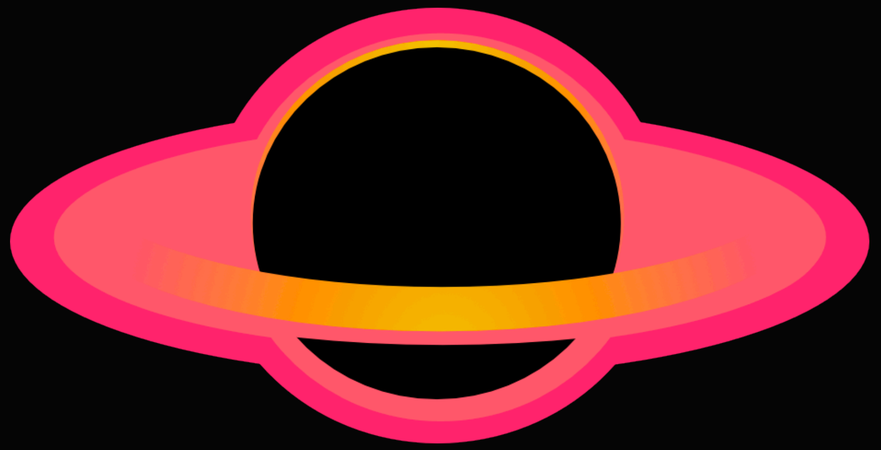

bhtom2

hands-on session
2025 Jan 10

TOM TOOLKIT Las Cumbres Observatory

///AkondLab.

UNIVERSITAS VARSOVIENSIS

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EAST

EASST.EU

OPTICON

OPTICON RadioNet Pilot

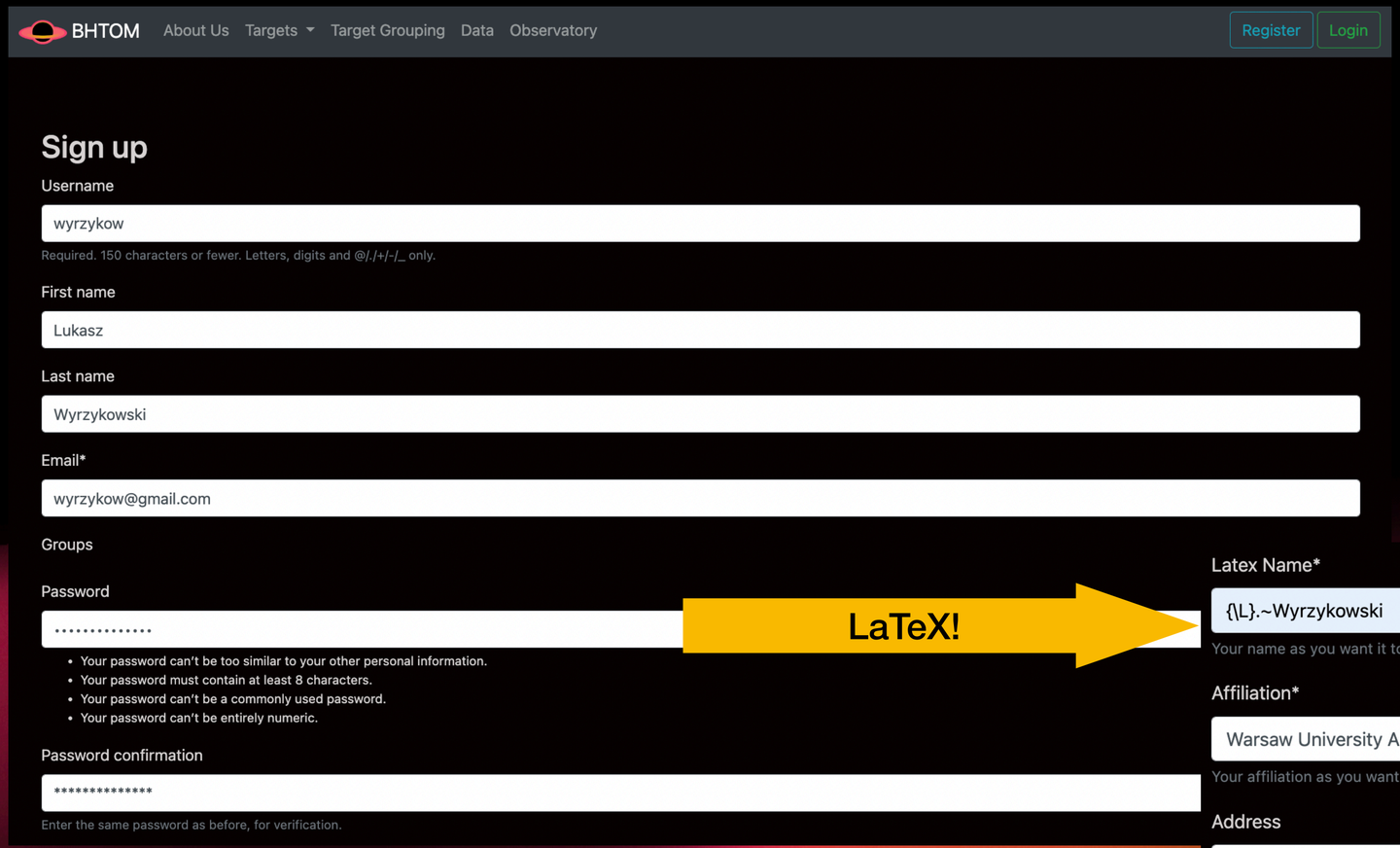
European ACME

hands-on session

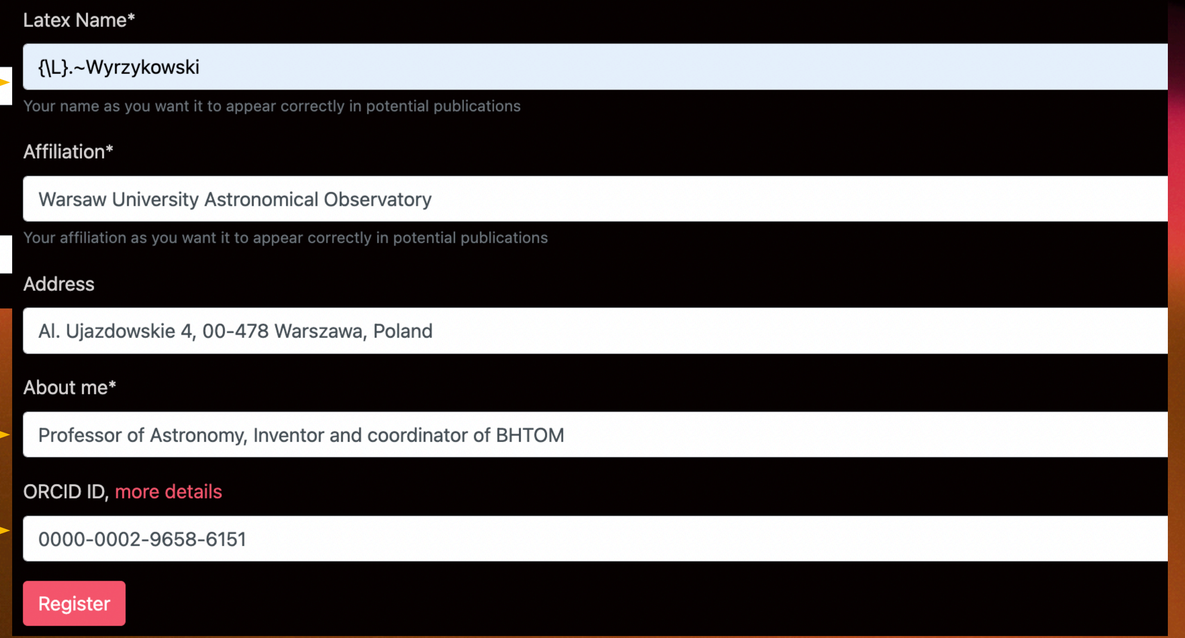
- GUI:
  - registration - creating an account, LaTeX, About me, ORCID
  - target lists and filtering
  - querying on name: Gaia19axp, TCrB, SN 2024ggi
  - finding your favourite target with cone search
  - direct target url
- API:
  - getting a target list for your telescope

BHTOM2

registration



LaTeX!



About me

ORCID

registration

BHTOM2

BHTOM About Us Targets Target Grouping Data Observatory

Sign up

Username

wyrzykow

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

First name

Lukasz

Last name

Wyrzykowski

Email*

wyrzykow@gmail.com

Groups

Password

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation

Enter the same password as before, for verification.

Astronomy & Astrophysics manuscript no. pap16aye
October 30, 2019

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Full orbital solution for the binary system in the northern Galactic disc microlensing event Gaia16aye⋆

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18 Subaru Telescope, National Astronomical Observatory of Japan, 650 N Aohoku Place, Hilo, HI 96720, USA
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Al. Ujazdowskie 4, 00-478 Warszawa, Poland

About me*

Professor of Astronomy, Inventor and coordinator of BHTOM

ORCID ID, more details

0000-0002-9658-6151

Register

BHTOM2

registration

BHTOM About Us Targets Target Grouping Data Observatory

Sign up

Username

wyrzykow

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

First name

Lukasz

Last name

Wyrzykowski

Email*

wyrzykow@gmail.com

Groups

Password

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation

Enter the same password as before, for verification.

Astronomy & Astrophysics manuscript no. pap16aye
October 30, 2019
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Full orbital solution for the binary system in the northern Galactic disc microlensing event Gaia16aye*

Łukasz Wyrzykowski[1,**], P. Mróz[1], K. A. Rybicki[1], M. Gromadzki[1], Z. Kołaczkowski[45,79,***], M. Zieliński[1], P. Zieliński[1], N. Britavskiy[4,5], A. Gomboc[35], K. Sokolovsky[19,3,66], S.T. Hodgkin[6], L. Abe[89], G.F. Aldi[20,80], A. AlMannaei[62,100], G. Altavilla[72,7], A. Al Qasim[62,100], G.C. Anupama[8], S. Awiphan[9], E. Bachelet[63], V. Bakış[10], S. Baker[100], S. Bartlett[50], P. Bendjoya[11], K. Benson[100], I.F. Bikmaev[76,87], G. Birenbaum[12], N. Blagorodnova[24], S. Blanco-Cuaresma[15,74], S. Boeva[16], A.Z. Bonanos[19], V. Bozza[20,80], D.M. Bramich[62], I. Bruni[25], R.A. Burenin[84,85], U. Burgaz[21], T. Butterley[22], H. E. Caines[34], D. B. Caton[93], S. Calchi Novati[83], J.M. Carrasco[23], A. Cassan[29], V. Čepas[56], M. Cropper[100], M. Chruślińska[1,24], G. Clementini[25], A. Clerici[35], D. Conti[91], M. Conti[48], S. Cross[63], F. Cusano[25], G. Damljanovic[26], A. Dapergolas[19], G. D'Ago[81], J. H. J. de Bruijne[27], M. Dennefeld[29], V. S. Dhillon[30,4], M. Dominik[31], J. Dziedzic[1], O. Erece[32], M. V. Eselevich[86], H. Esenoglu[33], L. Eyer[74], R. Figuera Jaimes[31,53], S. J. Fossey[34], A. I. Galeev[76,87], S. A. Grebenev[84], A. C. Gupta[99], A. G. Gutaev[76], N. Hallakoun[12], A. Hamanowicz[1,36], C. Han[2], B. Handzlik[37], J. B. Haislip[94], L. Hanlon[102], L. K. Hardy[30], D. L. Harrison[6,88], H.J. van Heerden[103], V. L. Hoette[95], K. Horne[31], R. Hudec[39,76,40], M. Hundertmark[41], N. Ihanec[35], E. N. Irtuganov[76,87], R. Itoh[43], P. Iwanek[1], M.D.Jovanovic[26], R. Janulis[56], M. Jelínek[39], E. Jensen[92], Z. Kaczmarek[1], D. Katz[101], I.M. Khamitov[44,76], Y.Kilic[32], J. Klencki[1,24], U. Kolb[47], G. Kopacki[45], V. V. Kouprianov[94], K. Kruszyńska[1], S. Kurowski[37], G. Latev[16], C-H. Lee[17,18], S. Leonini[48], G. Leto[49], F. Lewis[50,59], Z. Li[63], A. Liakos[19], S. P. Littlefair[30], J. Lu[51], C.J. Manser[52], S. Mao[53], D. Maoz[12], A.Martin-Carrillo[102], J. P. Marais[103], M. Maskoliūnas[56], J. R. Maund[30], P. J. Meintjes[103], S. S. Melnikov[76,87], K. Ment[41], P. Mikołajczyk[45], M. Morrell[47], N. Mowlavi[74], D. Moździerski[45], D. Murphy[102], S. Nazarov[90], H. Netzel[1,79], R. Nesci[67], C.-C. Ngeow[54], A. J. Norton[47], E. O. Ofek[55], E. Pakštienė[56], L. Palaversa[6,74], A. Pandey[99], E. Paraskeva[19,78], M. Pawlak[1,65], M. T. Penny[57], B. E. Penprase[58], A. Piascik[59], J. L. Prieto[96,97], J. K. T. Qvam[98], C. Ranc[70], A. Rebassa-Mansergas[60,71], D. E. Reichart[94], P. Reig[61,75], L. Rhodes[30], J.-P. Rivet[89], G. Rixon[6], D. Roberts[47], P. Rosi[48], D.M. Russell[62], R. Zanmar Sanchez[49], G. Scarpetta[20,82], G. Seabroke[100], B. J. Shappee[69], R. Schmidt[41], Y. Shvartzvald[13,14], M. Sitek[1], J. Skowron[1], M. Śniegowska[1,77,79], C. Snodgrass[46], P. S. Soares[34], B. van Soelen[103], Z. T. Spetsieri[19,78], A. Stankevičiūtė[1], I. A. Steele[59], R. A. Street[63], J. Strobl[39], E. Strubble[95], H. Szegedi[103], L. M. Tinjaca Ramirez[48], L. Tomasella[64], Y. Tsapras[41], D. Vernet[11], S. Villanueva Jr.[57], O. Vince[26], J. Wambsganss[41,42], I. P. van der Westhuizen[103], K. Wiersema[52,68], D. Wium[103], R. W. Wilson[22], A. Yoldas[6], R.Ya. Zhuchkov[76,87], D. G. Zhukov[76], J. Zdanavičius[56], S. Zoła[37,38], and A. Zubareva[73,3]

