Space Administration



General Coordinates Network

NASA's Next Generation Time-Domain and Multimessenger Alert System

A service of the Astrophysics Science Division at NASA's Goddard Space Flight Center



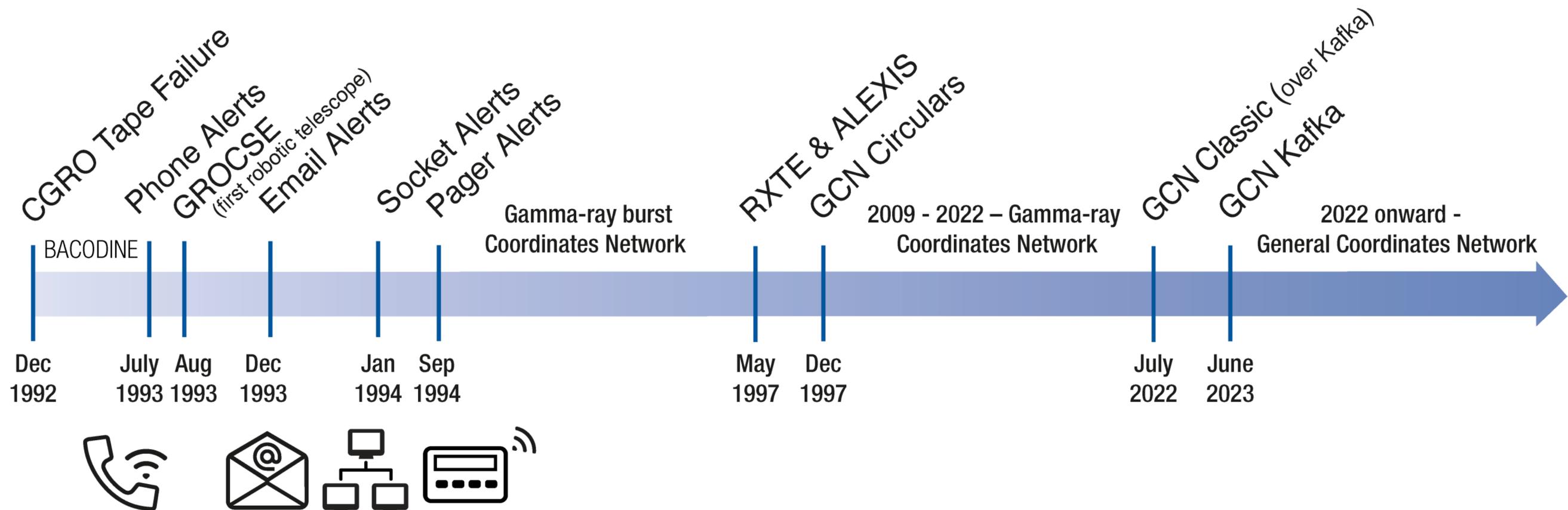
<https://gcn.nasa.gov>

Courey Elliott
Courey.Elliott@gmail.com
IPN, NASA GCN

30+ Year History

Scott Barthelmy created GCN (known then as the Gamma-ray burst Coordinates Network), to facilitate communication within the community.

Judy Racusin took over the project around 2021 and committed to modernizing GCN.



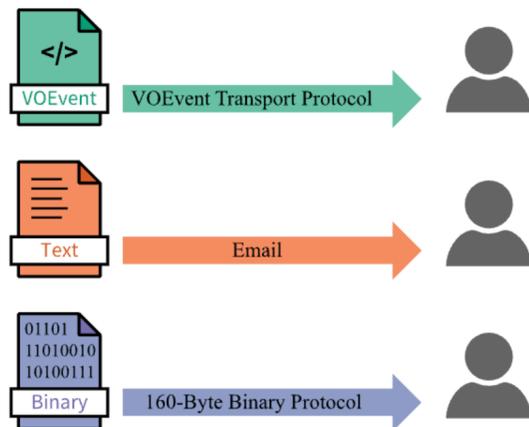
Notices

Notices documentation



New GCN notices are built on Kafka

For legacy applications
GCN Classic

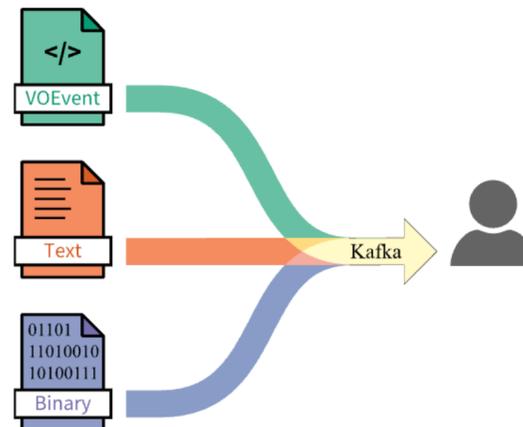


Three formats, three protocols.

[Get Started \(Old Web Site\)](#)

GCN Classic provides three formats over 3 different custom protocols

For older missions
GCN Classic over Kafka

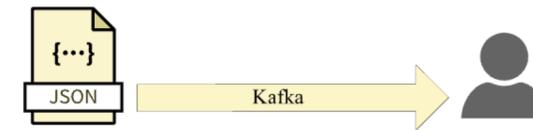


Three formats, one protocol.

[Get Started](#)

GCN Classic over Kafka provides all three formats in one standard protocol, Apache Kafka

Recommended
GCN Kafka



One format, one protocol.

[Get Started](#)

GCN Kafka has begun the process of transitioning to streaming all data in JSON format over Kafka.

What is Kafka?

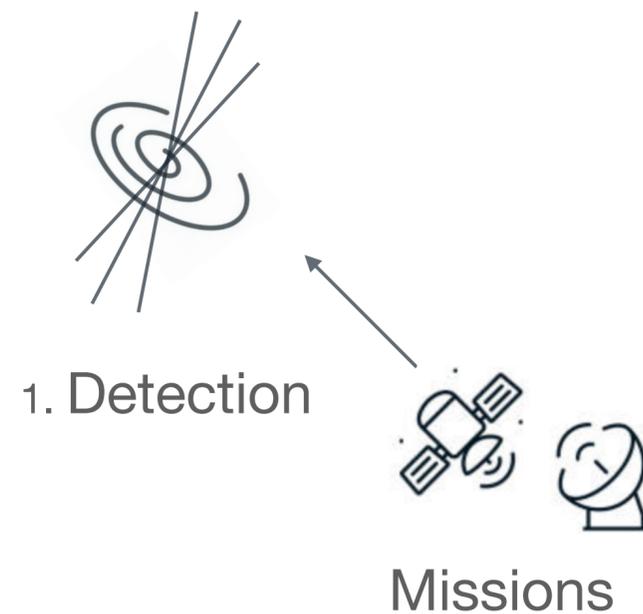
Kafka is a message system.

We use it to receive notices from missions that we send only to users that are subscribed to that topic.

What is Kafka?

Kafka is a message system.

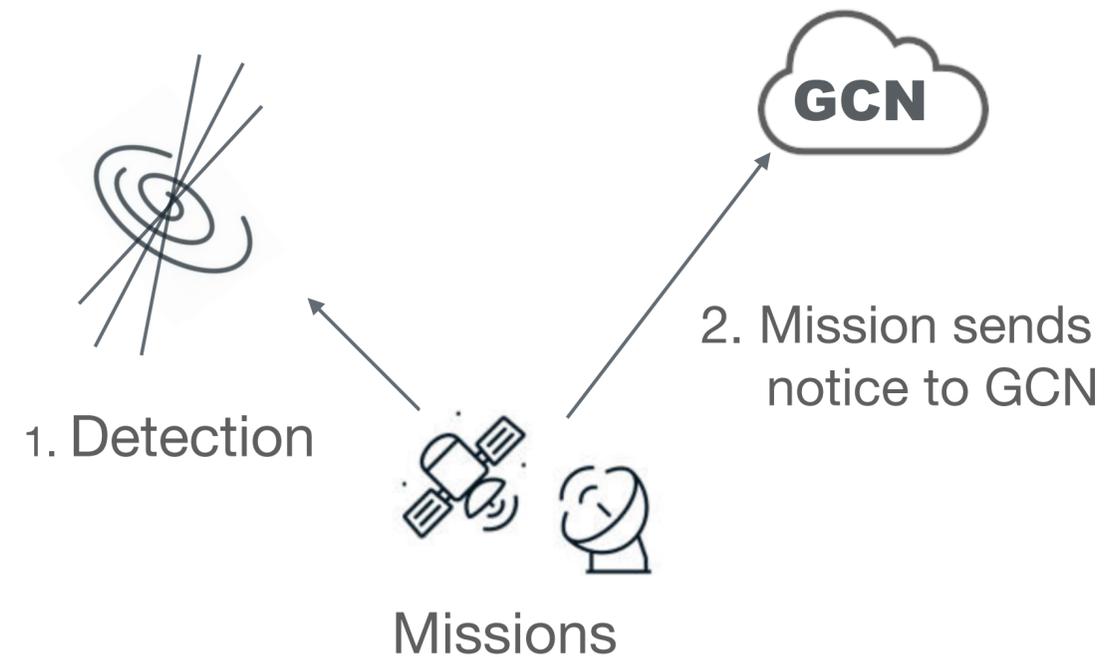
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What is Kafka?

