Data/information management and distribution within EPST

Yunfei Xu on behalf of the NADC team

2024-4-25

Overview of the EPSC website

National Astronomical Data Center
国家天文科学数据中心

- EPSC Official Portal
- News and Announcement
- Data Access
- Source List
- Transient Identification
- Data Simulator
- Proposal Tool

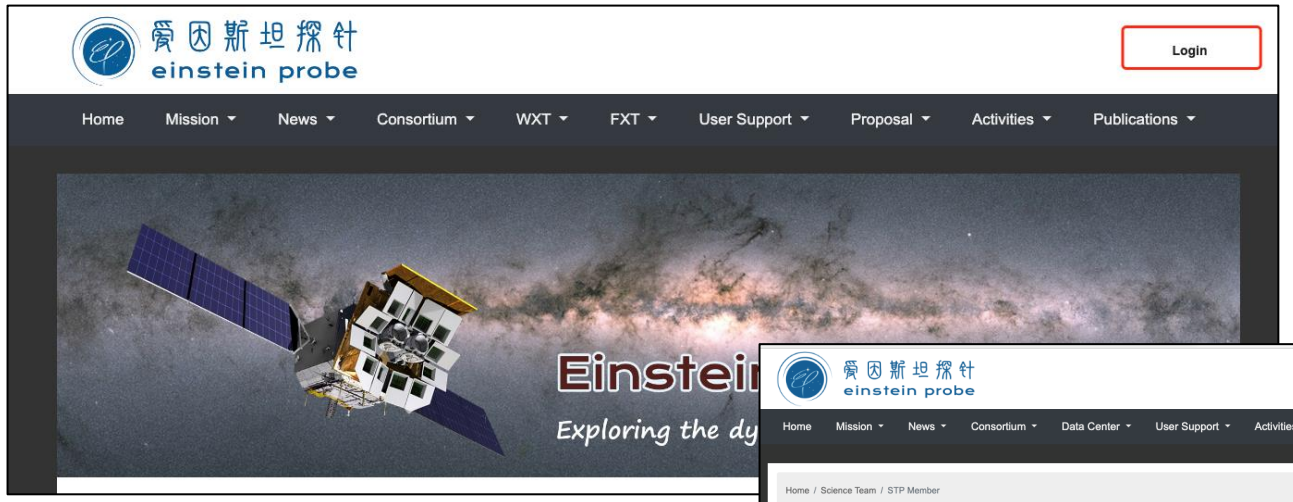
https://ep.bao.ac.cn

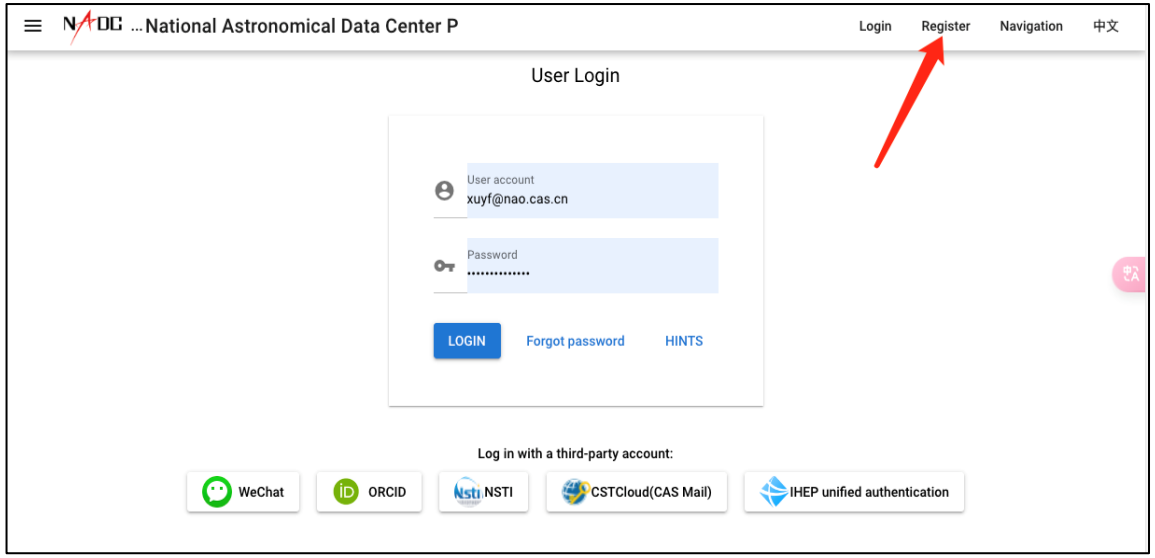
User Roles and Permissions

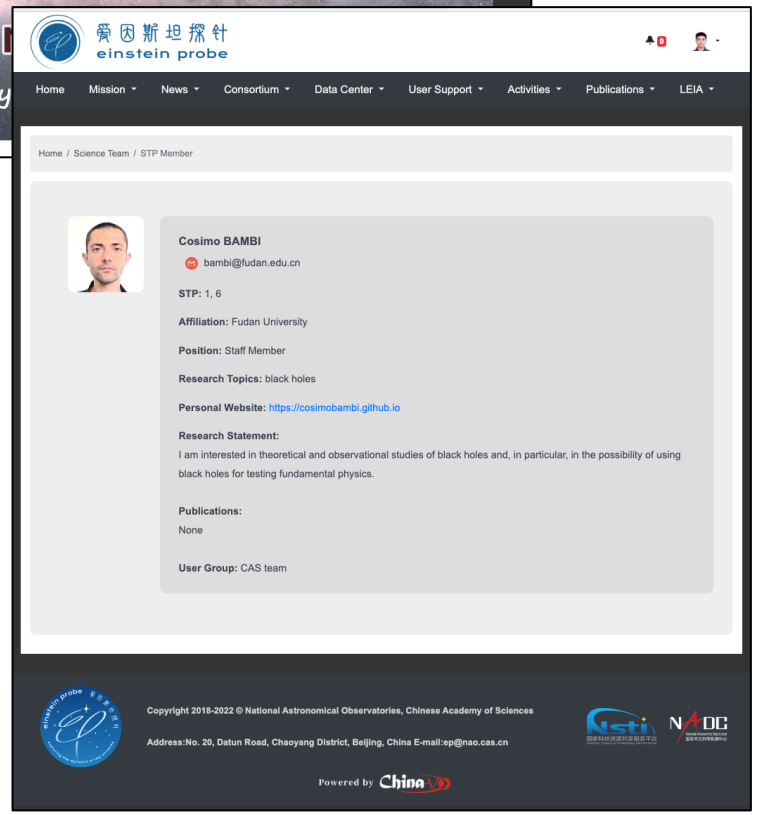
National Astronomical Data Center 国家天文科学数据中心