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About me*

Professor of Astronomy, Inventor and coordinator of BHTOM

ORCID ID, more details

0000-0002-9658-6151

Register

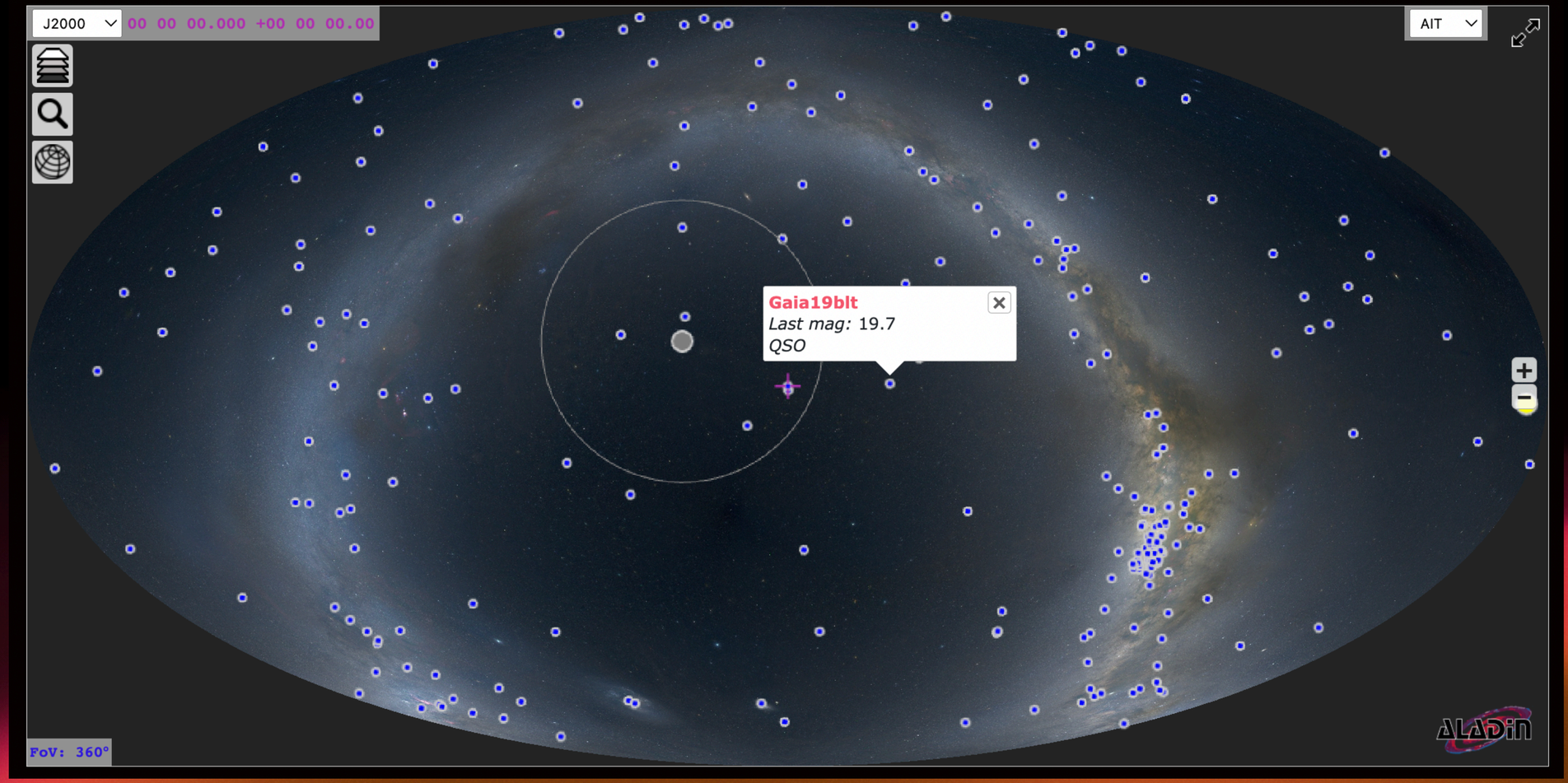
every registration needs approval by a human
who will read the About me field
Wait for a confirmation email before continuing

BHTOM2

Targets/List

- Aladin map
- default: Mellinger
- equatorial-galactic
- interactive
- Moon
- Sun
- other wavelengths
- grid

Warning: Default filter applied. Showing targets with Importance>0 only



BHTOM2

Targets/List

Add/Remove from grouping [ ] Add Move Remove

Show 10 entries

Names	RA	Dec	Nobs	Last Gmag	Last Filter	Importance	Created	Priority	Sun	Class
Gaia22bpl	10:38:42.425	-61:15:49.680	903	12.7	Gaia/r	9.99	2023-10-01 06:10:13	336.7	62	Microlensing Event
Gaia23cpd	19:10:08.822	-04:43:14.736	1810	15.1	Gaia/r	9.99	2023-10-01 18:10:29	91.6	100	Unknown
Gaia23bay	19:49:42.996	+10:43:41.448	1953	13.8	Gaia/r	9.99	2023-10-01 19:10:47	46.8	110	Unknown
Gaia22bra	19:50:00.876	+26:29:07.908	2150	15.7	Gaia/r	9.99	2023-10-01 17:10:22	23.6	109	Unknown
Gaia23cnu	18:56:25.440	-18:04:50.880	1364	15.4	Gaia/r	9.99	2023-10-01 18:10:28	121.6	95	Unknown
Gaia21fkl	07:46:28.378	-21:52:32.016	1380	15.8	Gaia/r	9.99	2023-10-01 08:10:18	32.6	71	Unknown
Gaia22dkv	10:07:04.555	-66:10:51.204	1304	13.2	Gaia/r	9.99	2023-10-01 09:10:52	335.3	68	Unknown
Gaia23cnw	18:29:59.232	-14:02:27.564	265	17.7	Gaia/r	9.99	2023-10-01 18:10:28	126.6	89	Unknown
Gaia23cqh	19:08:36.578	+11:08:30.552	1406	17.0	Gaia/r	9.99	2023-10-01 18:10:29	66.5	100	Unknown

Showing 1 to 9 of 9 entries

Previous 1 Next

BHTOM2

Targets/List

target groupings

Add/Remove from grouping [ ] Add Move Remove

Show 10 entries

sortable columns

	Names	RA	Dec	Nobs	Last Gmag	Last Filter	Importance	Created	Priority	Sun	Class
☐	Gaia22bpl	10:38:42.425	-61:15:49.680	903	12.7	Gaia/r	9.99				Microlensing Event
☐	Gaia23cpd	19:10:08.822	-04:43:14.736	1810	15.1	Gaia/r	9.99	2023-10-01 18:10:29	91.6	100	Unknown
☐	Gaia23bay	19:49:42.996	+10:43:41.448	1953	13.8	Gaia/r	9.99	2023-10-01 19:10:47	46.8	110	Unknown
☐	Gaia22bra	19:50:00.876	+26:29:07.908	2150	15.7	Gaia/r	9.99	2023-10-01 17:10:22	23.6	109	Unknown
☐	Gaia23cnu	18:56:25.440	-18:04:50.880	1364	15.4	Gaia/r	9.99	2023-10-01 18:10:28	121.6	95	Unknown
☐	Gaia21fkl	07:46:28.378	-21:52:32.016	1380	15.8	Gaia/r	9.99	2023-10-01 08:10:18	32.6	71	Unknown
☐	Gaia22dky	10:07:04.555	-66:10:51.204	804	13.2	Gaia/r	9.99	2023-10-01 09:10:52	335.3	68	Unknown
☐					17.7	Gaia/r	9.99	2023-10-01 18:10:28	126.6	89	Unknown
☐	Gaia23cqn	19:08:36.578	+11:08:30.552	06	17.0	Gaia/r	9.99	2023-10-01 18:10:29	66.5	100	Unknown

class as enum

last magnitude calibrated roughly to Gaia even if no Gaia G available (uses all but WISE bands)

Showing 1 to 9 of 9 entries

Previous 1 Next

BHTOM2

Targets/List - filtering example

RA (0,360)

min	RA (0,360)
max	RA (0,360)

Dec (-90,90)

min	0
max	Dec (-90,90)

North only

Importance (0,10)

min	4
max	Importance (0,10)

Importance>4

Sun separation (0,360)

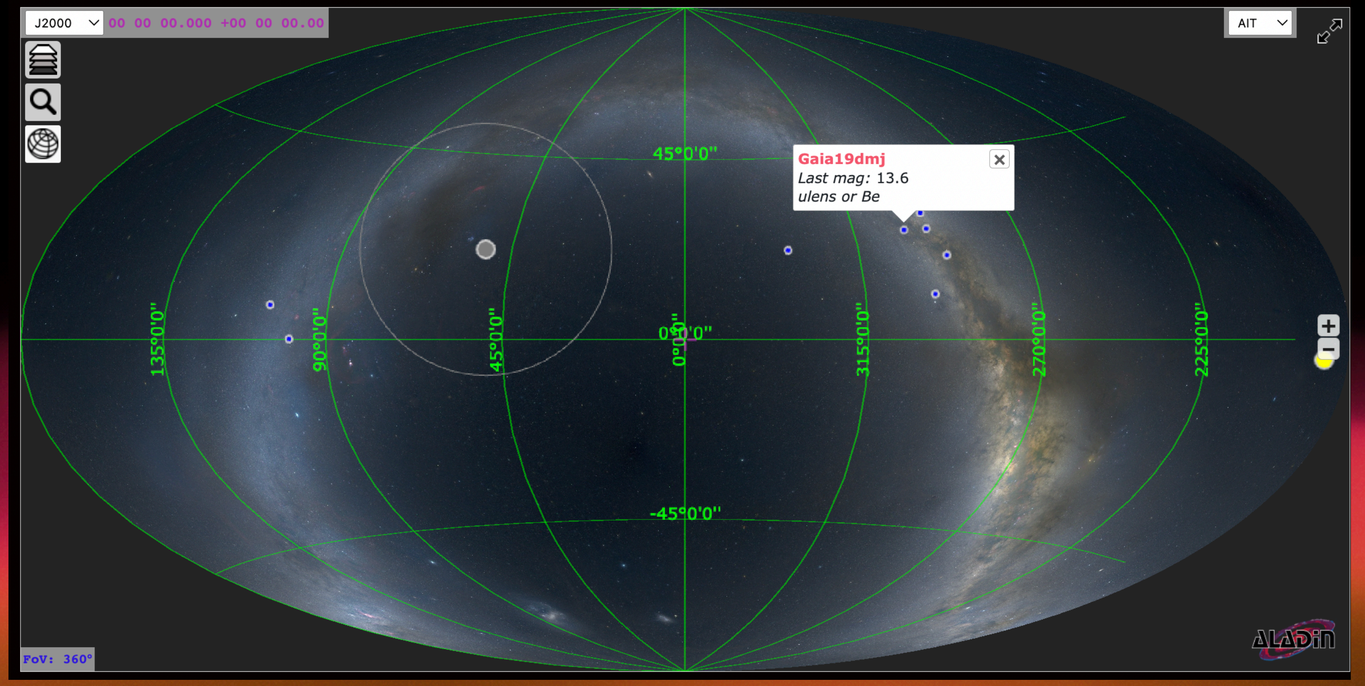
min	60
max	Sun separation (0,360)

visible now

Last G magnitude

min	Last G magnitude
max	18

not fainter than 18 mag



BHTOM2

Targets/List - filtering example

ACTION - find by name:

Nova: V1674_Her

Gaia nova: Gaia22alz

Nearby supernova: SN2023ixf

Obscurration event: ASASSN-24fw

(Importance >= 0)

ACTION - find by conditions

Any targets brighter than 14 mag
Importance > 4
Far from the Sun (>70 deg)

ACTION - find by type:

Classification: Quasar
or
Description contains “quasar”

(Importance >= 0)

BHTOM2

Targets/Visual List

define your filter first

BHTOM | About Us | Targets | Target Gro

- List
- Visual list
- Create
- Import
- Catalog Search

Name

Name

Key

Key

Value

Value

Cone Search

Cone Search

RA, Dec, Search Radius (degrees)

Target Grouping

Cone Search (Target)

Cone Search (Target)

Target Name, Search Radius (degrees)

RA

min RA

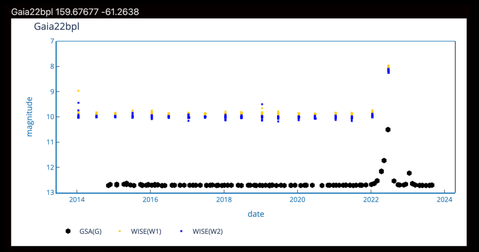
max RA

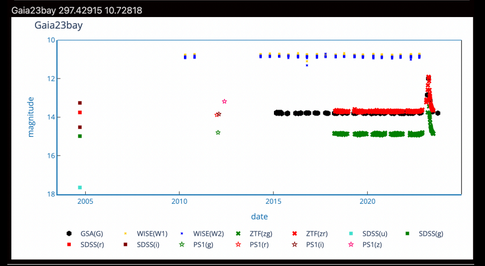
Dec

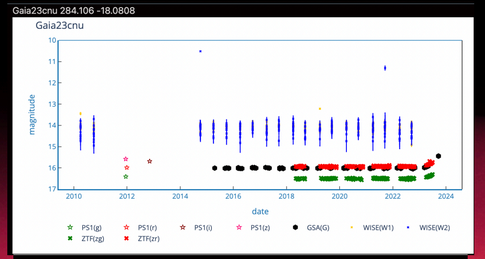
min Dec

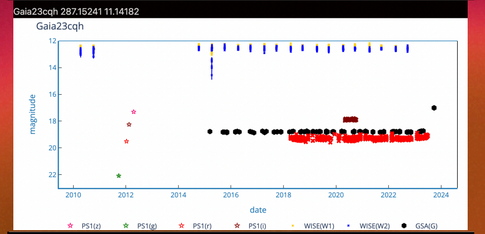
max Dec

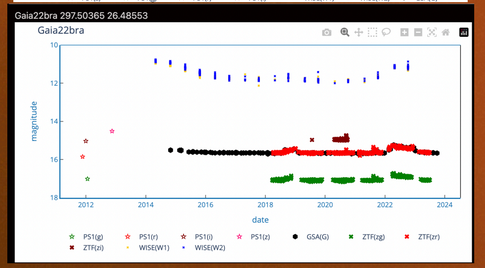
Filter Reset











interactive plots
click links to detail

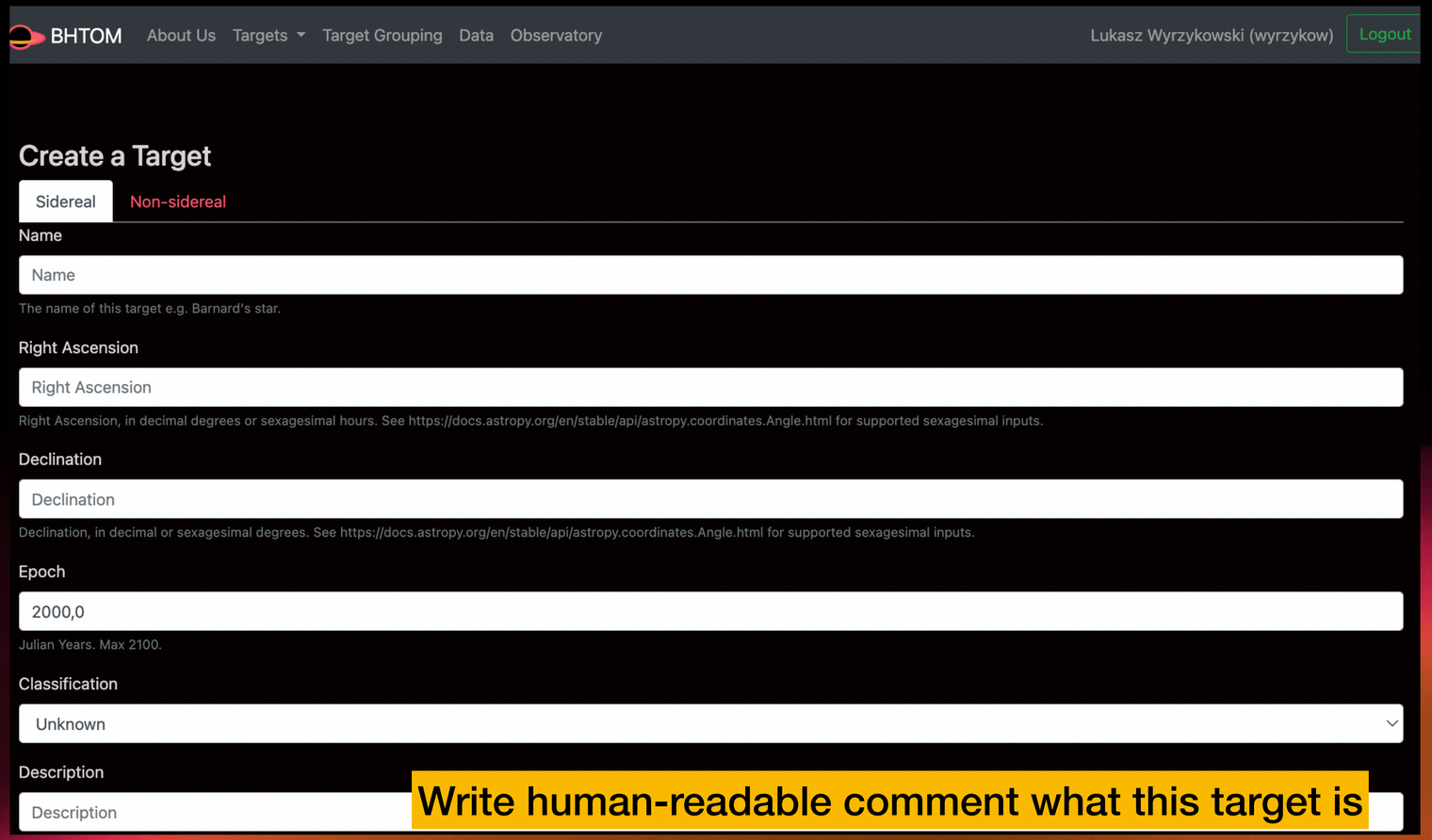
Targets/Create

- Create manually
- Import
- Catalog search

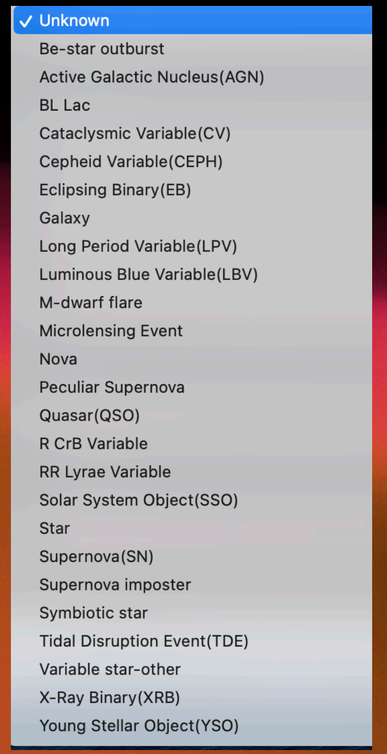
BHTOM2

Targets/Create

- Create manually
- Import
- Catalog search



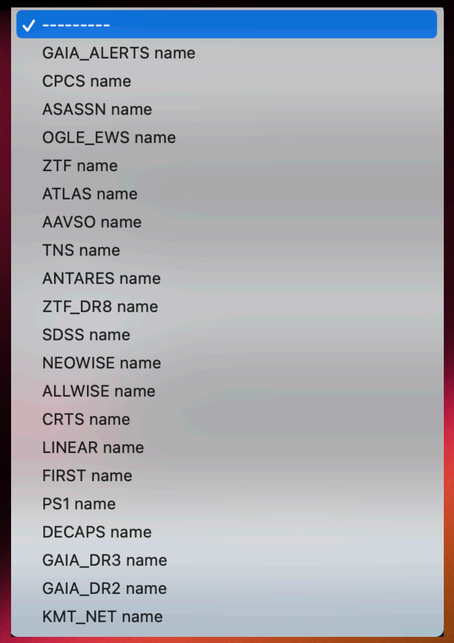
classification types



BHTOM2

Targets/Create

- Create manually
- Import
- Catalog search



Discovery date

Discovery date

Date of the discovery, YYYY-MM-DDTHH:MM:SS, or leave blank

Importance

0

Target importance as an integer 0-10 (10 is the highest)

relative importance to other targets (0-10)

Cadence

0

Requested cadence (0-100 days)

optimal observing cadence in days

Groups

Public

Aliases

Source Name

Alias

Alias

Add new alias

Submit

names of the target in various surveys (photometry data will be collected if available)

will be checked automatically for Ra,Dec so leave it blank first and see what we find

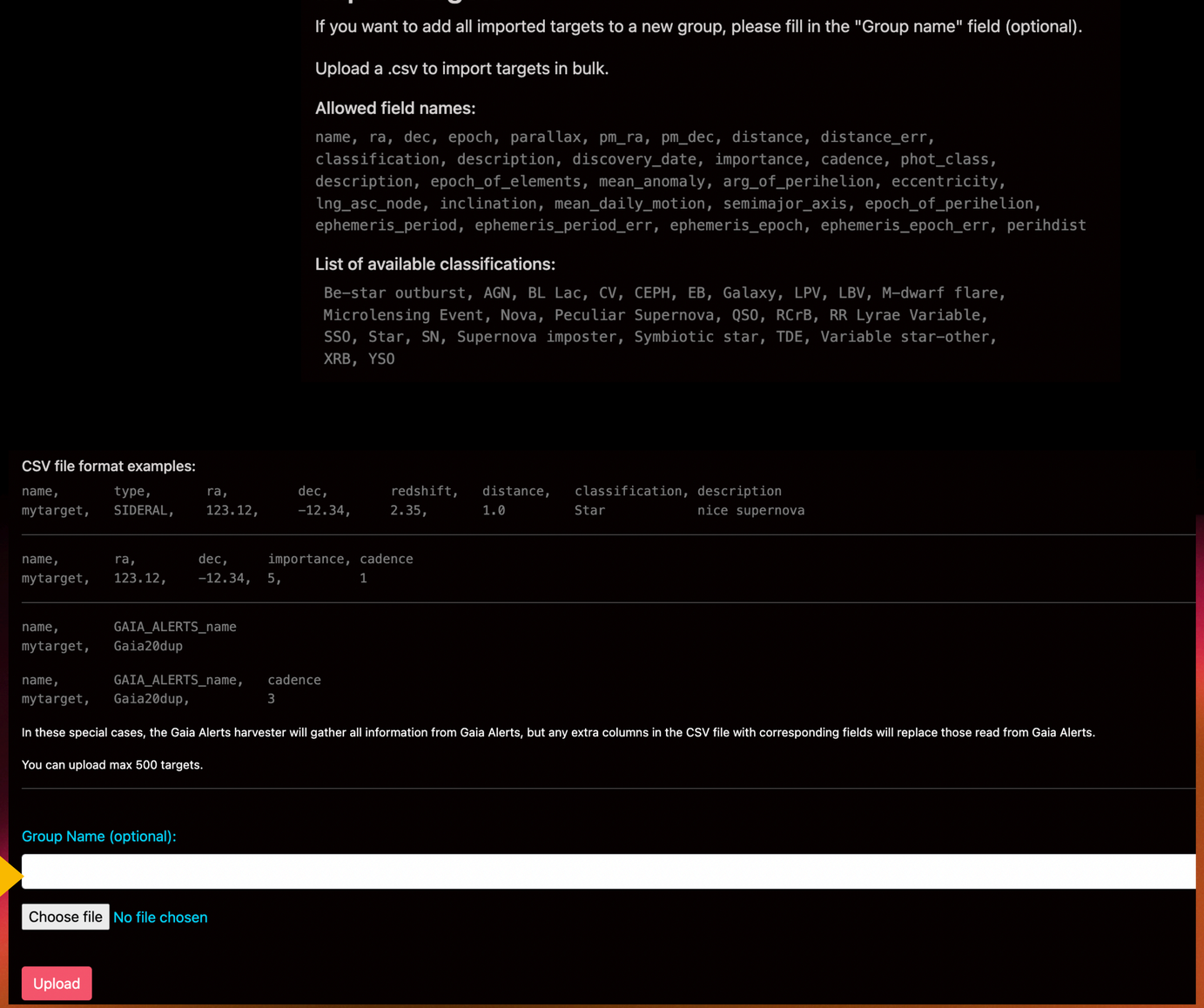
you can also provide an url to the data

BHTOM2

Targets/Create — Import

- powerful tool!
- use with caution!
- important: correct headers in CSV files (case sensitive!)
- special case for Gaia Alerts

all targets from this import will be added to this group



Import Targets

If you want to add all imported targets to a new group, please fill in the "Group name" field (optional).