Kafka is a message system.

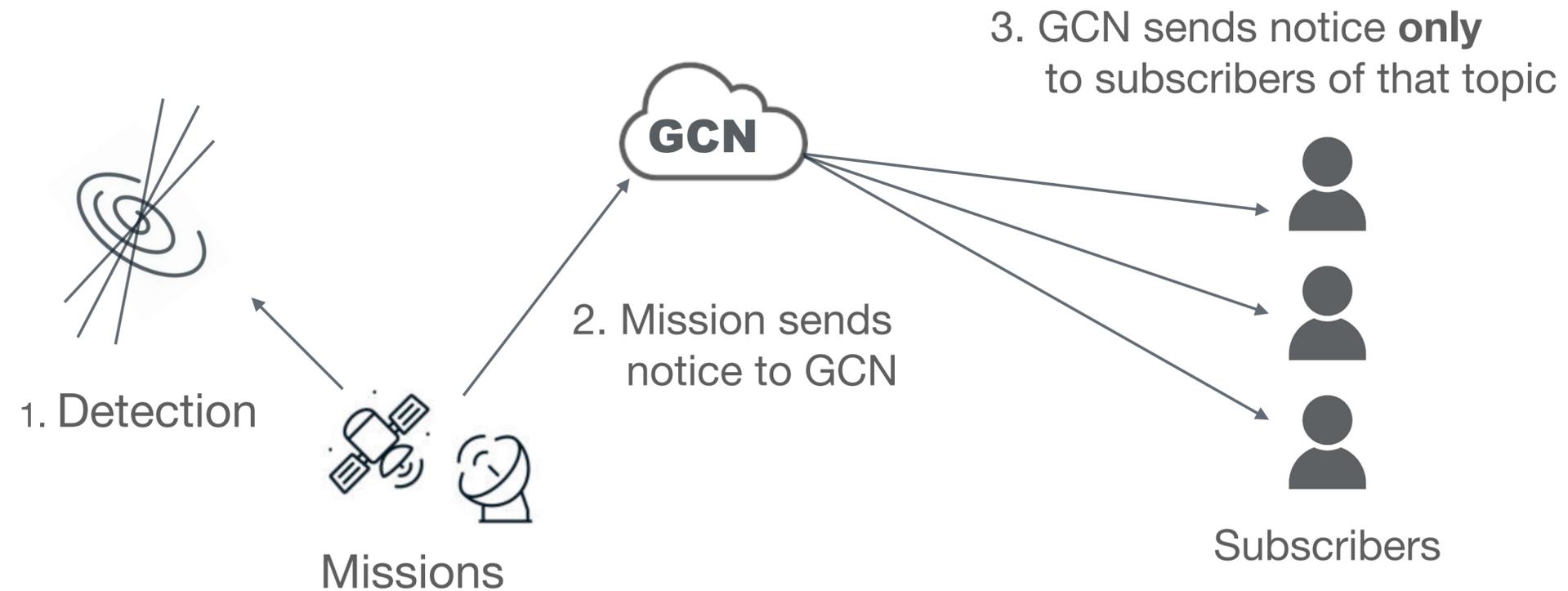
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What is Kafka?

Kafka is a message system.

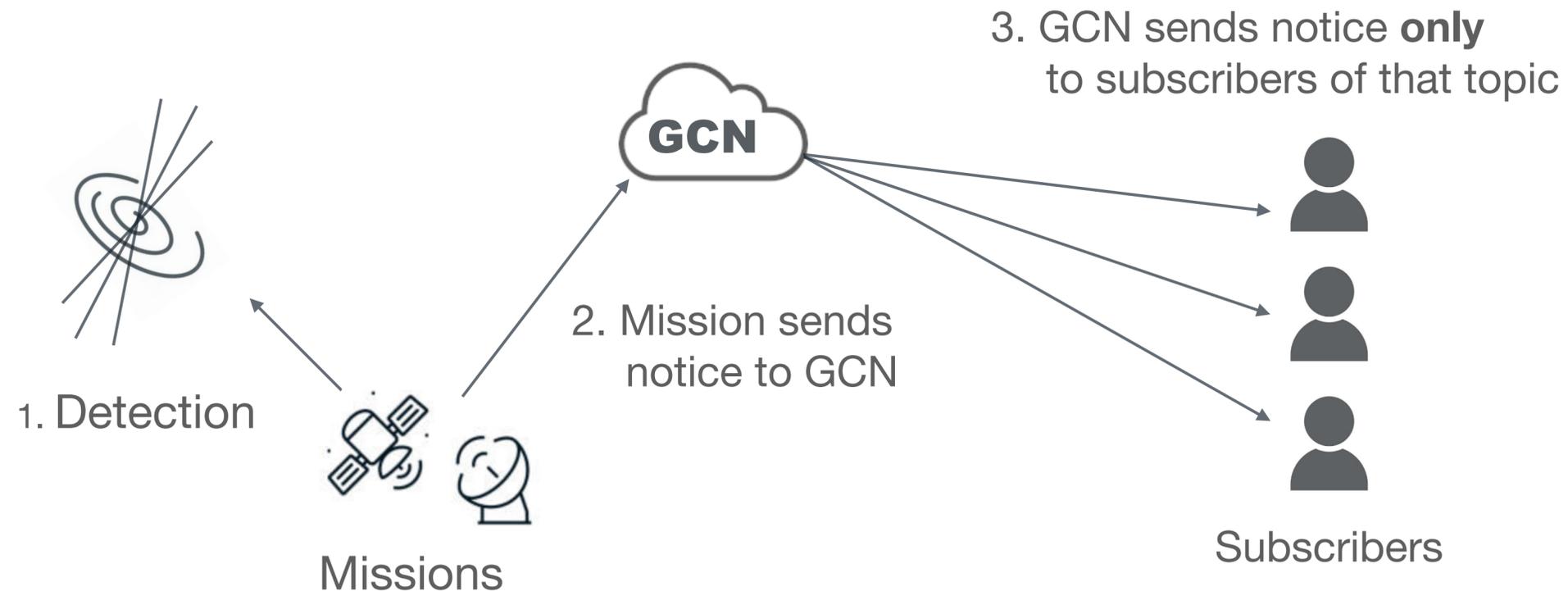
We use it to receive notices from missions that we send only to users that are subscribed to that topic.



What is Kafka?

Kafka is a message system.

We use it to receive notices from missions that we send only to users that are subscribed to that topic.



You choose what topics you want to subscribe to. You will only receive notices for the topics you are subscribed to. Each mission has different topics.

Notices

Example of a json formatted circular notice:

```
{
  "$schema": "https://gcn.nasa.gov/schema/main/gcn/circulars.schema.json",
  "eventId": "GRB 230410A",
  "submitter": "Fermi GBM Team at MSFC/Fermi-GBM <do_not_reply@GIOC.nsstc.nasa.gov>",
  "submittedHow": "email-legacy",
  "subject": "GRB 230410A: Fermi GBM Final Real-time Localization",
  "circularId": 33603,
  "format": "text/plain",
  "body": "The Fermi GBM team reports the detection of a likely LONG GRB\\n\\nAt 11:26:00 UT on
10 Apr 2023, the Fermi Gamma-ray Burst Monitor (GBM) triggered and located GRB
230410A (trigger 702818765.135562 / 230410476).\\n\\nThe on-ground calculated
location, using the Fermi GBM trigger data, is RA = 352.3, Dec = 22.9 (J2000 degrees,
equivalent to J2000 23h 29m, 22d 53'), with a statistical uncertainty of 2.1 degrees.
\\n\\nThe angle from the Fermi LAT boresight is 72.0 degrees.\\n\\nThe skymap can be
found here:\\nhttps://heasarc.gsfc.nasa.gov/FTP/fermi/data/gbm/triggers/2023/
bn230410476/quicklook/glg_skymap_all_bn230410476.png\\n\\nThe HEALPix FITS file,
including the estimated localization systematic, can be found here:\\nhttps://
heasarc.gsfc.nasa.gov/FTP/fermi/data/gbm/triggers/2023/bn230410476/quicklook/
glg_healpix_all_bn230410476.fit\\n\\nThe GBM light curve can be found here:\\
nhttps://heasarc.gsfc.nasa.gov/FTP/fermi/data/gbm/triggers/2023/bn230410476/
quicklook/glg_lc_medres34_bn230410476.gif",
  "createdOn": 1718212589034
}
```

You choose
what topics and
formats
you use.