Each registered member will receive appropriate permissions depend on user roles：

- Science Management Committee
- STP member
- Associate STP member
- Duty Scientist
- Transient Advocate
- Guest







News and Announcement

National Astronomical Data Center
国家天文科学数据中心

Events

- Einstein Probe Mission Call for Observing Proposals (Cycle-1)
- 爱因斯坦探针（EP）科学讨论会 . 2023北京香山

MORE

News

MORE

EP-WXT detected a fast X-ray transient EP240315a	[2024-03-17]
EP-WXT Detected a Bright X-ray Flare EP240305a	[2024-03-08]
EP-WXT Detected a Bright X-ray Flare in its Commissioning Phase	[2024-02-22]
EP Performs as Expected in the First Month of the In-orbit Commissioning	[2024-02-09]

Highlights

MORE

EP Performs as Expected in the First Month of the In-orbit Commissioning

Xinhua: Chinese, European Scientists Join Hands to Explore Universe's Mystery

EP Mission Announced the Call for Observing Proposals (cycle-1)

The first anniversary of the launch of the EP Pathfinder LEIA

Home / News / Latest News / EP-WXT detected a fast X-ray transient EP240315a

EP-WXT detected a fast X-ray transient EP240315a

We report on the detection of a fast X-ray transient EP240315a at 2024-03-15T20:10:44 (UTC) by the Wide-field X-ray Telescope (WXT) on board the Einstein Probe (EP) mission during a calibration observation. The position of the source is R.A. = 141.644 deg, DEC = -9.547 deg (J2000) with an uncertainty of 3 arcmin (radius, 90% C.L. statistical and systematic). The light curve of the source shows a multi-peak profile. The transient event lasts for ~1600 seconds and has a peak flux of ~3e-9 erg/s/cm^2 in the 0.5-4 keV band. The averaged spectrum can be fitted by an absorbed power-law with NH = 1.5(-0.9/+1.0) x 10^21 cm^-2 and a photon index of 1.7(-0.4/+0.4). The derived average unabsorbed 0.5 - 4.0 keV flux is 5.3(-0.7/+1.0) x 10^-10 erg/s/cm^2. However, we note that the derived source parameters may be subject to larger uncertainties than those quoted here since in-orbit calibration of the instrument is still in progress.

No previously known bright X-ray sources have been found within the 3 arcmin region around the source position, with only one optical counterpart of white dwarf candidate located at the distance of ~380 pc. Based on the shape and timescale of the observed flare light curve, we tend to consider that the source is not a stellar flare, although this cannot be ruled out. A Swift target of opportunity observation has been proposed, and further follow-up observations are strongly encouraged to identify the nature of this X-ray flare.

The above observation was made with the partially activated WXT instrument during its commissioning phase.

The preliminary results have been posted at Astronomer's Telegram as GCN 35931. Click here for more EP/LEIA Astronomer's Telegrams.

Related GCN/ATel reports:

X-ray transient EP240315a: ATLAS detection of a possible optical counterpart AT2024eju