Upload a .csv to import targets in bulk.

Allowed field names:

```
name, ra, dec, epoch, parallax, pm_ra, pm_dec, distance, distance_err,
classification, description, discovery_date, importance, cadence, phot_class,
description, epoch_of_elements, mean_anomaly, arg_of_perihelion, eccentricity,
lng_asc_node, inclination, mean_daily_motion, semimajor_axis, epoch_of_perihelion,
ephemeris_period, ephemeris_period_err, ephemeris_epoch, ephemeris_epoch_err, perihdist
```

List of available classifications:

```
Be-star outburst, AGN, BL Lac, CV, CEPH, EB, Galaxy, LPV, LBV, M-dwarf flare,
Microlensing Event, Nova, Peculiar Supernova, QSO, RCrB, RR Lyrae Variable,
SSO, Star, SN, Supernova imposter, Symbiotic star, TDE, Variable star-other,
XRB, YSO
```

CSV file format examples:

```
name,       type,       ra,         dec,        redshift,   distance,   classification, description
mytarget,   SIDERAL,    123.12,     -12.34,     2.35,       1.0         Star            nice supernova
```

```
name,       ra,         dec,     importance, cadence
mytarget,   123.12,     -12.34,  5,          1
```

```
name,       GAIA_ALERTS_name
mytarget,   Gaia20dup
```

```
name,       GAIA_ALERTS_name,   cadence
mytarget,   Gaia20dup,          3
```

In these special cases, the Gaia Alerts harvester will gather all information from Gaia Alerts, but any extra columns in the CSV file with corresponding fields will replace those read from Gaia Alerts.

You can upload max 500 targets.

Group Name (optional):

Choose file No file chosen

Upload

BHTOM2

Targets/Create — Catalog Search

Search Catalogs for a Target

Term

Gaia19axp

Service

- ✓ Gaia Alerts
- ANTARES
- OGLE EWS
- TNS
- NED
- Simbad

Search Catalogs for a Target

Term

SN2023ixf

Service

TNS

search

Create a Target

Sidereal | Non-sidereal

Name

Gaia19axp

The name of this target e.g. Barnard's star.

Right Ascension

216.94333

Right Ascension, in decimal degrees or sexagesimal hours. See https://docs.astropy.org/en/stable/api/astropy.coordinates.Angle.html for supported sexagesimal inputs.

pre-filled fields

Declination

29.51063

Declination, in decimal or sexagesimal degrees. See https://docs.astropy.org/en/stable/api/astropy.coordinates.Angle.html for supported sexagesimal inputs.

pre-filled fields

Epoch

2000

Julian Years. Max 2100.

Classification

Quasar(QSO)

pre-filled fields

Description

QSO with little prior variability in Gaia brightens by 1 mag. SDSS spectrum.

pre-filled fields

Discovery date

2019-03-10 14:27:41

Date of the discovery, YYYY-MM-DDTHH:MM:SS, or leave blank

pre-filled fields

Importance

9,99

Target importance as an integer 0-10 (10 is the highest)

importance set to 9.99, but should be edited

Cadence

1,0

Requested cadence (0-100 days)

cadence set to 1, but should be edited

Target page

BHTOM2

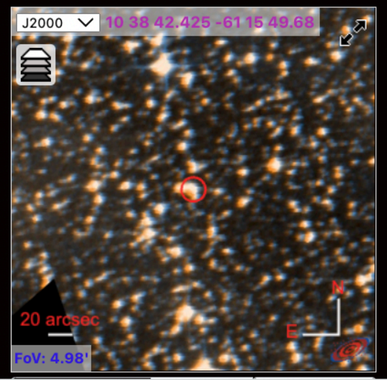
Target created, grabbing all the data for it. Please wait and refresh in about a minute... ×

Gaia22bpl

Update Target | Delete Target

Name	Gaia22bpl
Right Ascension	159.67677 10:38:42.425
Declination	-61.2638 -61:15:49.680
Epoch	2000.0
Discovered	2022-04-14 01:04:50
Class	Unknown
Target importance (0-10)	9.99
Cadence requested (d)	1.0

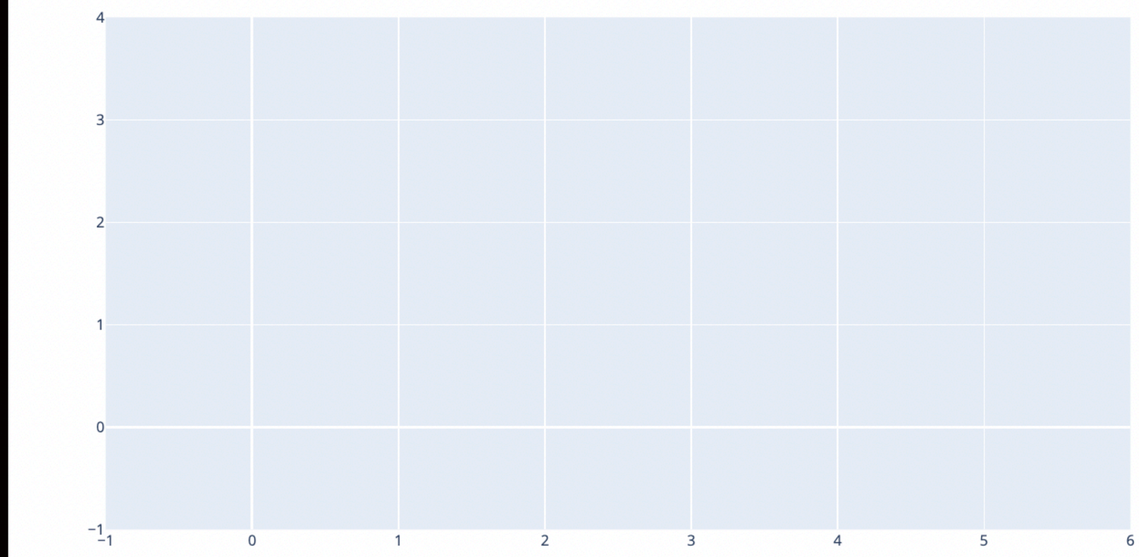
Other names:



Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Photometry

Check for new data



Download photometry data | Download radio data

Recent Photometry

Timestamp	Magnitude	Filter	Facility

Target page

DIRECT ACCESS via name: https://bh-tom2.astrolabs.pl/targets/Gaia22bpl/

BHTOM2

Gaia22bpl

Update Target | Delete Target

Name	Gaia22bpl
Right Ascension	159.67677 10:38:42.425
Declination	-61.2638 -61:15:49.680
Epoch	2000.0
Galactic Longitude	287.662164
Galactic Latitude	-2.390806
Constellation	Carina
Discovered	2022-04-14 01:04:50
Class	Microlensing Event
Phot.Class	Ulens Candidate 100.0%
Last MJD	60184.56631
Last G Mag	12.7
Target importance (0-10)	9.99
Cadence requested (d)	1.0
Observing priority	330.0
Sun Separation (deg)	62.0

Other names:

GAIA_ALERTS
Gaia22bpl

GAIA_DR3
5254100872645875968

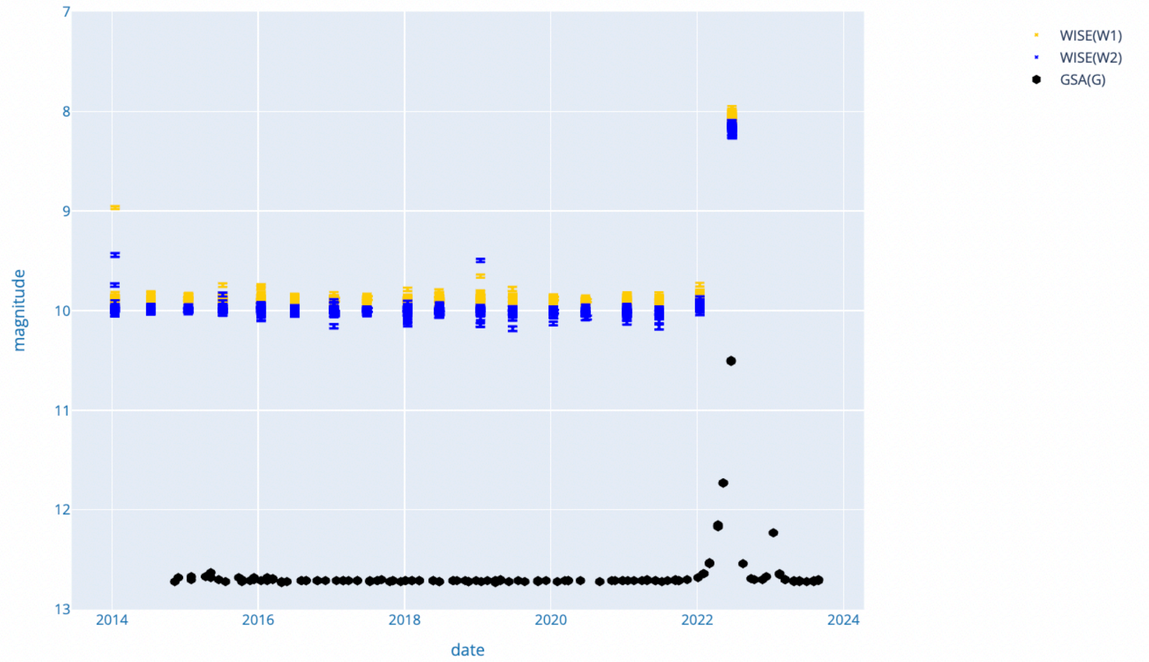
NEOWISE
NEOWISE+J159.67677_-61.2638

CRTS
CRTS+J159.67677_-61.2638

Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Photometry

Check for new data



Download photometry data | Download radio data

Recent Photometry

Timestamp	Magnitude	Filter	Facility
2023-08-28 13:08:29	12.7100	GSA(G)	Gaia Alerts
2023-08-28 11:08:54	12.7000	GSA(G)	Gaia Alerts
2023-08-05 13:08:59	12.7200	GSA(G)	Gaia Alerts
2023-08-05 11:08:24	12.7100	GSA(G)	Gaia Alerts
2023-07-01 00:07:48	12.7200	GSA(G)	Gaia Alerts

BHTOM2

Target page

constellation

automatic classification

external links

external links

Gaia22bpl

Update Target | Delete Target

Name	Gaia22bpl
Right Ascension	159.67677 10:38:42.425
Declination	-61.2638 -61:15:49.680
Epoch	2000.0
Galactic Longitude	287.662164
Galactic Latitude	-2.390806
Constellation	Carina
Discovered	2022-04-14 01:04:50
Class	Microlensing Event
Phot.Class	Ulens Candidate 100.0%
Last MJD	60184.56631
Last G Mag	12.7
Target importance (0-10)	9.99
Cadence requested (d)	1.0
Observing priority	330.0
Sun Separation (deg)	62.0

Other names:

GAIA_ALERTS
Gaia22bpl

GAIA_DR3
5254100872645875968

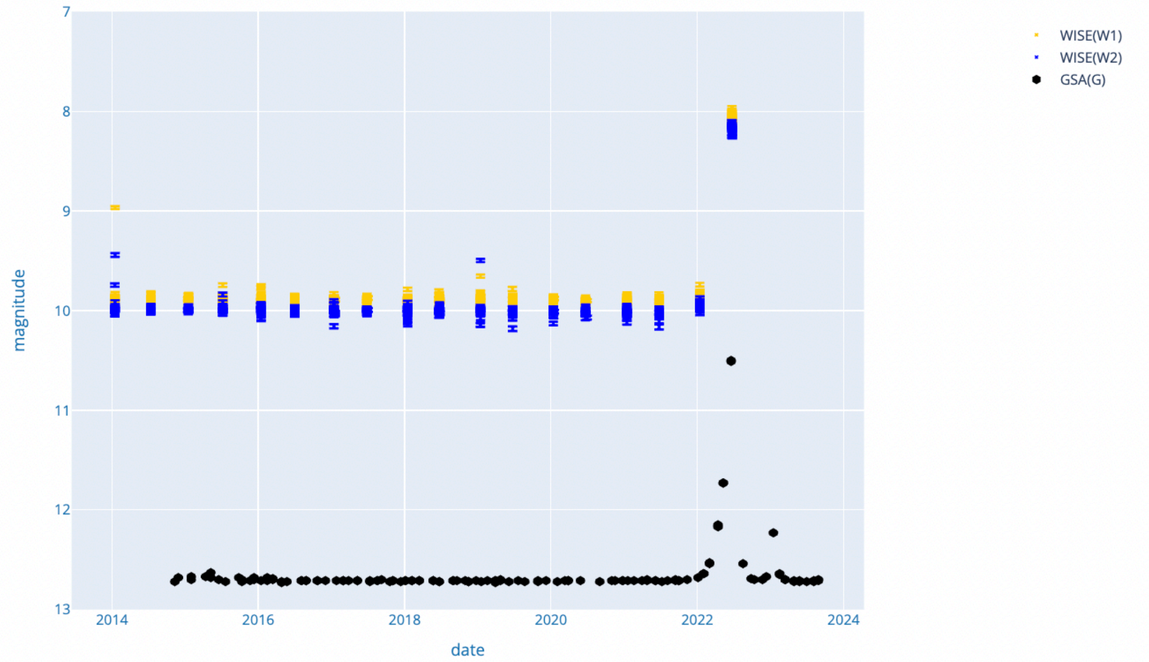
NEOWISE
NEOWISE+J159.67677_-61.2638

CRTS
CRTS+J159.67677_-61.2638

Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Photometry

Check for new data



Download photometry data | Download radio data

Recent Photometry

Timestamp	Magnitude	Filter	Facility
2023-08-28 13:08:29	12.7100	GSA(G)	Gaia Alerts
2023-08-28 11:08:54	12.7000	GSA(G)	Gaia Alerts
2023-08-05 13:08:59	12.7200	GSA(G)	Gaia Alerts
2023-08-05 11:08:24	12.7100	GSA(G)	Gaia Alerts
2023-07-01 00:07:48	12.7200	GSA(G)	Gaia Alerts

BHTOM2

Target page

Gaia22bpl

Update Target | Delete Target

Name	Gaia22bpl
Right Ascension	159.67677 10:38:42.425
Declination	-61.2638 -61:15:49.680
Epoch	2000.0
Galactic Longitude	287.662164
Galactic Latitude	-2.390806
Constellation	Carina
Discovered	2022-04-14 01:04:50
Class	Microlensing Event
Phot.Class	Ulens Candidate 100.0%
Last MJD	60184.56631
Last G Mag	12.7
Target importance (0-10)	9.99
Cadence requested	1.0
Sun Separation (deg)	62.0

Other names:

GAIA_ALERTS
Gaia22bpl

GAIA_DR3
5254100872645875968

NEOWISE
NEOWISE+J159.67677_-61.2638

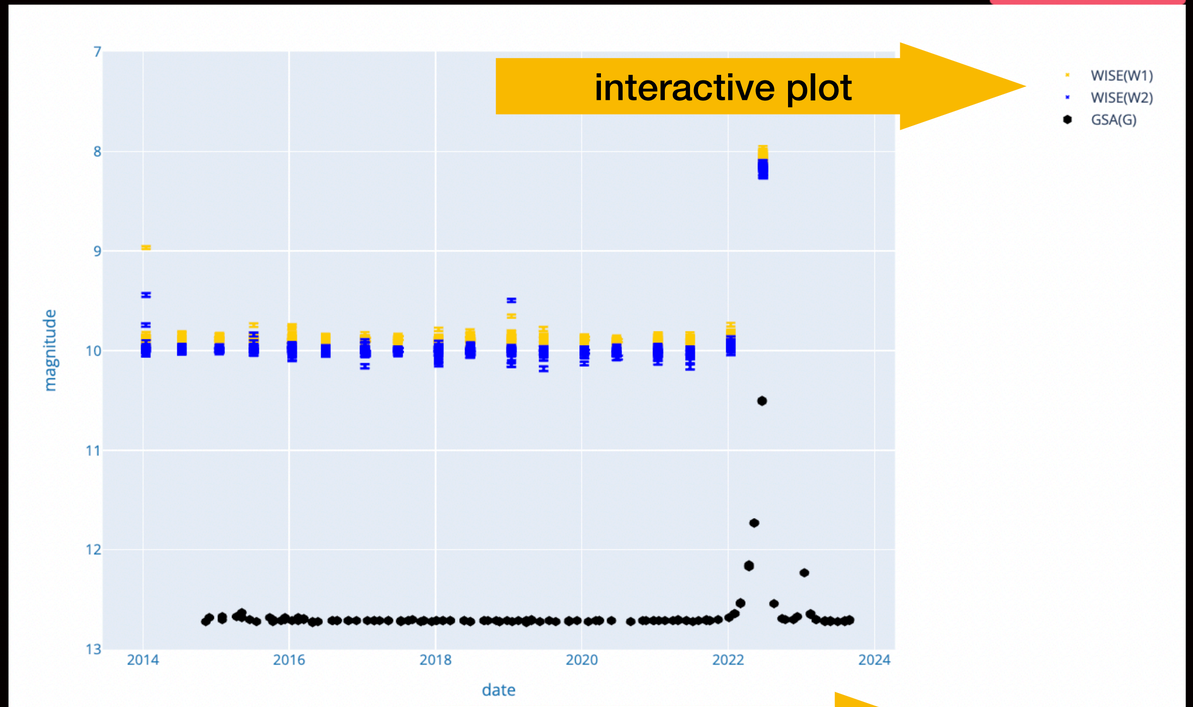
CRTS
CRTS+J159.67677_-61.2638

data download

Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Photometry

Check for new data



Download photometry data

radio data download(if exists)

Download radio data

Recent Photometry

Timestamp	Magnitude	Filter	Facility
2023-08-28 13:08:29	12.7100	GSA(G)	Gaia Ale…
2023-08-28 11:08:54	12.7000	GSA(G)	Gaia Alerts
2023-08-05 13:08:59	12.7200	GSA(G)	Gaia Alerts
2023-08-05 11:08:24	12.7100	GSA(G)	Gaia Alerts
2023-07-01 00:07:48	12.7200	GSA(G)	Gaia Alerts

most recent photometry

BHTOM2

Target page - comments

created automatically

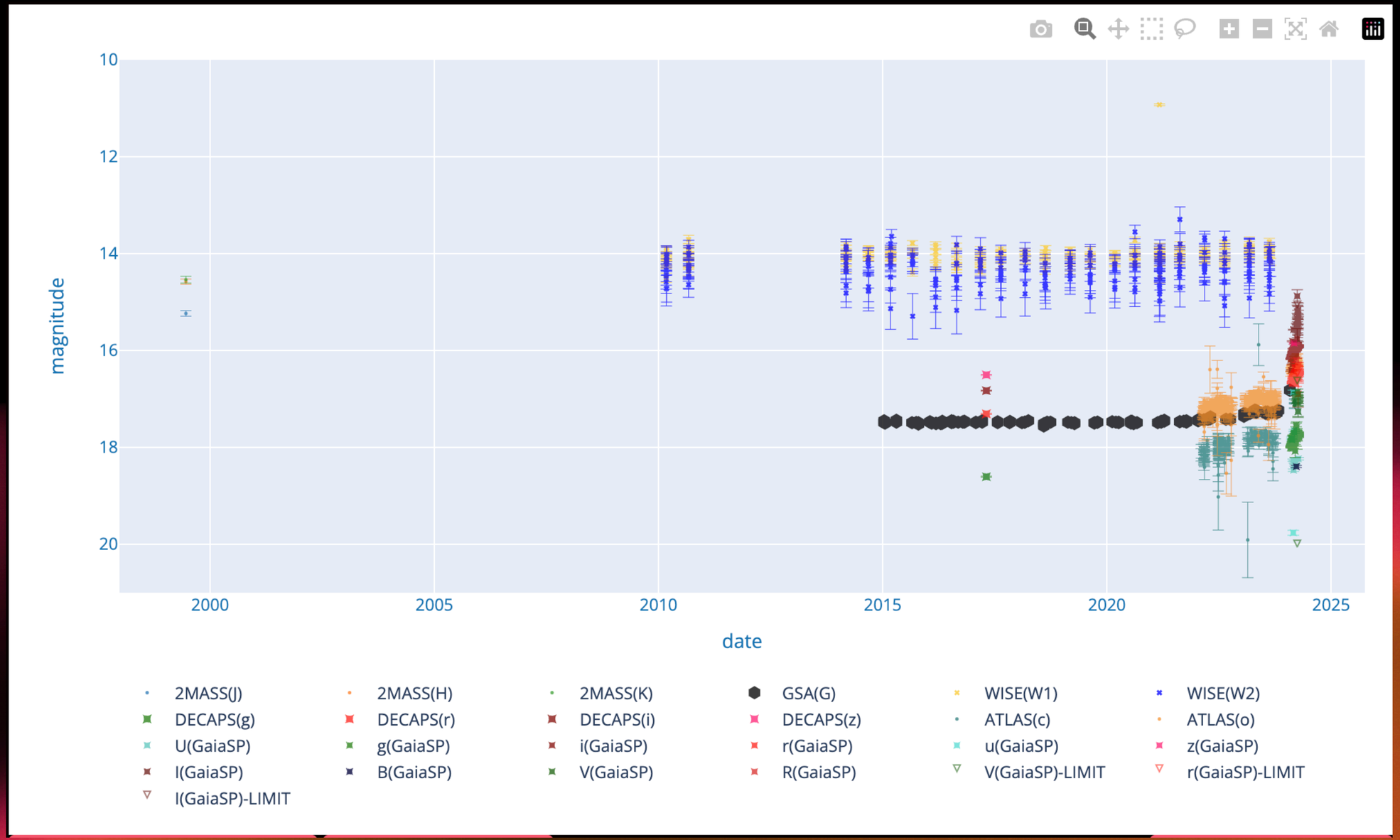
add info how do you want your target to be observed

add any references to existing data or papers

discuss with others, request spectra, etc.