Example of the topic selection
screen on the GCN website:

Notice Format

Text

VOEvent

Binary

JSON

New notice types in JSON format defined using [JSON schema](#)

Notice Type

Circulars [Details](#)

Heartbeat [Details](#)

IceCube [Details](#)

LVK [Details](#)

Swift [Details](#)

Einstein Probe [Details](#)

Super-Kamiokande [Details](#)

0 notice types selected for < 1 alert per week

Example of a text formatted Fermi GBM notice:

```
TITLE: GCN/FERMI NOTICE
NOTICE_DATE: Wed 22 Oct 25 22:34:21 UT
NOTICE_TYPE: Fermi-GBM Alert
RECORD_NUM: 1
TRIGGER_NUM: 782865260
GRB_DATE: 20970 TJD; 295 DOY; 25/10/22
GRB_TIME: 81255.26 SOD {22:34:15.26} UT
TRIGGER_SIGNIF: 4.5 [sigma]
TRIGGER_DUR: 0.512 [sec]
E_RANGE: 3-4 [chan] 47-291 [keV]
ALGORITHM: 10
DETECTORS: 0,0,0, 0,0,0, 0,1,0, 1,0,0, 0,0,
LC_URL: http://heasarc.gsfc.nasa.gov/FTP/fermi/data/gbm/triggers/2025/bn251022940/quicklook/glg_lc_medres34_bn251022940.gif
COMMENTS: Fermi-GBM Trigger Alert.
COMMENTS: This trigger occurred at longitude,latitude = 51.35,5.67 [deg].
COMMENTS: The LC_URL file will not be created until -15 min after the trigger.
```

Notices
Documentation



GCN Website

The screenshot shows the NASA General Coordinates Network (GCN) website. At the top left is the NASA logo and the text "General Coordinates Network". To the right are navigation links: "Missions", "Notices", "Circulars", "Documentation", and a dropdown menu for "courey.elliott@gmail.com". Below the navigation is a blue banner with the text: "Due to the lapse in federal government funding, NASA is not updating this website. See the [Operations FAQ](#) for GCN impacts." Below that is a yellow banner with the text: "New! Super-Kamiokande JSON Notices and Schema v4.5.0. See [news and announcements](#)". The main content area features a large graphic of the Earth with various astronomical observatories and missions connected to a central cloud labeled "General Coordinates Network (GCN)". The observatories include "Ground Stations", "Radio Telescope", "Low-frequency Radio Arrays", "Gravitational Wave Interferometers", "Cherenkov Telescopes", "Neutrino Detectors", and "Optical Telescopes". Missions include "Large Missions", "Medium Missions", "SmallSats", "CubeSats", and "Space Network". A "Transient" is shown in the upper left. At the bottom of the graphic are three people sitting at a desk with laptops. Below the graphic are two buttons: "Start streaming GCN Notices" (blue) and "Post a GCN Circular" (red). At the bottom of the page is a paragraph: "The General Coordinates Network (GCN) is a public collaboration platform run by NASA for the astronomy research community to share alerts and rapid communications about high-energy, multimessenger, and transient phenomena. For more information, see [What is GCN?](#) or check out our [slide deck](#)." The text "GCN: NASA's Time-Domain and Multimessenger Alert System" is prominently displayed on the left side of the main graphic area.

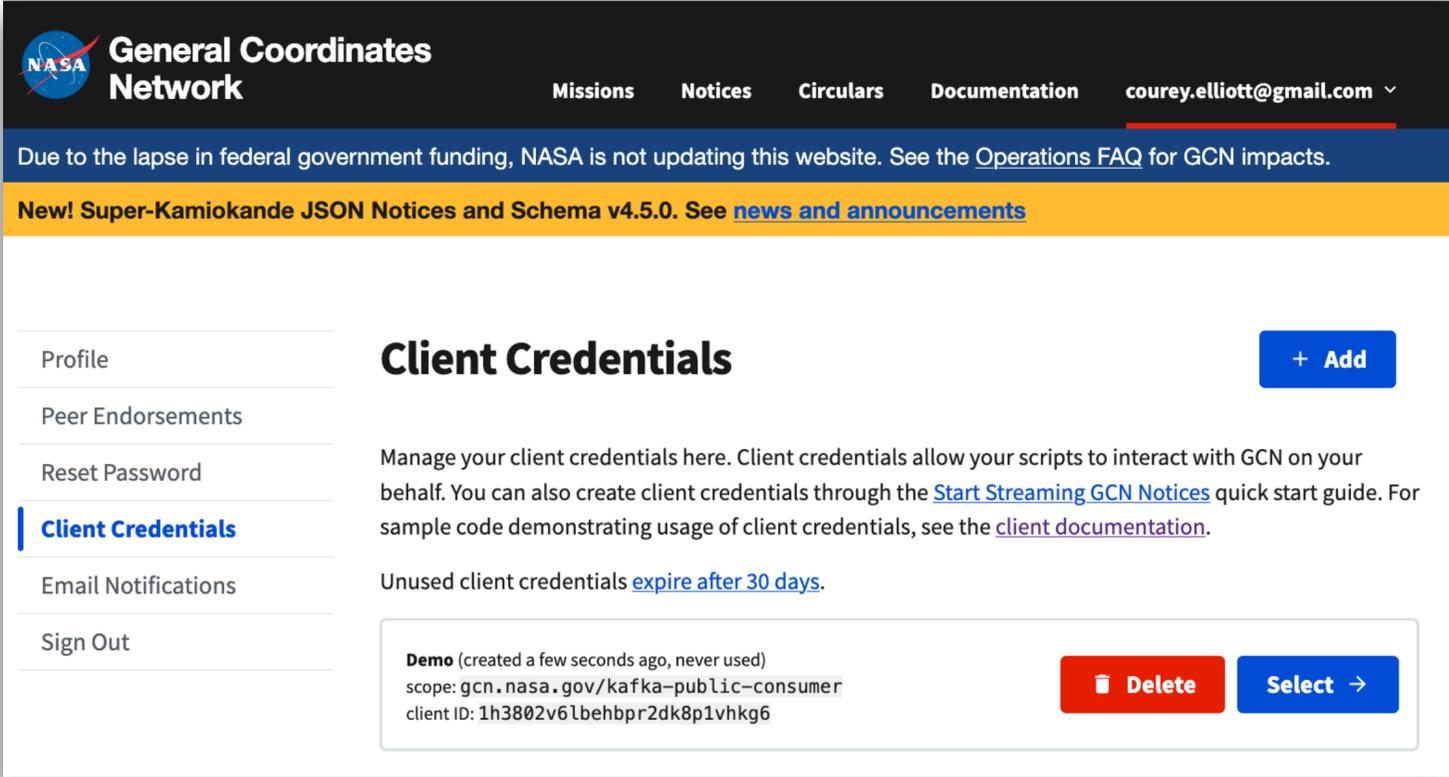
There are a lot of new features on the website with many more in development