X-ray transient EP240315a: VLT/X-shooter spectroscopic redshift of z = 4.859

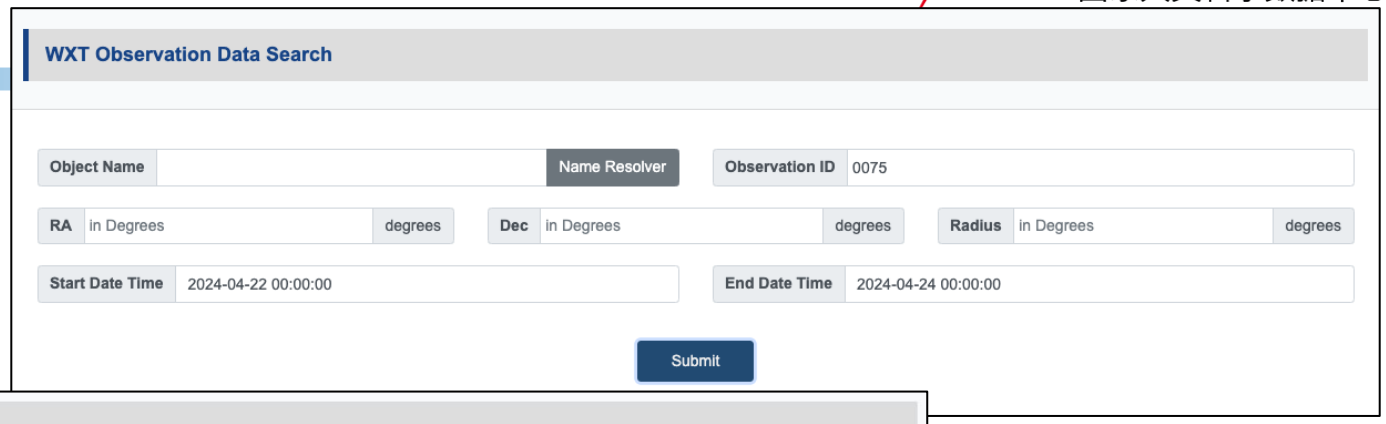
Edit Editor: Hui Sun

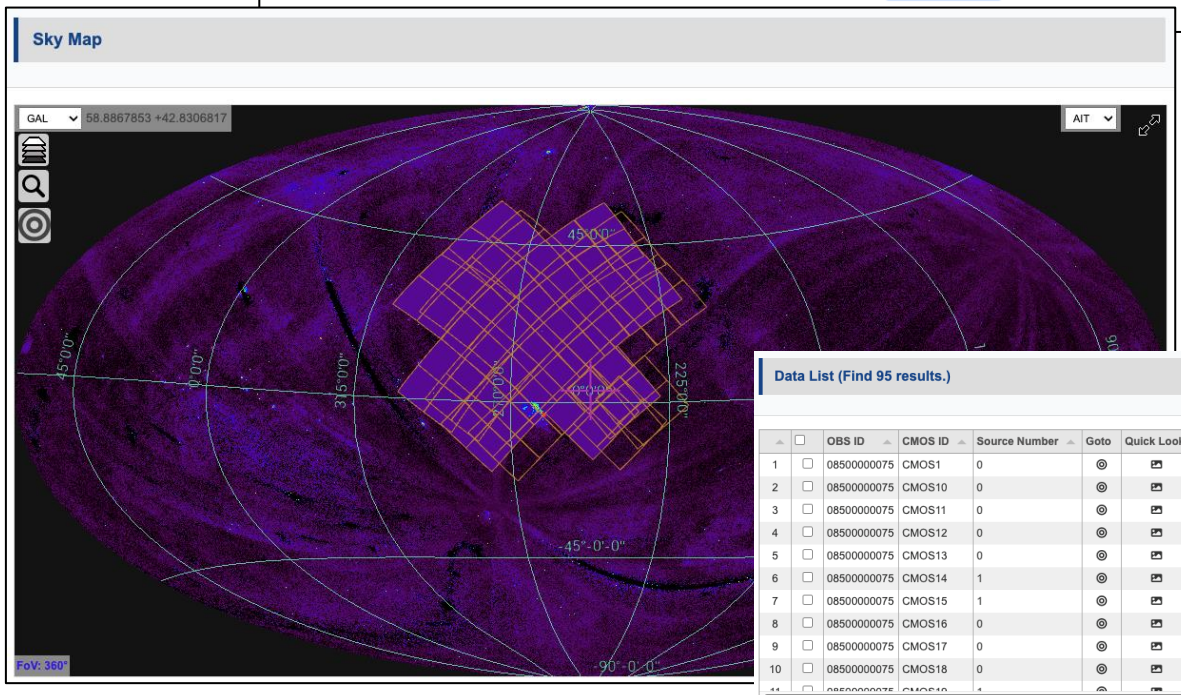
Access to the most current updates on EP-related news, events, transient alerts, and proposal call

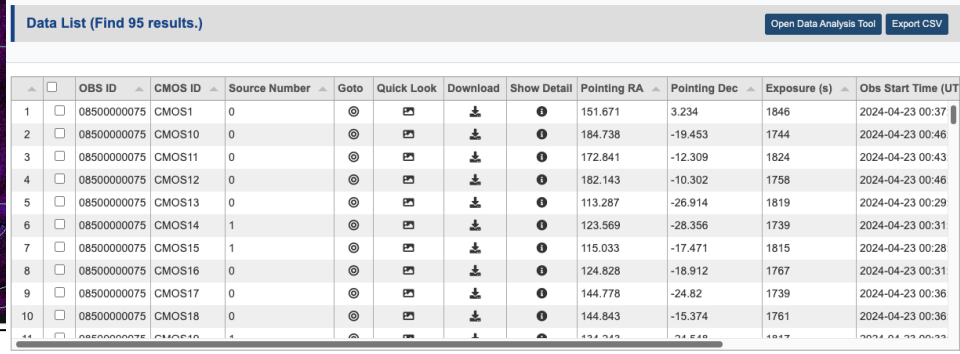
Observation Data Access

National Astronomical Data Center 国家天文科学数据中心

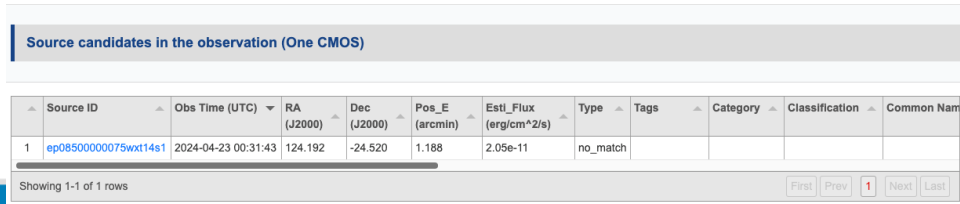
- Data query
  - Object name
  - locaiton
  - time span
  - Obs ID
- Data visualizaiton
- Data quicklook & download
- Online data analysis







		OBS ID	CMOS ID	Source Number	Goto	Quick Look	Download	Show Detail	Pointing RA	Pointing Dec	Exposure (s)	Obs Start Time (UT
1		08500000075	CMOS1	0					151.671	3.234	1846	2024-04-23 00:37
2		08500000075	CMOS10	0					184.738	-19.453	1744	2024-04-23 00:46
3		08500000075	CMOS11	0					172.841	-12.309	1824	2024-04-23 00:43
4		08500000075	CMOS12	0					182.143	-10.302	1758	2024-04-23 00:46
5		08500000075	CMOS13	0					113.287	-26.914	1819	2024-04-23 00:29
6		08500000075	CMOS14	1					123.569	-28.356	1739	2024-04-23 00:31
7		08500000075	CMOS15	1					115.033	-17.471	1815	2024-04-23 00:28
8		08500000075	CMOS16	0					124.828	-18.912	1767	2024-04-23 00:31
9		08500000075	CMOS17	0					144.778	-24.82	1739	2024-04-23 00:36
10		08500000075	CMOS18	0					144.843	-15.374	1761	2024-04-23 00:36



	Source ID	Obs Time (UTC)	RA (J2000)	Dec (J2000)	Pos_E (arcmin)	Esti_Flux (erg/cm^2/s)	Type	Tags	Category	Classification	Common Nam
1	ep08500000075wxt14s1	2024-04-23 00:31:43	124.192	-24.520	1.188	2.05e-11	no_match				