BHTOM2

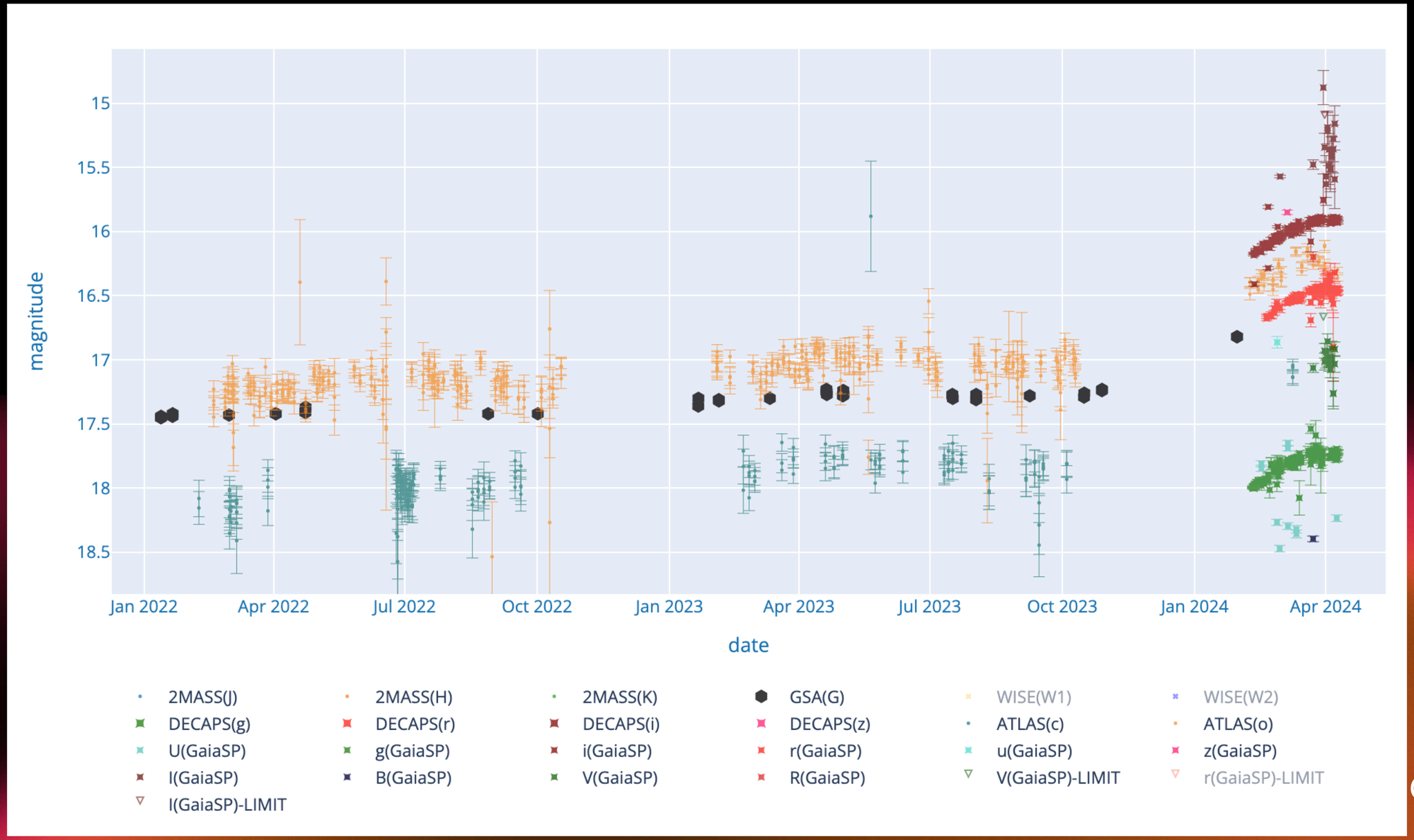
Target page - light curve - per filter



Gaia24amo

BHTOM2

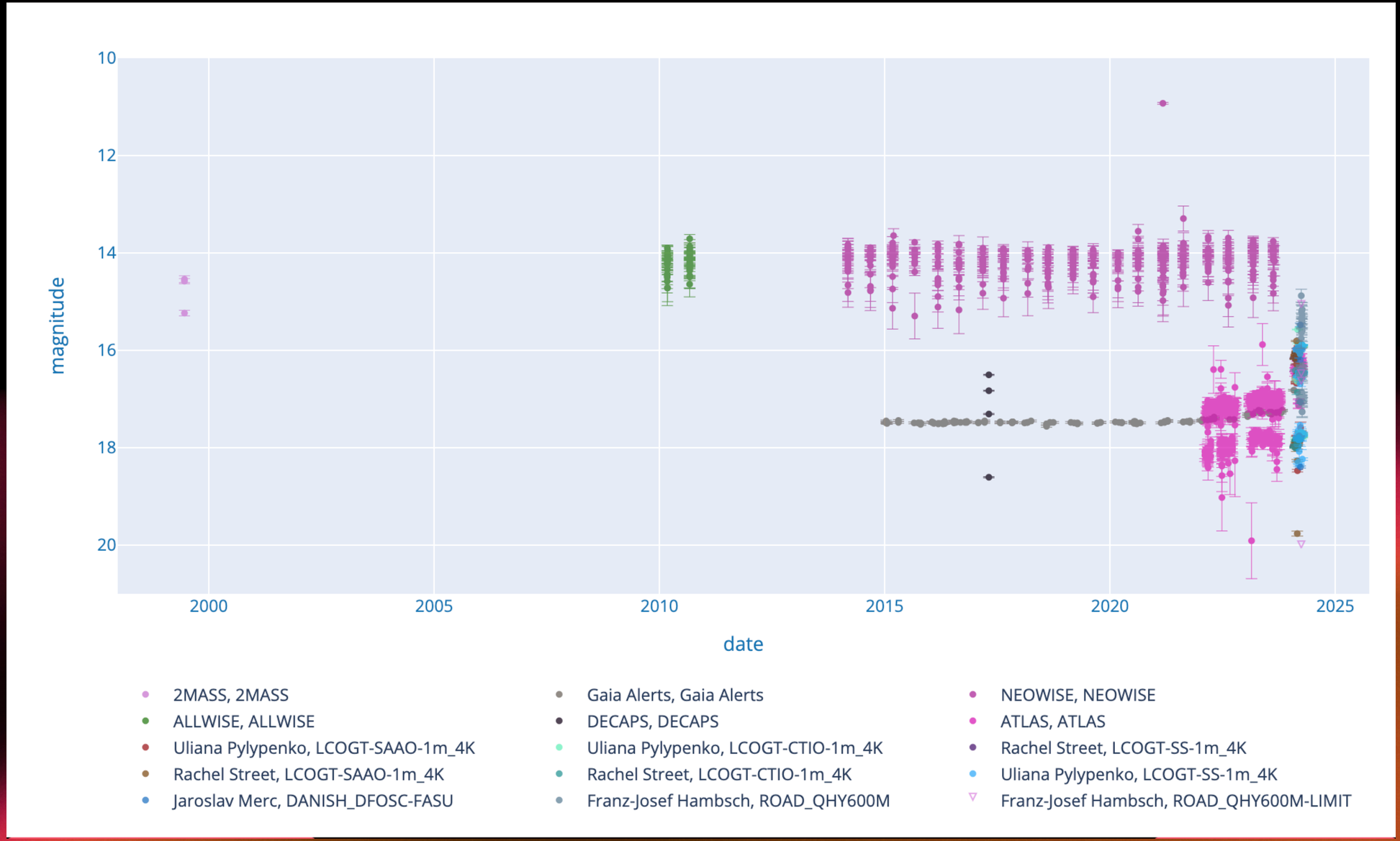
Target page - light curve - per filter



Gaia24amo

BHTOM2

Target page - light curve - per facility

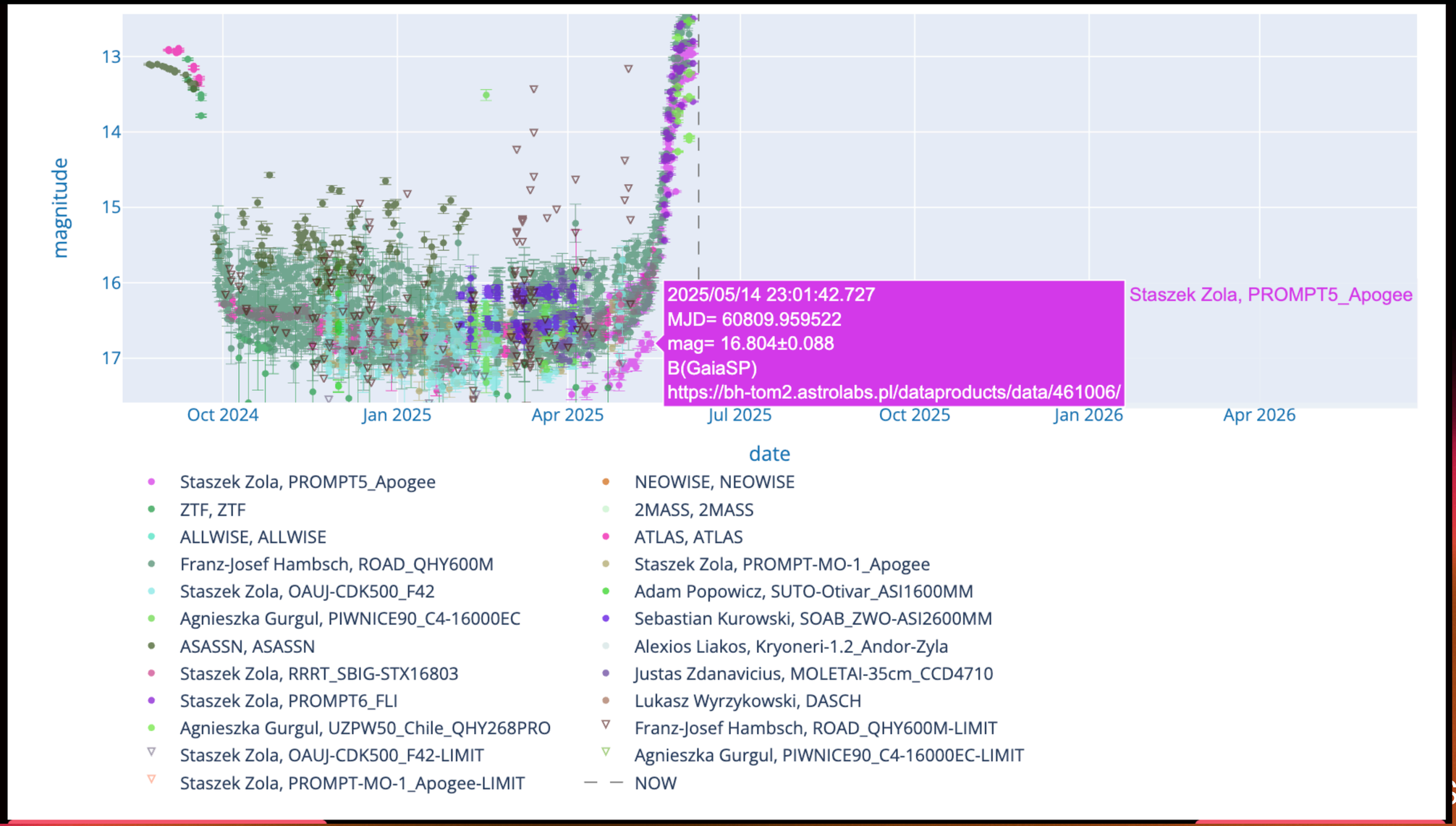


Gaia24amo

BHTOM2

Target page - light curve - per facility

each data point with data we process is linked to a Data Product subpage



ASASSN-24fw

BHTOM2

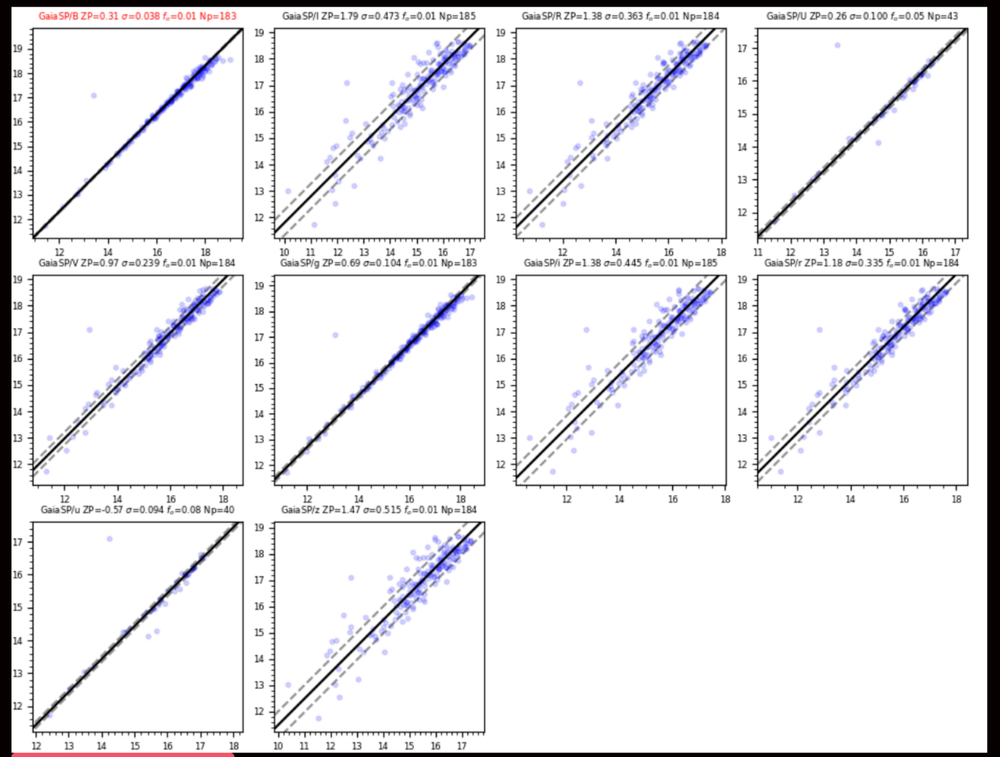
Dataproducts - your observations

each data point with data we process is linked to a Data Product subpage

Calibration | CCDPHOT

Target: ASASSN-24fw

Photometry	444936.dat
Owner	Staszek Zola
Observers	
Observatory prefix	PROMPT5_Apogee
Time Uploaded	2025-05-16 08:22:12
Time Photometry	2025-05-16 08:23:23
Status	Calibration successful
MJD	60809.95952231018
Calib Survey/Filter	GaiaSP/any
Standardised to	GaiaSP/B
Magnitude	16.804 +/- 0.088 mag
ZP	0.305 mag
Scatter	0.038 mag
Number of datapoints used for calibration	183
Outlier fraction	0.0
Matching radius[arcsec]	0.5091168824544087
Dry Run (no data will be stored in the database)	False
Comment	None
Calibration log	444936.log