<https://gcn.nasa.gov>

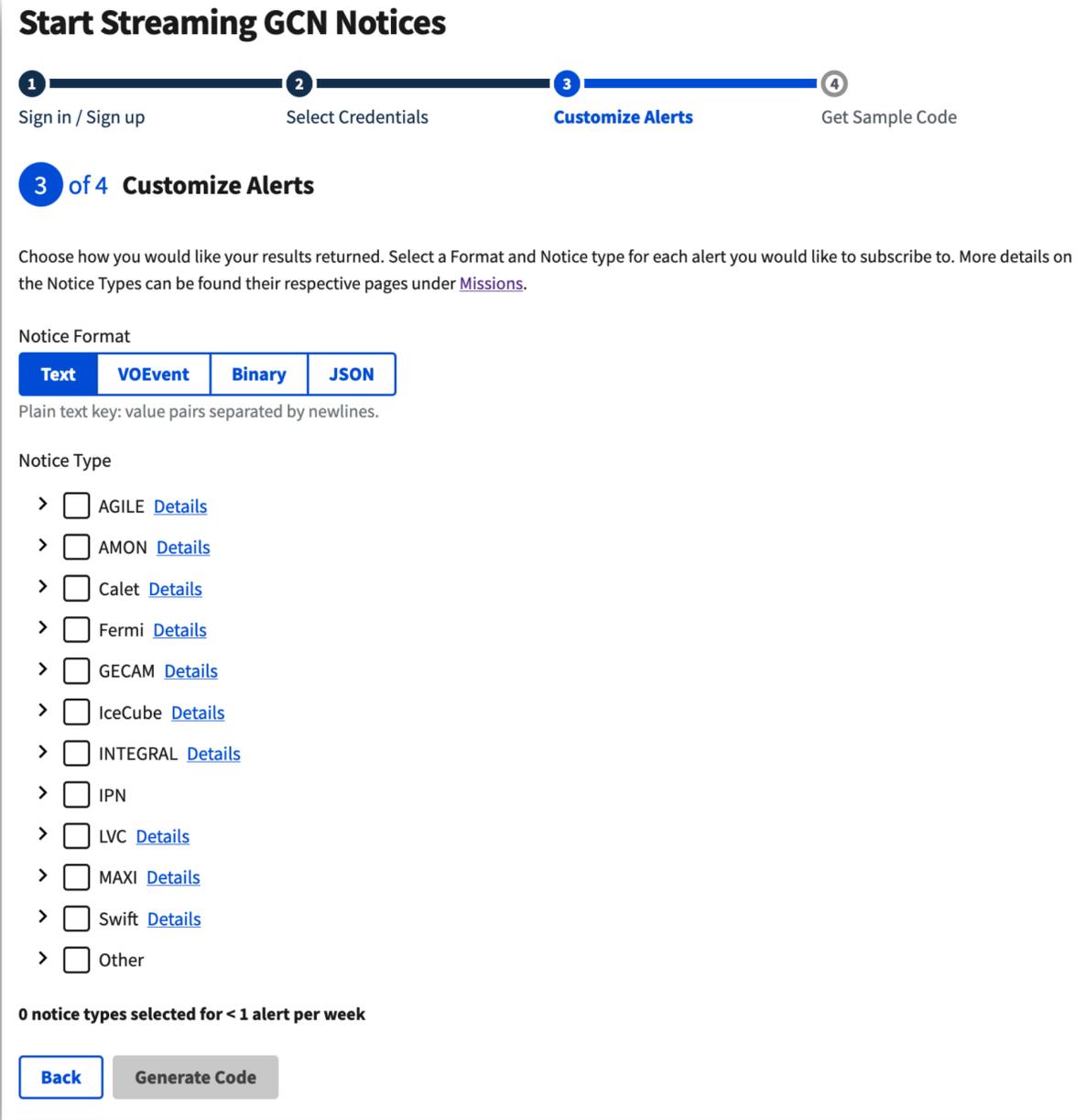


Client Credentials

Client credentials allow you to connect to Kafka



The screenshot shows the NASA General Coordinates Network website. The header includes the NASA logo, the site name, and navigation links for Missions, Notices, Circulars, and Documentation. The user's email address is displayed as 'coure.elliott@gmail.com'. A blue banner at the top states: 'Due to the lapse in federal government funding, NASA is not updating this website. See the Operations FAQ for GCN impacts.' Below this is a yellow banner: 'New! Super-Kamiokande JSON Notices and Schema v4.5.0. See news and announcements'. The main content area is titled 'Client Credentials' and includes a '+ Add' button. A sidebar on the left contains links for Profile, Peer Endorsements, Reset Password, Client Credentials (highlighted), Email Notifications, and Sign Out. The main text explains that client credentials allow scripts to interact with GCN and provides a link to a quick start guide. It also notes that unused credentials expire after 30 days. A table shows a 'Demo' credential with its scope and ID, and buttons for 'Delete' and 'Select'.

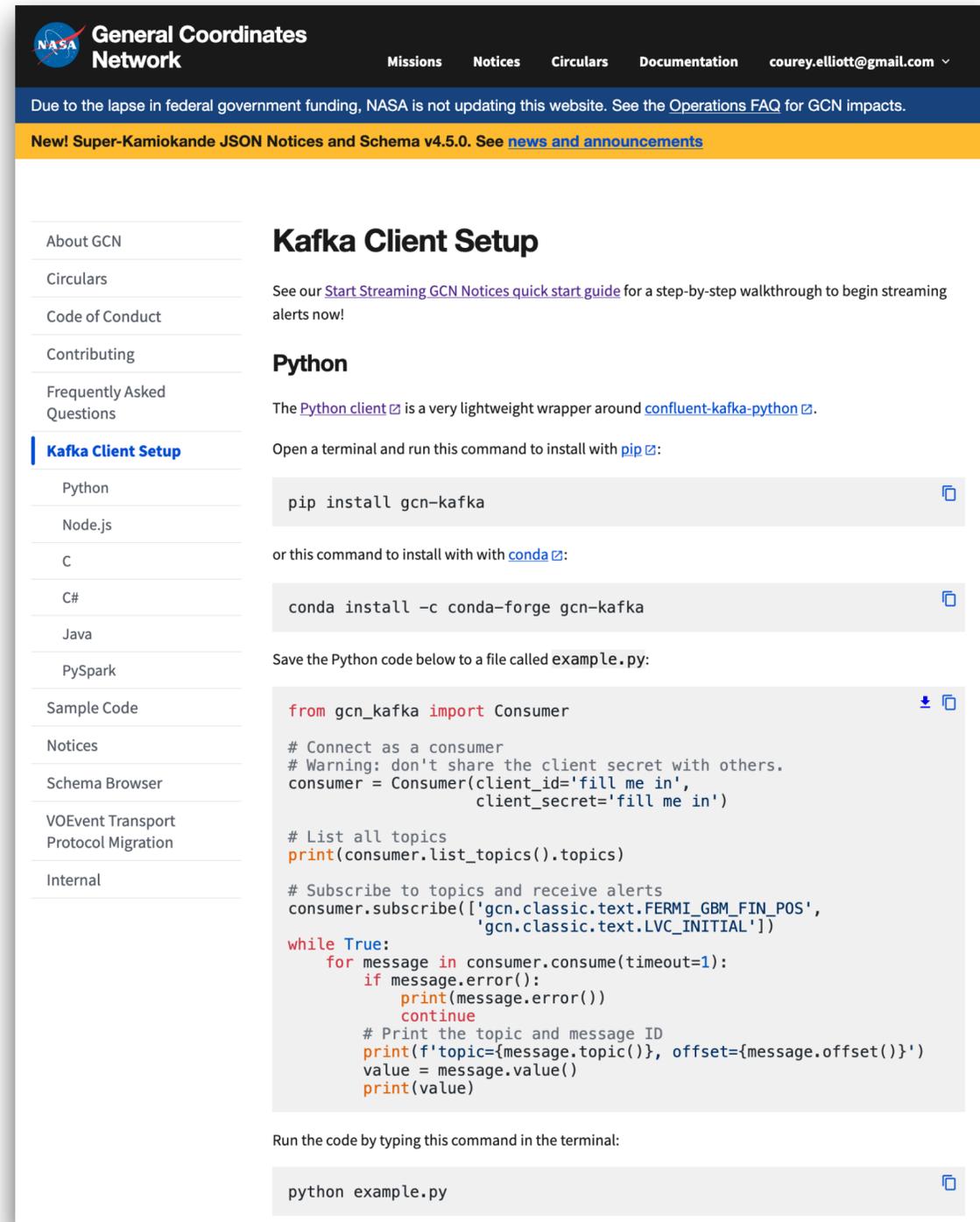


The screenshot shows the 'Start Streaming GCN Notices' page. At the top, a progress bar indicates four steps: 1. Sign in / Sign up, 2. Select Credentials, 3. Customize Alerts (current step), and 4. Get Sample Code. The main heading is '3 of 4 Customize Alerts'. Below this is a paragraph explaining that users should choose how they want results returned by selecting a format and notice type. A 'Notice Format' section has buttons for 'Text', 'VOEvent', 'Binary', and 'JSON'. Below that, a 'Notice Type' section lists various mission types with checkboxes and 'Details' links: AGILE, AMON, Calet, Fermi, GECAM, IceCube, INTEGRAL, IPN, LVC, MAXI, Swift, and Other. At the bottom, it shows '0 notice types selected for < 1 alert per week' and buttons for 'Back' and 'Generate Code'.



There is sample code for many programming languages in the documentation

Consuming Notices



The screenshot shows the NASA General Coordinates Network website. The header includes the NASA logo, the site name, and navigation links for Missions, Notices, Circulars, and Documentation. A user profile for 'courey.elliott@gmail.com' is visible. A blue banner at the top states: 'Due to the lapse in federal government funding, NASA is not updating this website. See the Operations FAQ for GCN impacts.' Below this is an orange banner: 'New! Super-Kamiokande JSON Notices and Schema v4.5.0. See [news and announcements](#)'.