Showing 1-1 of 1 rows

Observation Data Detail

National Astronomical Data Center
国家天文科学数据中心

Data List (Find 95 results.) — Open Data Analysis Tool | Export CSV

		OBS ID	CMOS ID	Source Number	Goto	Quick Look	Download	Show Detail	Pointing RA	Pointing Dec	Exposure (s)	Obs Start Time (UT
1	☐	08500000075	CMOS1	0	◎	🖼	⬇	ℹ	151.671	3.234	1846	2024-04-23 00:37
2	☐	08500000075	CMOS10	0	◎	🖼	⬇	ℹ	184.738	19.453	1744	2024-04-23 00:46
3	☐	08500000075	CMOS11	0	◎	🖼	⬇	ℹ	172.841	-12.309	1824	2024-04-23 00:43
4	☐	08500000075	CMOS12	0	◎	🖼	⬇	ℹ	182.143	-10.302	1758	2024-04-23 00:46
5	☐	08500000075	CMOS13	0	◎	🖼	⬇	ℹ	113.287	-26.914	1819	2024-04-23 00:29
6	☐	08500000075	CMOS14	1	◎	🖼	⬇	ℹ	123.569	-28.356	1739	2024-04-23 00:31
7	☐	08500000075	CMOS15	1	◎	🖼	⬇	ℹ	115.033	-17.471	1815	2024-04-23 00:28
8	☐	08500000075	CMOS16	0	◎	🖼	⬇	ℹ	124.828	-18.912	1767	2024-04-23 00:31
9	☐	08500000075	CMOS17	0	◎	🖼	⬇	ℹ	144.778	-24.82	1739	2024-04-23 00:36
10	☐	08500000075	CMOS18	0	◎	🖼	⬇	ℹ	144.843	-15.374	1761	2024-04-23 00:36

Source candidates in the observation (One CMOS)

	Source ID	Obs Time (UTC)	RA (J2000)	Dec (J2000)	Pos_E (arcmin)	Esti_Flux (erg/cm^2/s)	Type	Tags	Category	Classification	Common Nam
1	ep08500000075wxt14s1	2024-04-23 00:31:43	124.192	-24.520	1.188	2.05e-11	no_match				

Showing 1-1 of 1 rows — First | Prev | 1 | Next | Last

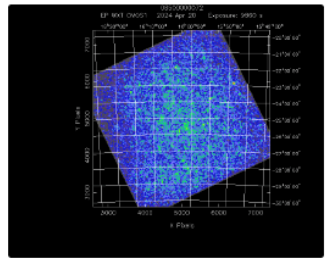
Data query result table

Observation: 08500000072 | CMOS1 | v6

Pointing RA	240.63
Pointing Dec	-25.027
Instrument	WXT
Start Time (UTC)	2024-04-20 15:22:20
Exposure Time (s)	9860
Object Name	08500000072
Object RA	None
Object Dec	None
Processing Time (UTC)	2024-04-21 17:06:18
Archive Time (UTC)	2024-04-21 18:07:26
Publish Time (UTC)	2025-04-21 18:07:26
Proc Ver	3.17.13
CALDB Ver	-
Soft Ver	Hea_22Oct2018_V6.2...

Image

Click to check the raw data



Click the image to open the DS9

Get Data Files

Download level1 data

Download Level2-3 Data

Sources in the observation 08500000072 | CMOS1

Source List 1 | Explorer

Show 10 entries — Search:

Source Name	Version	Light Curve	Spectrum	RA	Dec	Pos Err	X	Y	Pixels in Source Region	Net Source Counts	Background Counts	Net Rate
ep08500000072wxt1s1	v6			237.194	-22.846	0.00601	401.234	372.666	21	79.04	3.47	0.00

Showing 1 to 1 of 1 entries — Previous | 1 | Next

Observation detail Page

Observation Data Download Request

National Astronomical Data Center
国家天文科学数据中心

Observations you have requested will not be listed.

	OBS ID	CMOS ID				Pointing RA	Pointing Dec	Exposure Time	Obs Start Time	Obs End Time	ID
☐	08500000072	CMOS1	◎	👁	ℹ	240.63	-25.026	9860	2024-04-20 14:07:20	2024-04-20 19:11:57	110019
☑	08500000072	CMOS10	◎	👁	ℹ	195.909	-31.904	9477	2024-04-20 14:07:20	2024-04-20 19:05:42	110028
☑	08500000072	CMOS11	◎	👁	ℹ	211.7	-31.06	9437	2024-04-20 14:07:20	2024-04-20 19:07:39	110029
☑	08500000072	CMOS12	◎	👁	ℹ	204.499	-38.29	9585	2024-04-20 14:07:20	2024-04-20 19:07:19	110030
☑	08500000072	CMOS13	◎	👁	ℹ	233.953	22.286	10434	2024-04-20 14:07:20	2024-04-20 19:16:26	110031
☐	08500000072	CMOS14	◎	👁	ℹ	228.323	14.765	10093	2024-04-20 14:07:20	2024-04-20 19:13:49	110032
☐	08500000072	CMOS15	◎	👁	ℹ	242.13	16.595	10526	2024-04-20 14:07:20	2024-04-20 19:17:26	110033
☐	08500000072	CMOS16	◎	👁	ℹ	236.19	9.169	10224	2024-04-20 14:07:20	2024-04-20 19:15:11	110034
☐	08500000072	CMOS17	◎	👁	ℹ	221.125	-3.132	9755	2024-04-20 14:07:20	2024-04-20 19:09:52	110035
☐	08500000072	CMOS18	◎	👁	ℹ	228.731	-8.795	9816	2024-04-20 14:07:20	2024-04-20 19:11:15	110036
☐	08500000072	CMOS19	◎	👁	ℹ	226.78	4.597	9914	2024-04-20 14:07:20	2024-04-20 19:12:10	110037
☐	08500000072	CMOS2	◎	👁	ℹ	231.837	-20.653	9780	2024-04-20 14:07:20	2024-04-20 19:10:46	110020
☐	08500000072	CMOS20	◎	👁	ℹ	234.401	-1.049	9984	2024-04-20 14:07:20	2024-04-20 19:13:13	110038
☐	08500000072	CMOS21	◎	👁	ℹ	236.304	-14.121	9883	2024-04-20 14:07:20	2024-04-20 19:12:31	110039
☐	08500000072	CMOS22	◎	👁	ℹ	244.313	-19.542	10020	2024-04-20 14:07:20	2024-04-20 19:13:45	110040
☐	08500000072	CMOS23	◎	👁	ℹ	241.925	-6.173	10142	2024-04-20 14:07:20	2024-04-20 19:14:46	110041

Request to access selected observations

Data query result table

- External transient advocates only have limited access permission to the observation data
- They can request download permission for selected data with proper justification