Download Calibration Plot

BHTOM2

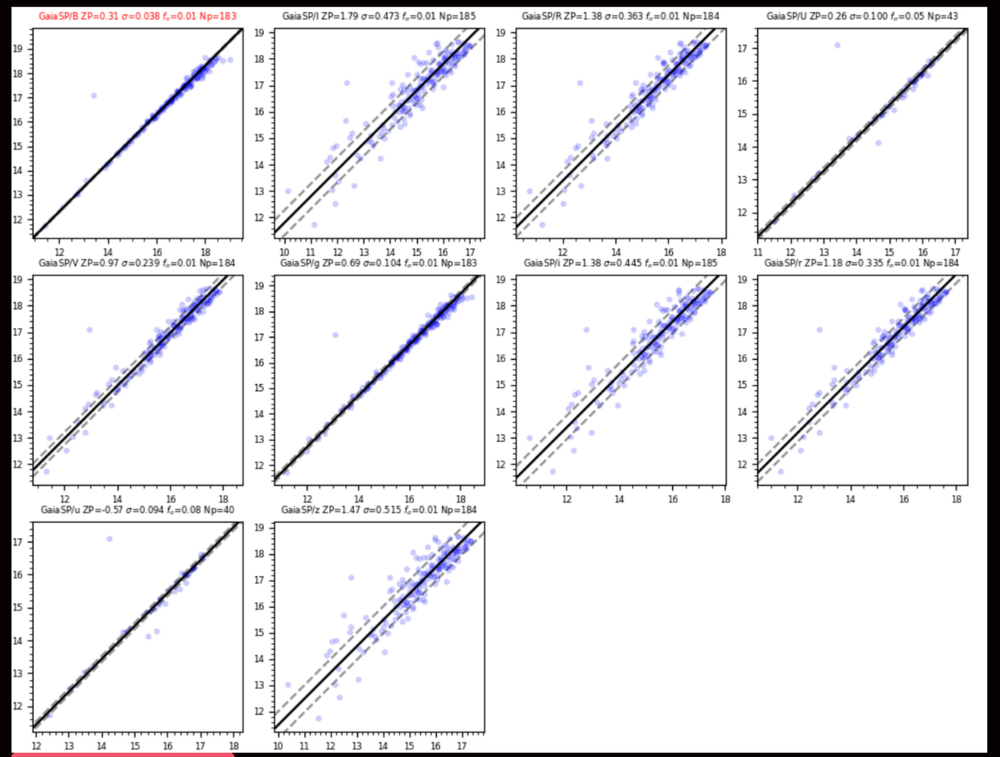
Dataproducts - your observations

each data point with data we process is linked to a Data Product subpage

Calibration | CCDPHOT

Target: ASASSN-24fw

Photometry	444936.dat
Owner	Staszek Zola
Observers	
Observatory prefix	PROMPT5_Apogee
Time Uploaded	2025-05-16 08:22:12
Time Photometry	2025-05-16 08:23:23
Status	Calibration successful
MJD	60809.95952231018
Calib Survey/Filter	GaiaSP/any
Standardised to	GaiaSP/B
Magnitude	16.804 +/- 0.088 mag
ZP	0.305 mag
Scatter	0.038 mag
Number of datapoints used for calibration	183
Outlier fraction	0.0
Matching radius[arcsec]	0.5091168824544087
Dry Run (no data will be stored in the database)	False
Comment	None
Calibration log	444936.log



Download Calibration Plot

Automated detection of the best matching filter

BHTOM2

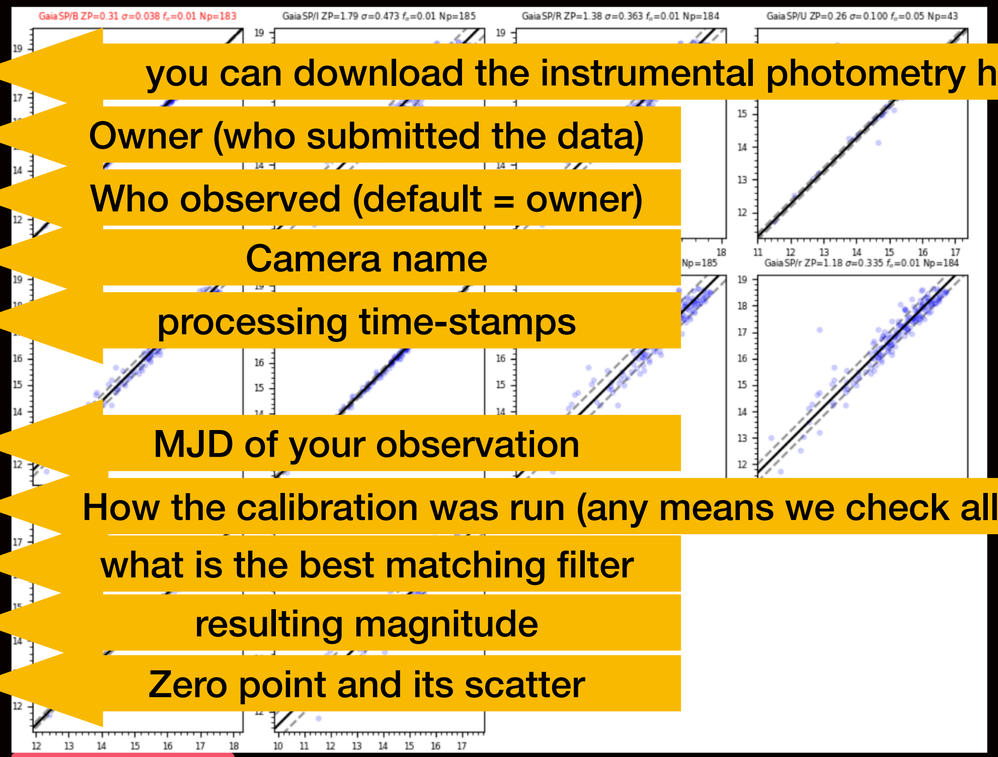
Dataproducts - your observations

each data point with data we process is linked to a Data Product subpage

Calibration | CCDPHOT

Target: ASASSN-24fw

Photometry	444936.dat
Owner	Staszek Zola
Observers	
Observatory prefix	PROMPT5_Apogee
Time Uploaded	2025-05-16 08:22:12
Time Photometry	2025-05-16 08:23:23
Status	Calibration successful
MJD	60809.95952231018
Calib Survey/Filter	GaiaSP/any
Standardised to	GaiaSP/B
Magnitude	16.804 +/- 0.088 mag
ZP	0.305 mag
Scatter	0.038 mag
Number of datapoints used for calibration	183
Outlier fraction	0.0
Matching radius[arcsec]	0.5091168824544087
Dry Run (no data will be stored in the database)	False
Comment	None
Calibration log	444936.log



Download Calibration Plot

you can download the instrumental photometry here

Owner (who submitted the data)

Who observed (default = owner)

Camera name

processing time-stamps

MJD of your observation

How the calibration was run (any means we check all filters)

what is the best matching filter

resulting magnitude

Zero point and its scatter

automated matching radius used for matching archives

log file

BHTOM2

Dataproducts - your observations

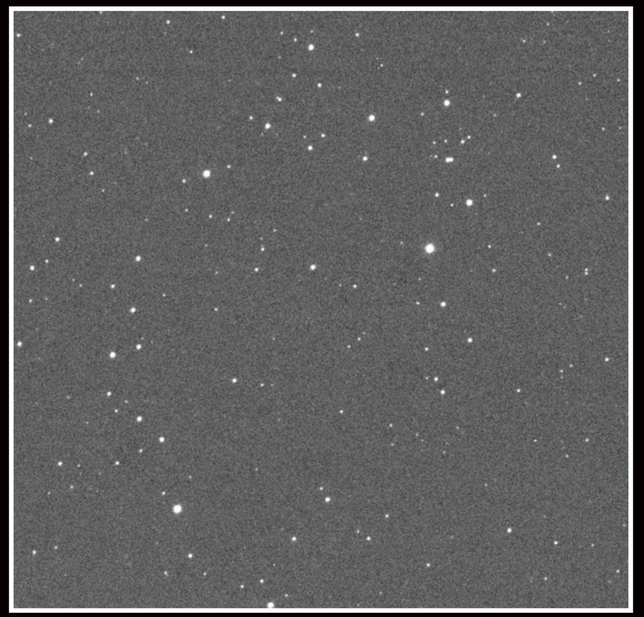
each data point with data we process is linked to a Data Product subpage

Calibration | CCDPHOT

if a fits file was processed, this tab shows its details and a thumbnail

Target: ASASSN-24fw

Fits	24_assasn_24fwp5_12609699_B_012.fits
Instrument	PROMPT5 & Apogee CCD
Instrument Prefix	PROMPT5_Apogee
Target RA	106.32899999999998
Target DEC	6.205305555555555
Dry Run	False
Fits ID	-1
Priority	4
Start Time	2025-05-16 08:22:12
Status Time	2025-05-16 08:22:56
Status Message	Photometry result
Progress	N/A
Fits File	N/A
CCDPhot Result	N/A
CCDPhot Result File	N/A
CCDPhot Stdout File	N/A
Fits Object	N/A
Fits RA	N/A
Fits DEC	N/A
Fits MJD	60809.95952231018



BHTOM2

Target page/Models

Gaia22bpl

Update Target | Delete Target

Name	Gaia22bpl
Right Ascension	159.67677
	10:38:42.425
Declination	-61.2638
	-61:15:49.680
Epoch	2000.0
Galactic Longitude	287.662164
Galactic Latitude	-2.390806
Constellation	Carina
Discovered	2022-04-14 01:04:50
Class	Microlensing Event
Phot.Class	Ulens Candidate 100.0%
Last MJD	60184.56631
Last G Mag	12.7
Target importance (0-10)	9.99
Cadence requested (d)	1.0
Observing priority	336.7
Sun Separation (deg)	62.0

Other names:

Photometry | Models | Sp... | ...ication | Manage Data | Manage Groups

models

Microlensing model standard — The simplest microlensing model, single lens, single source, no parallax

Microlensing model parallax — Microlensing model, single lens, single source, with parallax

your model can be added here!

Comments

No comments yet.