The main content area is titled 'Kafka Client Setup'. It includes a sidebar with links to 'About GCN', 'Circulars', 'Code of Conduct', 'Contributing', 'Frequently Asked Questions', 'Kafka Client Setup' (highlighted), 'Python', 'Node.js', 'C', 'C#', 'Java', 'PySpark', 'Sample Code', 'Notices', 'Schema Browser', 'VOEvent Transport Protocol Migration', and 'Internal'.

The main text under 'Kafka Client Setup' says: 'See our [Start Streaming GCN Notices quick start guide](#) for a step-by-step walkthrough to begin streaming alerts now!'. Below this is a section for 'Python' which states: 'The [Python client](#) is a very lightweight wrapper around [confluent-kafka-python](#)'. It instructs users to 'Open a terminal and run this command to install with [pip](#)':

```
pip install gcn-kafka
```

It then says 'or this command to install with [conda](#)':

```
conda install -c conda-forge gcn-kafka
```

Next, it says 'Save the Python code below to a file called `example.py`:' and provides a code block:

```
from gcn_kafka import Consumer

# Connect as a consumer
# Warning: don't share the client secret with others.
consumer = Consumer(client_id='fill me in',
                    client_secret='fill me in')

# List all topics
print(consumer.list_topics().topics)

# Subscribe to topics and receive alerts
consumer.subscribe(['gcn.classic.text.FERMI_GBM_FIN_POS',
                   'gcn.classic.text.LVC_INITIAL'])

while True:
    for message in consumer.consume(timeout=1):
        if message.error():
            print(message.error())
            continue
        # Print the topic and message ID
        print(f'topic={message.topic()}, offset={message.offset()}')
        value = message.value()
        print(value)
```

Finally, it says 'Run the code by typing this command in the terminal:' and provides the command:

```
python example.py
```

Documentation with code samples!
You can cut and past the code from the example and replace the client id and secret with your own, and you can start consuming.

You can subscribe to all different formats and as many topics as you would like. You adjust them on the line that says “consumer.subscribe”

When you run your script, you will start consuming and will continue consuming as long as the script is running

Manage your own email notifications

The screenshot shows the 'Email Notifications' settings page. On the left is a navigation menu with options: Profile, Peer Endorsements, Reset Password, Client Credentials, **Email Notifications**, and Sign Out. The main content area is titled 'Email Notifications' and includes instructions: 'Create and manage email subscriptions to GCN Circulars and Notices here.' Below this are three sections: 'Announcements' with an 'On' toggle, 'Circulars' with an 'On' toggle, and 'Notices' with a '+ Add' button. A footer contains links for 'Questions or comments? Contact GCN directly.', 'Have you found a bug in GCN? Open an issue.', and 'Want to contribute code to GCN? Get involved on GitHub.' The bottom of the page features the NASA logo and text: 'gcn.nasa.gov A service of the Astrophysics Science Division at NASA Goddard Space Flight Center' along with various policy links.

Toggle email announcements and Circulars by email

Subscribe to Notice Alerts via email

Choose what notice topics you want to be alerted to

The screenshot shows the 'Edit Email Notification' settings page. On the left is a navigation menu with options: Profile, Peer Endorsements, Reset Password, Client Credentials, **Email Notifications**, and Sign Out. The main content area is titled 'Edit Email Notification' and includes a 'Name*' field with the value 'Presentation Demo' and a 'Recipient*' field with the value 'courey.elliott@gmail.com'. Below these are 'Format' options: 'Text', 'VOEvent', and 'Binary'. A 'Types' section lists various notice categories with checkboxes: AGILE, AMON, Calet, Fermi (checked), GECAM, IceCube, INTEGRAL, IPN, LVC, MAXI, Swift, and Other. A summary states '18 notice types selected for 2 alerts per hour'. At the bottom are 'I'm not a robot' and 'reCAPTCHA' verification boxes, and 'Cancel' and 'Save' buttons. The footer is identical to the first screenshot.

NASA General Coordinates Network Missions Notices **Circulars** Documentation courey.elliott@gmail.com

Due to the lapse in federal government funding, NASA is not updating this website. See the [Operations FAQ](#) for GCN impacts.

New! Super-Kamiokande JSON Notices and Schema v4.5.0. See [news and announcements](#)

[← Back](#) [Text](#) [JSON](#) [Cite](#) [Edit](#)

GCN Circular 33669

Subject LIGO/Virgo/KAGRA S230627c: Zwicky Transient Facility observations and candidates
Event [LIGO/Virgo/KAGRA S230627c](#)
Date 2024-02-22T15:59:35Z (2 years ago)
From Leo Singer at NASA/GSFC <leo.p.singer@nasa.gov>
Via Web form

Reproduced from <https://gcn.nasa.gov/circulars/34089> to demonstrate Astro Flavored Markdown.

Akash Anumalapurdi (UWM), Tomas Ahumada (CIT), Mansi Kasliwal (CIT), Viraj Karambelkar (CIT), Harsh Kumar (IITB), Theophile du Laz (CIT), Simeon Reusch (DESY), Anirudh Salgundi (IITB), Robert Stein (CIT), Vishwajeet Swain (IITB), Gaurav Waratkar (IITB), Avery Wold (IPAC), Shreya Anand (CIT), Igor Andreoni (UMD), Eric Bellm (UW), Varun Bhalariao (IITB), Brad Cenko (UMD), Michael Coughlin (UMN), Brian Healy (UMN), David Kaplan (UWM), Jannis Necker (DESY), D. Perley (LJMU) report on behalf of the ZTF and GROWTH collaborations:

We observed the localization region of the LVK trigger S230627c (GCN [34086](#)) with the Palomar 48-inch telescope equipped with the 47 square-degree Zwicky Transient Facility (ZTF) camera (Graham et al., 2019 [doi:10.1088/1538-3873/ab006c](https://doi.org/10.1088/1538-3873/ab006c)); Bellm et al. 2019 [doi:10.1088/1538-3873/aaecbe](https://doi.org/10.1088/1538-3873/aaecbe)). We obtained images in the g- and r-bands of the Bilby map (GCN [34087](#)) beginning at ~2.2 hours after the LVK trigger time, covering 78.3% (105.3 sq deg) of the probability enclosed in the localization region.

We queried the ZTF alert stream using Kowalski (Duev et al. 2019) through Fritz (Coughlin et al. 2023 [10.3847/1538-4365/acdee1](https://doi.org/10.3847/1538-4365/acdee1)), emgwave (Karambelkar et al. in prep), AMPEL (Nordin et al. 2019 [doi:10.1051/0004-6361/201935634](https://doi.org/10.1051/0004-6361/201935634)), and ZTFreST (Andreoni & Coughlin et al. 2021 [doi:10.3847/1538-4357/ac0bc7](https://doi.org/10.3847/1538-4357/ac0bc7)). We required at least 2 detections separated by at least 15 minutes to select against moving objects. Furthermore, we cross-match our candidates with the Minor Planet Center to flag known asteroids, reject stellar sources (Tachibana and Miller 2018 [doi:10.1088/1538-3873/aae3d9](https://doi.org/10.1088/1538-3873/aae3d9)), and apply machine learning algorithms (Mahabal et al. 2019 [doi:10.1088/1538-3873/aaf3fa](https://doi.org/10.1088/1538-3873/aaf3fa)). We require that no spatially coincident ZTF alerts were issued before the detection time of the LVK trigger. We also run forced photometry on ZTF images (Masci et al. 2019 [doi:10.1088/1538-3873/aae8ac](https://doi.org/10.1088/1538-3873/aae8ac)) and ATLAS images (Tonry et al. 2018 [doi:10.1088/1538-3873/ababdf](https://doi.org/10.1088/1538-3873/ababdf)), Smith et al. 2020 [doi:10.1088/1538-3873/ab936e](https://doi.org/10.1088/1538-3873/ab936e)) and require no detections before the LVK trigger.

Four sources passed our criteria and are inside the 95% error region:

ZTF Name	IAU Name	RA (deg)	DEC (deg)	Filter	Mag	MagErr
ZTF23aaptsuy	AT2023lku	160.2019569	+41.9681656	r	20.20	0.08
ZTF23aapttaw	AT2023lxt	164.6898146	+60.9545924	r	21.11	0.20
ZTF23aaptudb	AT2023lxs	166.5566080	+78.5596361	r	20.86	0.16
ZTF23aaptusa	AT2023lxx	162.0445716	+71.8414115	g	20.89	0.19

ZTF23aaptsuy ([AT2023lku](#)) is 2.7" away from a WISE galaxy WISEA J104048.69+415805.3 with a spectroscopic redshift of $z=0.092961$ (luminosity distance of 440 Mpc assuming Planck+18 cosmology) which is at the edge of the 3-sigma boundary of the LVK line of sight distance estimate.