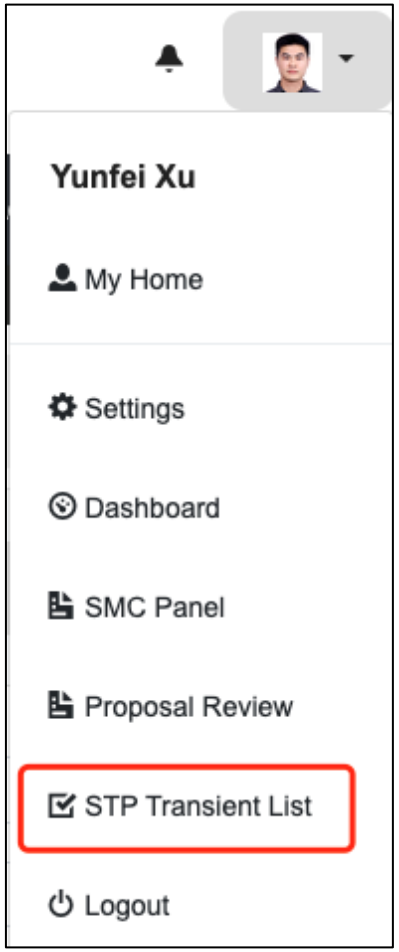
My Data Requests

	Observation ID	Requset Reason	Request Time	Approved?	Request Time	Approve Time	Access Deadline
1	08500000053CMOS1,08500000053CMOS10,08500000053CMOS11,08500000053CMOS12	test	2024-04-08 04:55:41	✗	2024-04-08 04:55:41	(invalid date)	(invalid date)
2	08500000072CMOS11,08500000072CMOS10,08500000072CMOS12,08500000072CMOS13,08500000072CMOS14,08500000072CMOS15	test2	2024-04-23 11:26:53	✗	2024-04-23 11:26:53	(invalid date)	(invalid date)

Data request records

Transient Data Access

National Astronomical Data Center
国家天文科学数据中心



Transient List (STP Users) Export CSV

	Transient Name	RA	Dec	Obs Time (UTC)	Goto	Detail	Tags	Category	CL	R_Flux	Ra(HMS)	Dec(DMS)	Gal l	Gal b
1	EP240417a	177.442	-15.437	2024-04-17 11:31:22			transient				11h49m46.1s	-15d26m13.2s	281.73	44.8
2	EP240415a	218.92	-16.631	2024-04-14 22:38:02			known_sour…	Unclassfied	Unverified		14h35m40.9s	-16d37m52.0s	335.972	39.4
3	EP240414a	191.498	-9.695	2024-04-14 06:32:14			transient	Unclassfied		6.93e-14	12h45m59.5s	-09d41m42.0s	300.694	53.1
4	EP240219a	80.031	25.533	2024-02-19 06:07:32			transient	GRB	GRB		05h20m07.4s	+25d31m58.1s	179.779	-6.6
5	EP240315a	141.636	-9.544	2024-03-15 18:27:18			transient	GRB	LGRB	1.81e-12	09h26m32.6s	-09d32m38.4s	242.105	28.2
6	EP240413a	228.795	-18.799	2024-04-13 11:22:41			transient				15h15m10.8s	-18d47m56.4s	344.057	32.3
7	EP240305a	123.019	-54.596	2024-03-05 12:31:06			transient	Unclassfied		1.879e-12	08h12m04.5s	-54d35m45.7s	269.264	-11.
8	EP240408a	158.841	-35.748	2024-04-08 12:25:45			transient				10h35m21.8s	-35d44m53.3s	274.154	19.4
9	EP240316a	171.863	-7.311	2024-03-16 05:38:15			transient				11h27m27.1s	-07d18m39.7s	269.361	50.0
10	EPW20240306aa	148.848	-49.67	2024-03-06 01:25:33			transient,ste…	Star	Star	3.03e-9	09h55m23.5s	-49d40m10.8s	276.145	3.82
11	EP240320a	129.247	14.597	2024-03-20 15:30:42			transient	Unclassfied			08h36m59.2s	+14d35m50.2s	211.07	29.8
12	EP240416a	203.151	-13.611	2024-04-16 00:52:43			transient	Unclassfied			13h32m36.2s	-13d36m40.6s	317.988	48.0
13	EP240222a	173.116	27.124	2024-02-22 07:00:46			transient	TDE	TDE		11h32m27.8s	+27d07m28.1s	208.407	72.4
14	EP240327a	203.853	7.488	2024-03-27 09:51:02			transient				13h35m24.7s	+07d29m16.8s	332.907	67.7
15	EP240202a	77.753	2.123	2024-02-02 21:21:36			transient				05h11m00.7s	+02d07m21.8s	198.891	-21.
16	EP240331a	169.415	-20.042	2024-03-31 13:21:23			transient	Unclassfied		6.82e-13	11h17m39.5s	-20d02m29.6s	274.764	37.6

EP Transient List for STP/Associate STP users

Transient Details

National Astronomical Data Center
国家天文科学数据中心

Data Request

My Data Requests

	WXT Source Requested	FXT Source Requested Not available	Requset Reason	Request Time	Approved?	Request Time UTC	Approve Time UTC
1	ep08500000016wxt20s3v3 ep13600005118wxt18s2v4 ep13600005117wxt18s9v4 ep13600005121wxt45s1v3 ep13600005122wxt45s2v3 ep13600005120wxt45s4v2	08500000024FXTB1301FF01 08500000024FXTA1301FF01 08500000024FXTA1401FF01 08500000024FXTB1401FF01 08500000024FXTB1501FF01 08500000024FXTA1501FF01 08500000024FXTA1601FF01 08500000024FXTB1601FF01 08500000024FXTB1701FF01 08500000024FXTA1701FF01	test	2024-03-26 06:36:31	✔	2024-03-26 06:36:31	2024-03-26 06:38:58