ZTF23aaptudb ([AT2023lxs](#)) is 0.07" away from a galaxy that has a Legacy Survey DR8 (LS; Duncan, 2022) photometric redshift of $photo-z = 0.118 \pm 0.07$, which suggests that it might not be associated with the LVK trigger.

ZTF23aaptusa ([AT2023lxx](#)) is 0.75" away from a galaxy that has an LS photometric redshift of $photo-z = 0.175 \pm 0.044$, suggesting that it might not be associated with the LVK trigger. We also caution that the centroid position shows a slight dispersion in the three detections.

ZTF23aapttaw ([AT2023lxt](#)) is 0.236" away from an LS source with a $photo-z = 0.254 \pm 0.12$, outside of the LVK volume.

Further follow-up of these candidates will continue.

ZTF and GROWTH are worldwide collaborations comprising Caltech, USA; IPAC, USA, WIS, Israel; OKC, Sweden; JSI/UMd, USA; U Washington, USA; DESY, Germany; MOST, Taiwan; UW Milwaukee, USA; LANL USA; Tokyo Tech, Japan; IITB, India; IIA, India; LJMU, UK; TTU, USA; SDSU, USA and USyd, Australia. ZTF acknowledges the generous support of the NSF under AST MSIP Grant No 1440341. GROWTH acknowledges the generous support of the NSF under PIRE Grant No 1545949. Alert distribution service provided by DIRAC@UW (Patterson et al. 2019). Alert database searches are done by AMPEL (Nordin et al. 2019) and Kowalski (Duev et al. 2019). GROWTH India telescope is located at the Indian Astronomical Observatory (Hanle), operated by the Indian Institute of Astrophysics (IIA). GROWTH-India project is supported by SERB and administered by IUSSTF, under grant number IUSSTF/PIRE Program/GROWTH/2015-16 and IUCAA.

[← Previous Circular](#) [Next Circular →](#)

Circulars

◆ Circulars are the most well known offering from GCN

◆ Facilitate sharing of research

◆ Text bodies written by researchers, intended for humans

◆ Citable

◆ Users can elect to receive Circulars via email

◆ Users can subscribe to the Circulars Kafka topic to receive a JSON formatted notice of the Circular upon publication.

Circulars Create, Edit, and Correction Requests

Circulars can be created, edited, and corrections requested on the website

New GCN Circular

From courey.elliott@gmail.com [Edit](#)

Subject

The subject line must contain (and should start with) the name of the transient, which must start with one of the [known keywords](#) ▼

Edit Preview Plain Text Markdown H B I </> 🔗 ☰ ☰ ☰ ☰

```
**Bold** _Italic_ ~strikethrough~

| Colum 1          | column 2 | column 3 |
| :-----:        | :-----: | ----: |
| This aligns text left | This one is center | this is right aligned |
| left            | center    | right    |

This is a text[^1].
[^1]: This is a reference.
```

Body text. If this is your first Circular, please review the [style guide](#). References to Circulars, DOIs, arXiv preprints, and transients are automatically shown as links; see [syntax](#) ▼

[Back](#) [Send](#)

New GCN Circular

From courey.elliott@gmail.com [Edit](#)

Subject

The subject line must contain (and should start with) the name of the transient, which must start with one of the [known keywords](#) ▼

Edit Preview Plain Text Markdown

Bold *Italic* ~~strikethrough~~

Column 1	column 2	column 3
This aligns text left	This one is center	this is right aligned
left	center	right

This is a text¹.

Footnotes

1. This is a reference. [↩](#)

Body text. If this is your first Circular, please review the [style guide](#). References to Circulars, DOIs, arXiv preprints, and transients are automatically shown as links; see [syntax](#) ▼

[Back](#) [Send](#)



Circular
Corrections
Documentation

The markdown editor allows you to format your circular and preview what it will look like before submitting

Markdown
Documentation



Improved Search on Circulars Archive

GCN Circulars

GCN Circulars are rapid astronomical bulletins submitted by and distributed to community members worldwide. They are used to share discoveries, observations, quantitative near-term predictions, requests for follow-up observations, or future observing plans related to high-energy, multi-messenger, and variable or transient astrophysical events. See the [documentation](#) for help with subscribing to or submitting Circulars.

subject:"Swift"   **Circulars**  **Events**  **New**  **Filter by date**  **Sort by Date** 

Search for Circulars by submitter, subject, or body text (e.g. 'Fermi GRB').

To navigate to a specific circular, enter the associated Circular ID (e.g. 'gcn123', 'Circular 123', or '123').

▼ Advanced Search

To narrow the search results, use advanced search syntax. This allows for specifying which circular field to search (submitter, subject, and/or body). For additional information, refer to [the advanced search documentation](#).

Advanced Search Examples (click to copy):

subject:"Swift" 

body:"GRB" 

submitter:"Judith Racusin" 



Filter by date



Lucene search syntax enabled



More accurate results



Search by Event name In Event view

New Event View

The screenshot shows the GCN Circulars page. At the top, there is a navigation bar with the NASA logo and the text "General Coordinates Network". Below the navigation bar, there is a message about the lapse in federal government funding. The main content area is titled "GCN Circulars" and contains a description of what GCN Circulars are. Below the description, there is a search bar and a list of event groups. The event groups are listed with a dropdown arrow next to them, indicating that they can be expanded to show all related circulars. The circulars are listed with their IDs and titles, such as "40465. GRB 250512B / EP250512a: SVOM/GRM analysis".

gcn.nasa.gov/circulars?page=16&limit=20&view=group

An official website of the United States government [Here's how you know](#)

General Coordinates Network

Missions Notices **Circulars** Documentation Sign in / Sign up

Due to the lapse in federal government funding, NASA is not updating this website. See the [Operations FAQ](#) for GCN impacts.

New! Super-Kamiokande JSON Notices and Schema v4.5.0. See [news and announcements](#)

GCN Circulars

GCN Circulars are rapid astronomical bulletins submitted by and distributed to community members worldwide. They are used to share discoveries, observations, quantitative near-term predictions, requests for follow-up observations, or future observing plans related to high-energy, multi-messenger, and variable or transient astrophysical events. See the [documentation](#) for help with subscribing to or submitting Circulars.

Event Name

Search for Event Groups by event name (e.g. 'GRB 123456A', 'GRB123456A', '123456A').

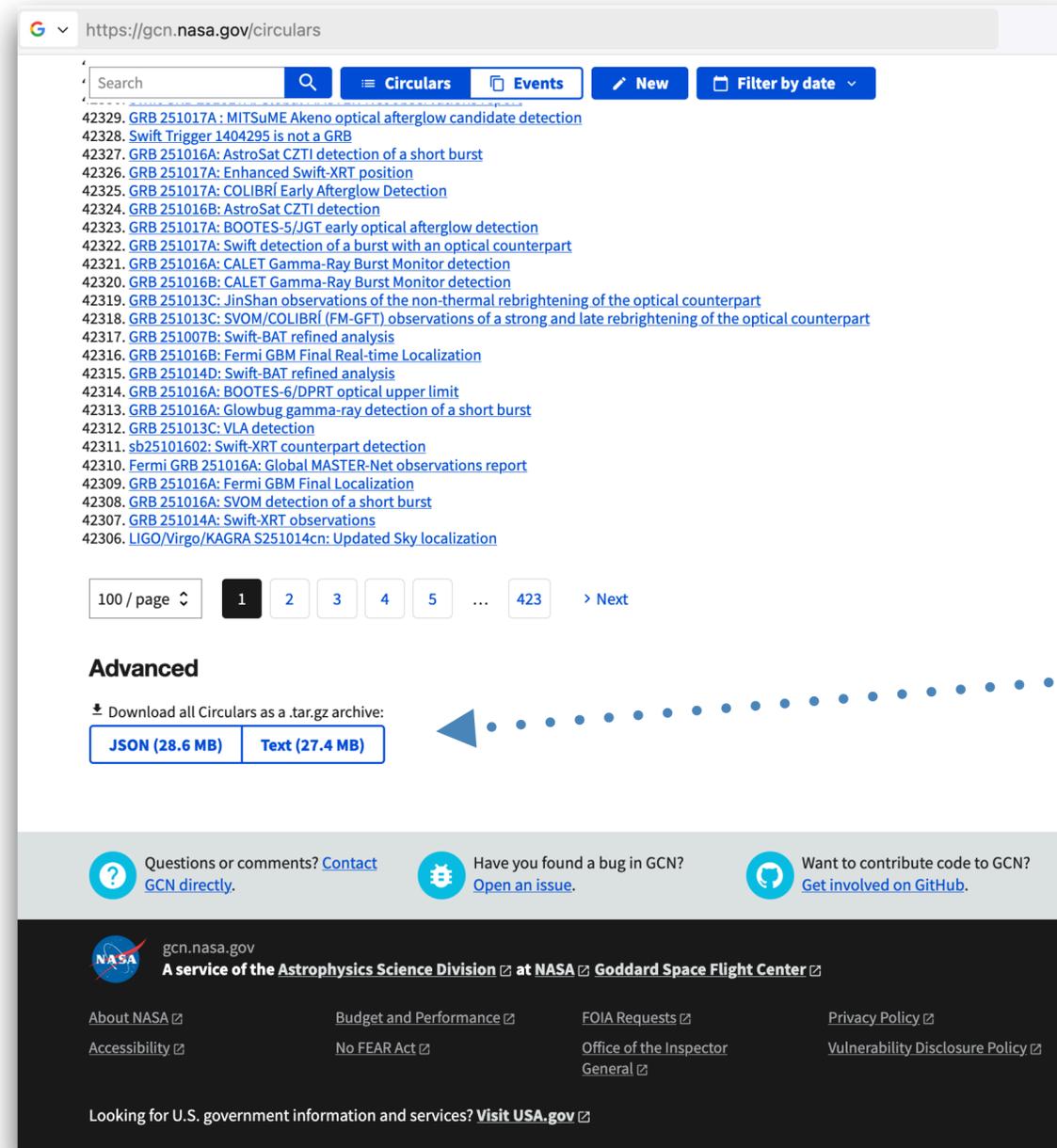
- ▶ [GRB 250521A](#)
- ▶ [GRB 250520B](#)
- ▶ [GRB 250520A](#)
- ▶ [GRB 250520.11](#)
- ▶ [GRB 250051](#)
- ▶ [GRB 250516B](#)
- ▶ [GRB 250516A](#)
- ▶ [GRB 250515.65](#)
- ▶ [GRB 250515A](#)
- ▶ [GRB 250511A](#)
- ▶ [GRB 250507B](#)
- ▼ [EP250512a, GRB 250512B](#)
 - 40465. [GRB 250512B / EP250512a: SVOM/GRM analysis](#)
 - 40460. [Konus-Wind detection of GRB 250512B / EP250512a](#)
 - 40452. [EP250512a/GRB 250512B: REM optical/NIR observations](#)
 - 40448. [EP250512a/GRB 250512B refined analysis of the EP-WXT and EP-FXT observations](#)
 - 40447. [EP250512a/GRB 250512B: FTW optical and NIR observations of the counterpart](#)
 - 40446. [EP250512a: Global MASTER-Net observations report](#)
 - 40444. [GRB 250512B/EP250512a: SVOM/VT optical fading](#)
 - 40443. [GRB 250512B/EP250512a: SVOM/VT bright optical counterpart](#)
 - 40439. [GRB 250512B: SVOM detection of a burst](#)
 - 40437. [EP250512a: Einstein Probe detection of an X-ray transient](#)
- ▶ [GRB 250512A](#)
- ▶ [EP250511a](#)
- ▶ [GRB 250510C](#)
- ▶ [GRB 250510B](#)
- ▶ [GRB 250510A](#)
- ▶ [GRB 250509A](#)

View Circulars aggregated by Event

Each Event has a dropdown arrow that displays all the circulars related to the Event(s)

Moderators are able to link related events so all circulars for all related events will be included.

Archive Download



Download the entire Circular Archive in either JSON or text format. The archive is gzipped so the download is small.

Download all Circulars as a .tar.gz archive:

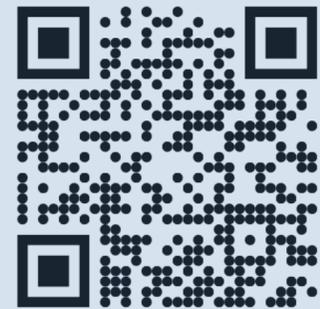
JSON (28.6 MB)

Text (27.4 MB)

Scroll to the bottom of the Circulars page to find the download buttons.

JSON Schema

Schema and examples can be found on GitHub:



Schema Browser

The screenshot shows the Schema Browser interface on the gcn.nasa.gov website. The browser address bar displays 'gcn.nasa.gov/docs/schema/v6.0.0/gcn/notices'. The page header includes the NASA logo and 'General Coordinates Network' with navigation links for Missions, Notices, Circulars, Documentation, and Sign in / Sign up. A blue banner states: 'Due to the lapse in federal government funding, NASA is not updating this website. See the Operations FAQ for GCN impacts.' Below this, an orange banner reads: 'New! Super-Kamiokande JSON Notices and Schema v4.5.0. See news and announcements'. The main content area features a breadcrumb 'gcn > notices' and a 'Version: v6.0.0' dropdown. The title 'Schema Browser' is followed by a description: 'Browse the schema definitions for GCN Notices as distributed by GCN Kafka. Choose an option below to navigate through the schema directory or inspect a schema for additional details.' Below this, there are instructions for adding new notice types and a link to the GCN Unified Schema primer. A feedback section encourages users to open issues on GitHub or contact the team. The main part of the page is a grid of buttons representing different mission schemas: burstcube, chime, core, dsa110, einstein_probe, fermi, glowbug, heasarc, icecube, neutrino, superk, svom, and swift.

◆ Schemas tailored to each mission's needs, all represented in JSON format

◆ JSON is human and machine readable

◆ Creates consistency of format across all topics using the new schema.

Schema Browser

gcn > notices > dsa110 > frb Version: v6.0.0

DSA-110 FRB Alert

Fast radio burst alert from the Deep Synoptic Array 110.
View the source on [GitHub](#)

Properties

* = required

Name	Type	Description
\$schema	string	
importance	number	A machine learning score separating RFI (0) from an astrophysical signal (1)
event_duration	number	Time duration of the event in milliseconds
snr	number	Signal to noise ratio of burst [dimensionless]
description	string	Description of how the event was identified and what it represents.
known_source	string	Name of a known FRB that this event has been associated to.

Properties from all of the following:

These properties are inherited using the `allOf` syntax. In order to validate, all of the following schemas must be individually valid, based on their respective properties. See [allOf](#) for more information.

Name	Description
Alert.schema.json	core schema object (click to expand)
Reporter.schema.json	core schema object (click to expand)
Event.schema.json	core schema object (click to expand)
DateTime.schema.json	core schema object (click to expand)
Localization.schema.json	core schema object (click to expand)
DispersionMeasure.schema.json	core schema object (click to expand)

Example

[detection](#) [retraction](#) [subsequent](#) [update](#)

```
{
  "$schema": "https://gcn.nasa.gov/schema/v6.0.0/gcn/notices/dsa110/frb.schema.json",
  "alert_type": "initial",
  "trigger_time": "2024-09-18T07:19:10.765268Z",
  "id": "240918aaaa",
  "snr": 12.698559761047363,
  "dm": 279.422607421875,
  "event_duration": 1,
  "ra": 346.77850859547,
  "dec": 12.632485229956252,
  "ra_dec_error": [
    0.016,
    0.02
  ],
  "importance": 0.9871308604784662
}
```

The Properties section shows all of the mission specific fields. It tells you which are required fields.

The Properties from all of the following section shows you what other schemas are being used.

The Example section shows an example of each notice type

Schema Examples

The screenshot shows the GitHub interface for the repository `nasa-gcn/gcn-schema`. The main content area displays the file `gcn/circulars.example.json` with the following JSON content:

```
1  {
2    "$schema": "https://gcn.nasa.gov/schema/main/gcn/circulars.schema.json",
3    "eventId": "GRB 230410A",
4    "submitter": "Fermi GBM Team at MSFC/Fermi-GBM <do_not_reply@GIIOC.nsstc.nasa.gov>",
5    "submittedHow": "email-legacy",
6    "subject": "GRB 230410A: Fermi GBM Final Real-time Localization",
7    "circularId": 33603,
8    "format": "text/plain",
9    "body": "The Fermi GBM team reports the detection of a likely LONG GRB\\n\\nAt 11:26:00 UT on 10 Apr 2023, the Fermi
10   "createdOn": 1718212589034
11 }
```



GCN
Schema repo
on GitHub

Onboarding New Producers

General Coordinates Network

Missions Notices Circulars Documentation courey.elliott@gmail.com

Due to the lapse in federal government funding, NASA is not updating this website. See the [Operations FAQ](#) for GCN impacts.

New! Super-Kamiokande JSON Notices and Schema v4.5.0. See [news and announcements](#)

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New Notice Producers

The following steps guide new instrument, mission, or observatory producers into setting up new notices streams that are distributed to the user community via [Kafka](#). This process requires interaction with the [GCN Team](#) to enable accounts and Kafka topics creation on the GCN Kafka broker. The GCN Team is also happy to work with the mission teams to help construct your alerts.