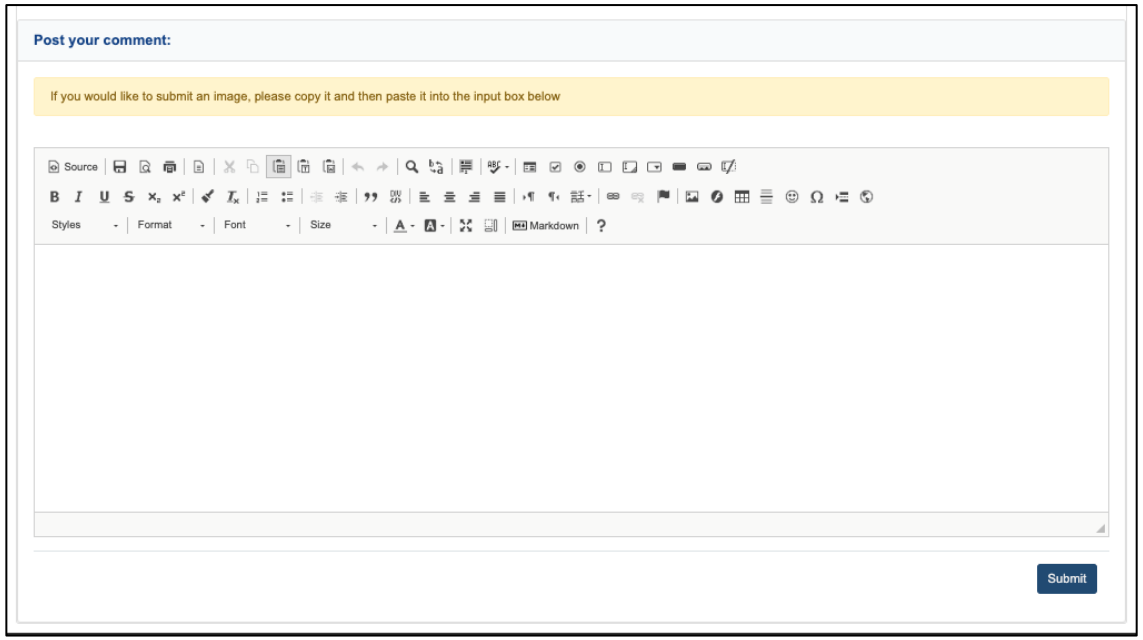
Showing 1-4 of 4 rows

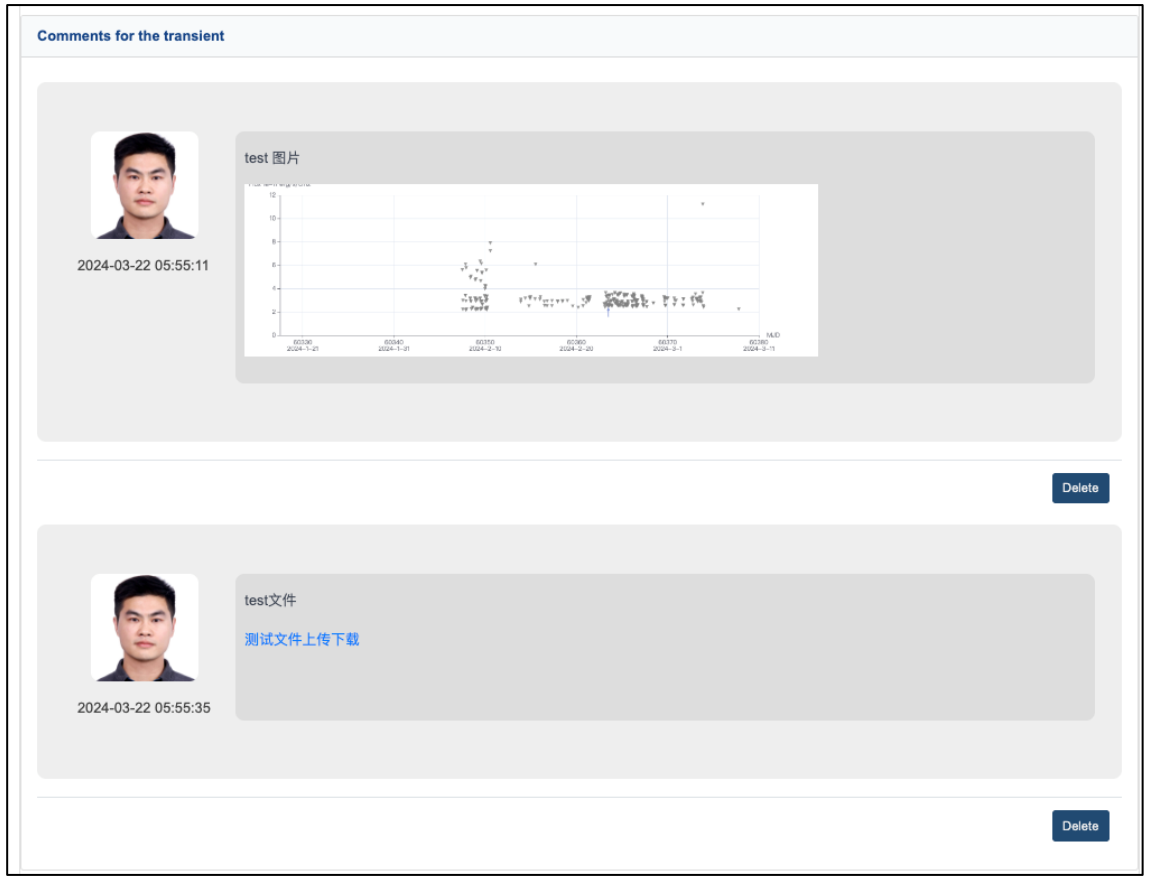
Page Size 6 First Prev 1 Next Last

Transient detail and long term light curve

Comments on Transient

National Astronomical Data Center
国家天文科学数据中心