Start Producing Alerts

- 1 Sign in / Sign up**

Decide which of your team members will have programmatic access to produce your alerts. Make sure that they have all signed in at least once to the [GCN website](#) and the [GCN test website](#).
- 2 Name Your Kafka Topics**

The naming convention for Kafka topics follow the format `gcn.notices.mission.notices_type`. The mission name should be in lowercase, and the Kafka topics should be in snake_case format, with the words in lowercase separated by underscores. Example for a single observatory, such as IceCube is `gcn.notices.icecube.lvk_nu_track_search`. For missions with multiple instruments, you can include the instrument name as `gcn.notices.mission.instrument.notices_type`, for example, Swift-BAT Kafka topic should be `gcn.notices.swift.bat.alert`. Pick a prefix for your Kafka topic names, `mission.*`.

1

Documentation and code samples can be found on the GCN website



2

Navigate to Notices in the left hand sub navigation menu.

3

Drop down options will open. Click on Producing.

Onboarding New Producers

Start Producing Alerts

1 Sign in / Sign up

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The naming convention for Kafka topics follow the format `gcn.notices.mission.notices_type`. The mission name should be in lowercase, and the Kafka topics should be in snake_case format, with the words in lowercase separated by underscores. Example for a single observatory, such as IceCube is `gcn.notices.icecube.lvk_nu_track_search`. For missions with multiple instruments, you can include the instrument name as `gcn.notices.mission.instrument.notices_type`, for example, Swift-BAT Kafka topic should be `gcn.notices.swift.bat.alert`. Pick a prefix for your Kafka topic names, `mission.*`.

3 Contact the GCN Team

Send the [GCN Team](#) your list of team members from Step 1 and your chosen Kafka topic prefix from Step 2. The GCN Team will reply after they have configured producer permissions for your team.

4 Draft Your Schema

As a GCN Notice producer, you can create your own instrument-specific schema. Please contribute your schema to our [GitHub repository](#), placing it in a folder under `gcn/notices/mission` and submit a pull request for the GCN Team to review. For details, please refer to the [schema documentation](#).

5 Build Producer Code

- Log out and log back in.
- Go through the [Start Streaming GCN Notices](#) process.
- On Step 2, choose the scope `gcn.nasa.gov/kafka-mission-producer`.
- Your producer code will look very similar to the client example code in Step 4 of the [Start Streaming GCN Notices](#) guide. Your `client_id` and `client_secret` can be found in Step 4 client example code.
- Start from this and adjust the `client_id`, `client_secret`, `topic` and `data` content:

```
from gcn_kafka import Producer
# Connect as a producer.
# Warning: don't share the client secret with others.
producer = Producer(client_id='fill me in', client_secret='fill me in')
# Choose the right topic for this notice. If your mission has
# multiple topics, they all start with 'gcn.notices.mission.'
# If there is only one topic, it will be simply as follows.
topic = 'gcn.notices.mission'
# JSON data converted to byte string format
data = json.dumps({
    '$schema': 'https://gcn.nasa.gov/schema/vX.Y.Z/gcn-schema',
    'key': 'value'
}).encode()
producer.produce(topic, data)
producer.flush()
```

6 Create or Update the Mission Page

Create a new mission page by submitting a [pull request](#) or by sending text to the [GCN Team](#).

7 Announce New Notice Types

Work with the [GCN Team](#) to draft a community announcement, which the GCN Team will circulate.

The steps for onboarding a new producer can be found in our documentation.

We would love to help you at any part of the process should you have any questions. Please don't hesitate to reach out!

We have onboarded many missions. There are examples of their schema in the schema repo and schema browser.



Producer
Onboarding
Documentation

Onboarding New Producers

We are continuing to break into new fields.
We've even recently had preliminary discussions with planetary defense.

Some Producers that are Onboarding Currently:

CHIME, DSA-110	 Welcome FRB community!
HEASARC	Novel use of messaging to alert users to the addition of new data sets and calibration files. There is a separate topic for each mission, so you only follow the ones you are interested in.
Swift & Fermi	The same missions we know and love, with new notice format
IPN	Automated joint localizations using the IPN
KM3NeT	 Neutrino Observations. Welcome!

Onboarding New Producers

We need the community's help!

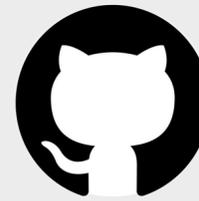
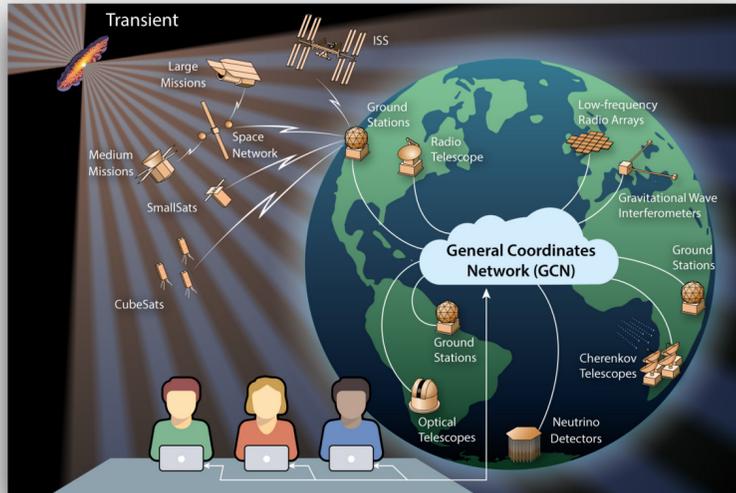
We encourage you to reach out if you think this could be a tool your project would benefit from.

We walk each mission through the process to create the specific schema they need.



Please contact us if you may be interested in making a topic for your project or mission

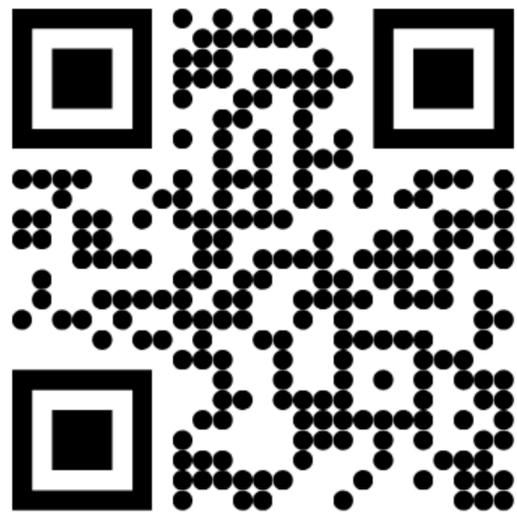
Please don't hesitate to contact us!



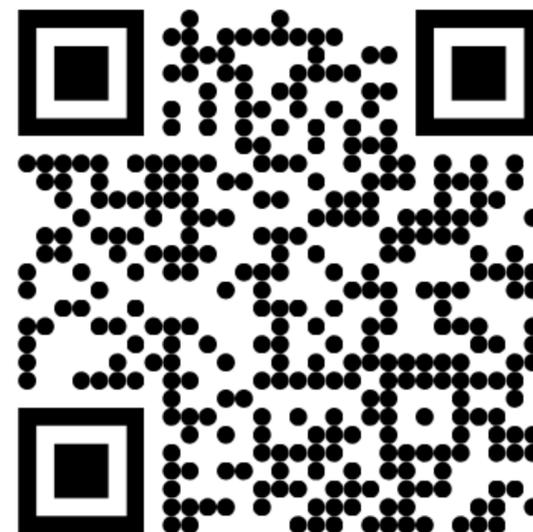
If you find a bug or would like to suggest a feature, please create an issue on our GitHub



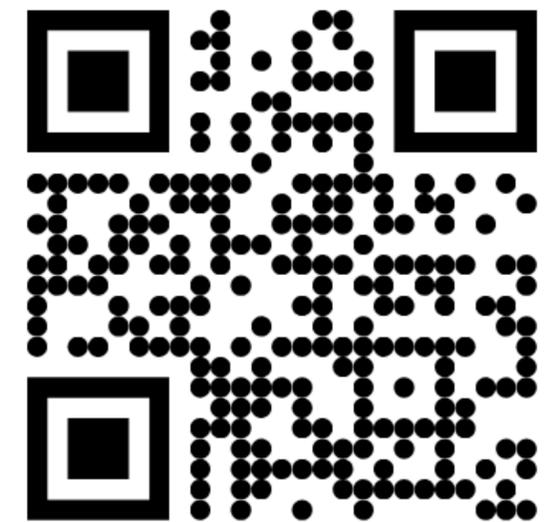
If you have any questions or comments, write us!



GCN Website



GitHub Issue



GCN Contact form