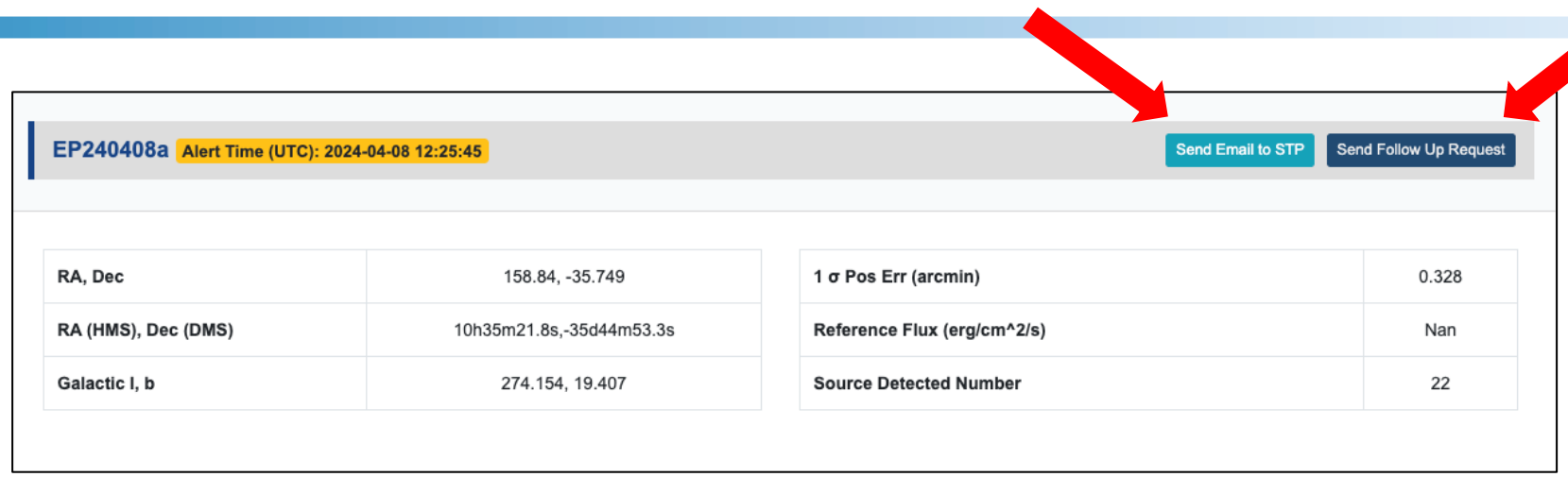


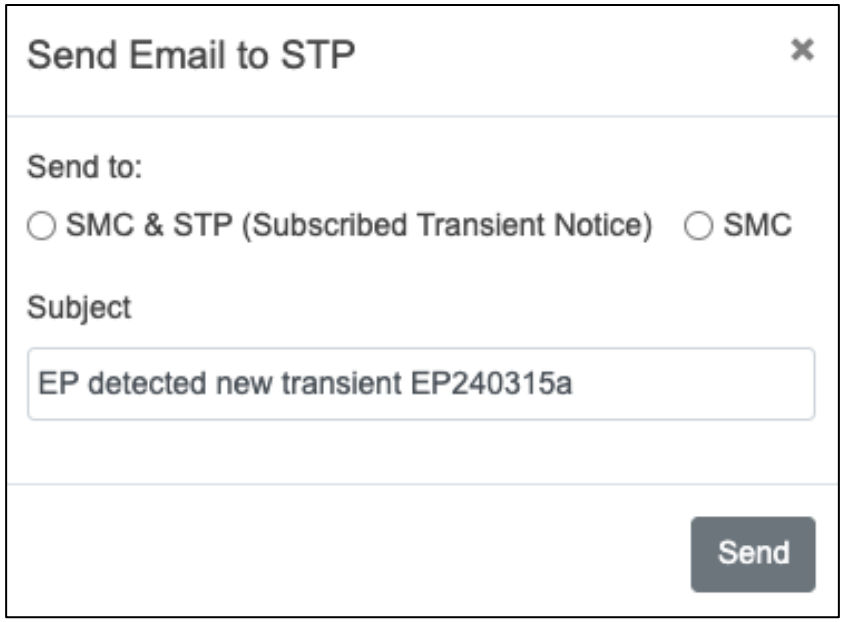


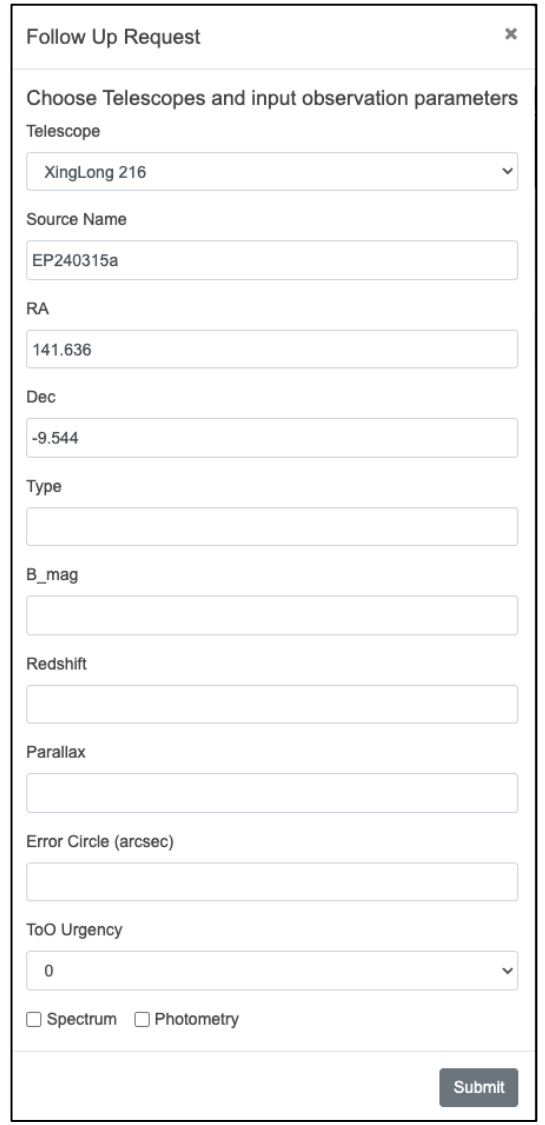
- STP and Associate STP users can post comments on the transient detail page
- They can upload relevant images or data files with each comment

Transient Notice and Follow-up

National Astronomical Data Center 国家天文科学数据中心





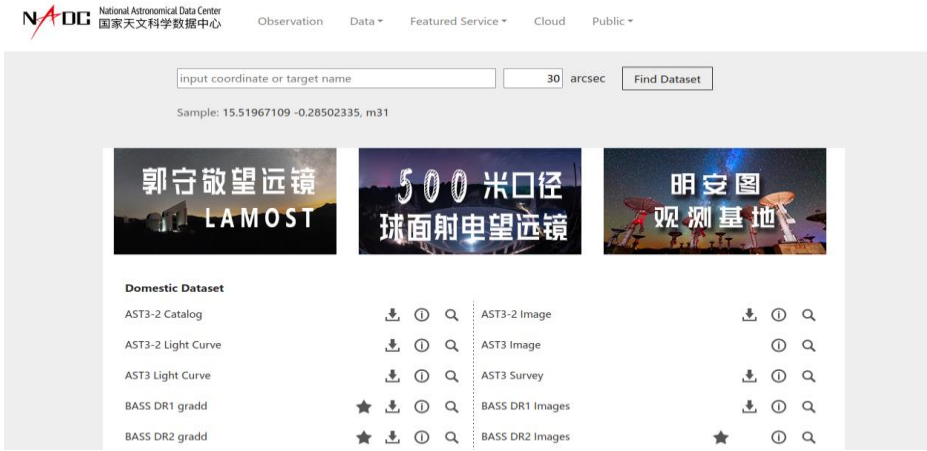


Access data by Python (In progress)

National Astronomical Data Center 国家天文科学数据中心

Data can be addressed using dataset name, data type and meta data.

- **Dataset name**: corresponds to a telescope or a data release, such as EP (need data permission), LAMOST DR9
- **Data Type**: such as light curve, image, catalogue
- **Metadata**: locate specific data within a data type, such as observation id, CMOS id, version. Metadatas can also be used for data permission verification.



Corresponding GUI

Usage

- Import and instantiate data accessor
- Authorize with password or token
- Download data with parameter *output dir, data type* and *meta data*

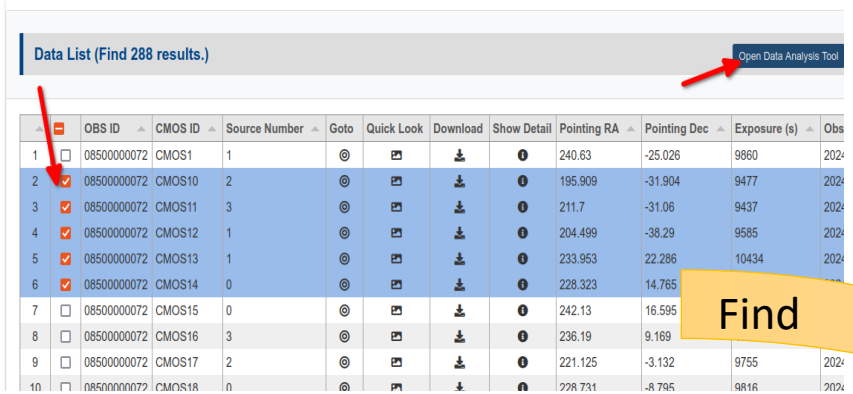
```python
from nadc_datahub.ep_tdic import EP_TDIC
ep = EP_TDIC.get_entry("csdb")
ep.auth(email, password)
output_path = ep.download(outputdir,"wxt2_PH",{
    "OBS_ID": "08500000072",
    "CMOS_ID": "12",
    "VERSION": "v2",
})
print(output_path)
```

Python API

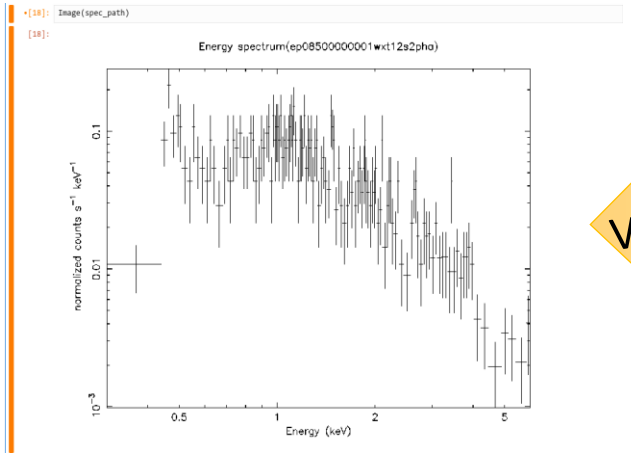
Analyzing EP Data Online (under alpha testing)

National Astronomical Data Center 国家天文科学数据中心

- Main objective: Providing an online environment for data analysis.



EPSC Data Query Page



Jupyter

Find

Access

Analysis

Visualization

```
[26]: from nadc_datahub.ep_tdic import EP_TDIC
ep = EP_TDIC.get_entry("csdb")
ep.auth(email, password)
for obs in obses:
    output_path = ep.download(outputdir,"wxt1",{
        "OBS_ID": obs['obs_id'],
        "CMOS_ID": str(obs['cmos_id']),
        # "INSTRUME": "WXT",
        # "TRIGGER": "telemetry",
        "VERSION": "v2",
        # "SRC_IDX": "2"
    })
    print(output_path)

downloads/lv1/ep08500000072wxt1lv1.zip
downloads/lv1/ep08500000072wxt10lv1.zip
downloads/lv1/ep08500000072wxt11lv1.zip
downloads/lv1/ep08500000072wxt13lv1.zip
```

NADC Datahub Python API

```
[28]: !wxtpipeline indir=./downloads/lv1 outdir=./downloads/lv2 checkattitude=no  clobber=yes gtiexpr="BR_EARTH>=25&&ELV>=10&&SAA==0&&ANG_DIST<0.1"

============================================================
                Running EP WXT pipeline
 Task: wxtpipeline Version: 0.1.0 Release Date: 2021-01-31
============================================================
------------------------------------------------------------
               Retrieving files from Input Target Directory './downloads/lv1'
------------------------------------------------------------
wxtpipeline_0.1.0: ERROR: No input files found with 'eplv1' stem
wxtpipeline_0.1.0: ERROR: in the './downloads/lv1' directory tree

============================================================
                EP WXT pipeline Report
 Task: wxtpipeline Version: 0.1.0 Release Date: 2021-01-31
============================================================
---------------- INPUT/OUTPUT DIRECTORIES ----------------
Input Target Directory               : ./downloads/lv1
Input Events Files Directory         : ./downloads/lv1
Output directory                     : ./downloads/lv2
----------------        INPUT FILES        ----------------
Searching Input Data Files with stem  : DEFAULT
```

EP Data Analysis Software

Thank you !