Comment

Comment

Post

BHTOM2

Target page/Models — separate interactive window

Microlensing model for Gaia22bpl

Gravitational microlensing model using MulensModel (Poleski&Yee 2018)

Fit initial values:

t0: 2459749.048410 u0: 0.129032 tE: 50.00000 logu0: ☐ fixblending: ☑
auto_init: ☐

parameter init

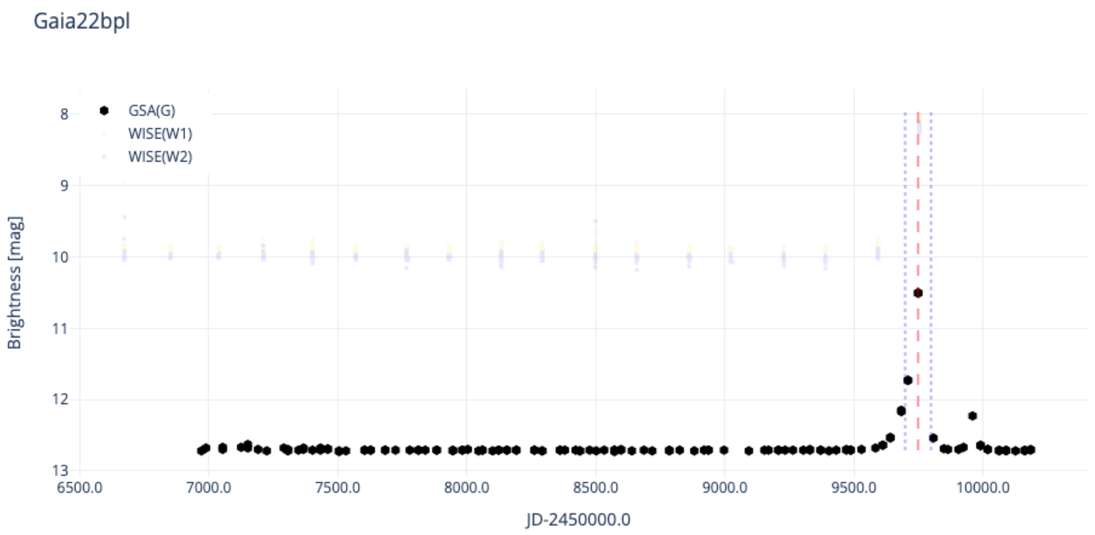
Available filters and number of datapoints:

Select All | Deselect All

☑ GSA(G) 129
☐ WISE(W1) 387
☐ WISE(W2) 387

interactive data selection

MODEL



models

ication Manage Data Manage Groups

microlensing model, single lens, single source, no parallax

Fitted parameters

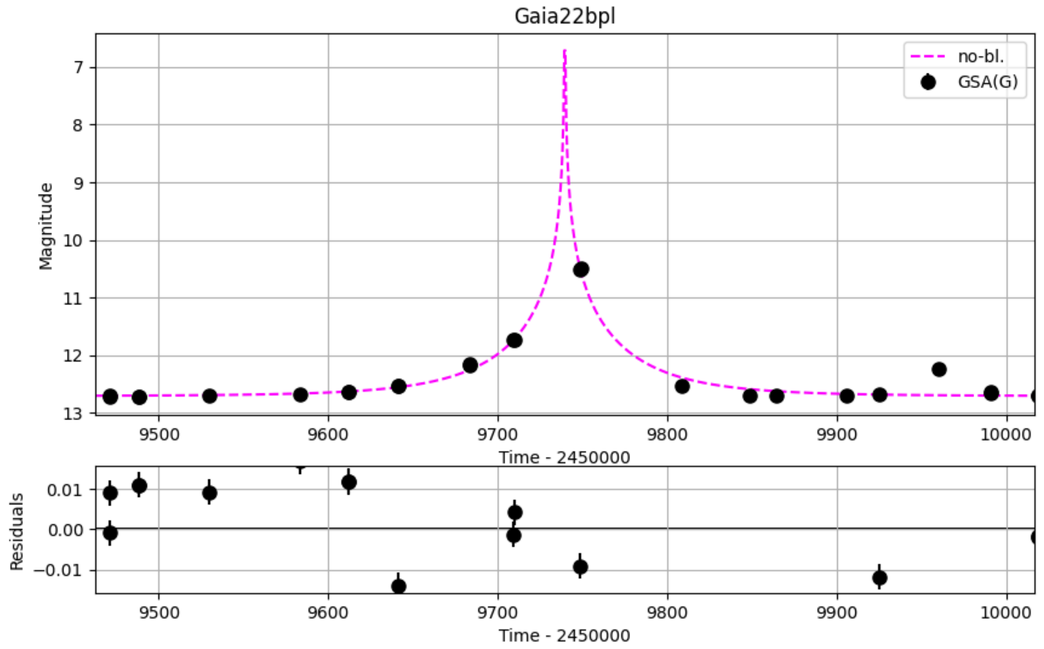
Best Fit: t_0 = 2459739.69022, u_0 = 0.00000, t_E = 69.268

Chi2 = 23120.64 Chi2/ndof = 183.50

model results

Filter	Mag0	FS
GSA(G)	12.708	1.0

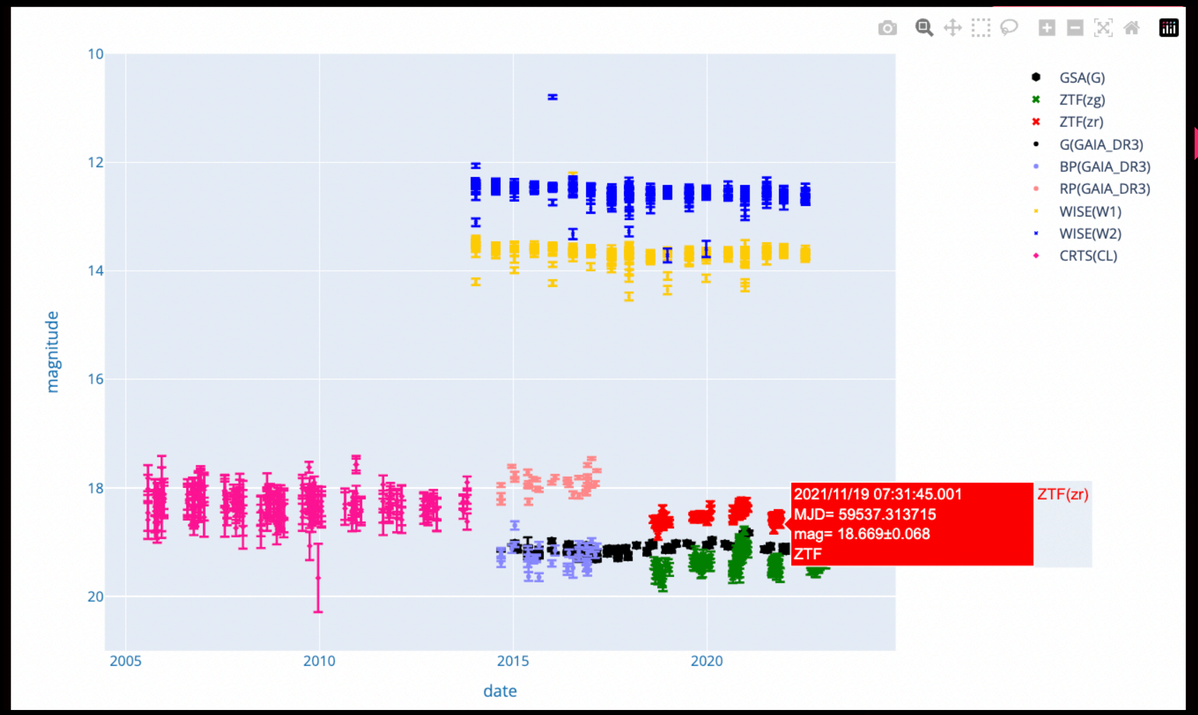
Fitted light curve



Time of fitting execution: 0.112 seconds

archives (via brokers)

- Gaia Science Alerts (2014+)
- Gaia DR3 variables (2014-2017)
- ZTF Data Release and alerts (2018+) through ANTARES and Alerce
- Catalina Real-Time Survey, CRTS (2005-2014)
- LINEAR (2003-2008)
- SDSS + Stripe82
- PS1, DECAPS
- IR: 2MASS, ALLWISE + NEOWISE (2010+)
- FIRST and LOFAR (radio)
- ATLAS (South+North)
- ASAS-SN (V/g)
- OGLE EWS, OCVS
- will be added:
  - + DASH Harvard photographic plates (<1900)
  - + Evryscope (Southern Hemisphere down to 12mag)
  - + ASAS - All sky (1996-2010)



BHTOM2

Target page/Publication

Gaia19axp

Update Target | Delete Target

Name	Gaia19axp
Right Ascension	216.94333 14:27:46.399
Declination	29.51063 +29:30:38.268
Epoch	2000.0
Galactic Longitude	45.028655
Galactic Latitude	68.703383
Constellation	Boötes
Discovered	2019-03-10 14:03:41
Class	Quasar(QSO)
Phot.Class	Not Ulens 78.0%
Last MJD	-10000.0
Last G Mag	100.0

Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Generate LaTeX target description

Photometry Stats

Facility	Filters	Number	Min MJD	Max MJD
ALLWISE	WISE(W1), WISE(W2)	177	55210.69	55574.43
CRTS	CRTS(CL)	235	53470.35	56464.28
Gaia Alerts	GSA(G)	139	57037.46	60202.07
NEOWISE	WISE(W1), WISE(W2)	591	56670.95	59752.75
SDSS	SDSS(u), SDSS(g), SDSS(r), SDSS(i), SDSS(z)	37	52821.22	53117.36
ZTF	ZTF(zg), ZTF(zr), ZTF(zi)	1134	58202.38	60124.24

Download photometry stats as LaTeX table

BHTOM2

Target page / Manage Data (upload)

Photometry | Models | Spectroscopy | Observe | Observations | Publication | Manage Data | Manage Groups

Upload a data product

Here you can upload your photometric and spectroscopic observations for this target. Please refer to the BHTOM manual for details.
Example CSV formats for photometry and spectroscopy. Note, we require MJD (Modified Julian Date = JD-240000.5) in the photometry file!
SExtractor format is required for instrumental photometry. FITS is not supported for spectra yet.
Non-detections are marked with error >= 99.0 (e.g. 99.0, 99.9 etc.)
For photometric FITS processing choose the observatory from the list. You can add a new observatory here.
You can upload up to 5 files at once.

You can also use a python script for external fits upload, see the BHTOM's API documentation

Choose a Files

Choose files No file chosen

Data product type

- (•) Photometry - SExtractor format
- ( ) Photometry - CSV
- ( ) FITS File
- ( ) Spectroscopy

[ ] Dry Run (no data will be stored in the database)

MJD OBS *

MJD OBS *

Observers * × Lukasz Wyrzykowski (wyrzykow) ×

Observatory*

Force filter

GaiaSP/any

Comment

Comment

BHTOM2

Observatory — adding existing observatory to your list

List of observatories

List of your registered observatories/instruments you can use for uploading the data for processing. You should register an observatory in your account if you want a datapoint to be l
Here you can add a new observatory to your list if you are planning to upload images or instrumental photometry for it. You can choose one from the list of already registered observa
one. Note that different instrument (e.g. CCD) on the same telescope counts as a different observatory.

Favorite Observatories | Observatories

Add new observatory

click to add to your list

Observatory Name	Lon	Lat	Prefix	Comment	Only Instrumental photometry file	Details
Adiyaman 60 / Andor iKon-M 934	321.77459	37.751703	Adyu60_Andor-934	PlaneWave 24" CDK on ASA DM16...	False	Details
Adonis observatory / Moravian G2 1600 camera	357.074618	50.91524	Adonis_G2-1600	Sky-watcher quattro F4 250 mm...	False	Details
Aristarchos telscope / TEK2K camera	337.803889	37.984444	ARISTARCHOS_TEK2K	Aristarchos 2.3 m telescope, ...	False	Details
Astrolab IRIS Observatory / SBIG camera	357.087333	50.817222	Astrolab-IRIS_SBIG	68-cm NMPT telescope. Public ...	False	Details
ASV 1.4 m Milankovic Telescope / Andor iKon-L CCD camera	338.45	43.15	ASV1.4_Andor	The Astronomical Station Vido...	False	Details
ATA50 with Apogee Alta U230	318.75611111	39.904752	ATA50_AltaU230	51 cm RC telescope on ASA Dir...	False	Details

Add a new Observatory to your list.

Here you can add a new observatory to your list in two ways.
You can choose an observatory from the list of already registered ones.
If your observatory is not yet registered you can create a new entry.

Observatory

Comment

Comment

Add to my list

Create new Observatory

BHTOM2

Observatory — creating observation no yet in our db

Create a new Observatory.

Please fill the form below, check BHTOM manual for details. Your entry has to be then activated by the Administrator.

The sample fits file is necessary for new observatories for verification of the automatic photometric processing. Please refer to the BHTOM Manual or get in touch.

Observatory name

Observatory name

Longitude (West is positive) [deg]

Longitude (West is positive) [deg]

Latitude (North is positive) [deg]

Latitude (North is positive) [deg]

☑ Only instrumental photometry file

Create Observatory

only SExtractor instrumental data will be uploaded

longer table if fits will be processed

☐ Only instrumental photometry file

Sample fits*

Choose files No file chosen

Provide one sample fits per filter, clearly labelled.

Gain* [electrons/ADU]

2.0

Readout noise* [electrons]

2

Binning*

1

Saturation level* [ADU]

63000

Pixel scale* [arcsec/pixel]

0.8

Readout speed [ms/pixel] (if not known, pass 9999)*

3

Pixel size [um]

13.5

Approx. limit magnitude in V band* [mag]

18.0

Filters*

V,R,I

Altitude [m]*

0.0

Comments (e.g. hyperlink to the observatory website, camera specifications, telescope info)

Comments (e.g. hyperlink to the observatory website, camera specifications, telescope info)

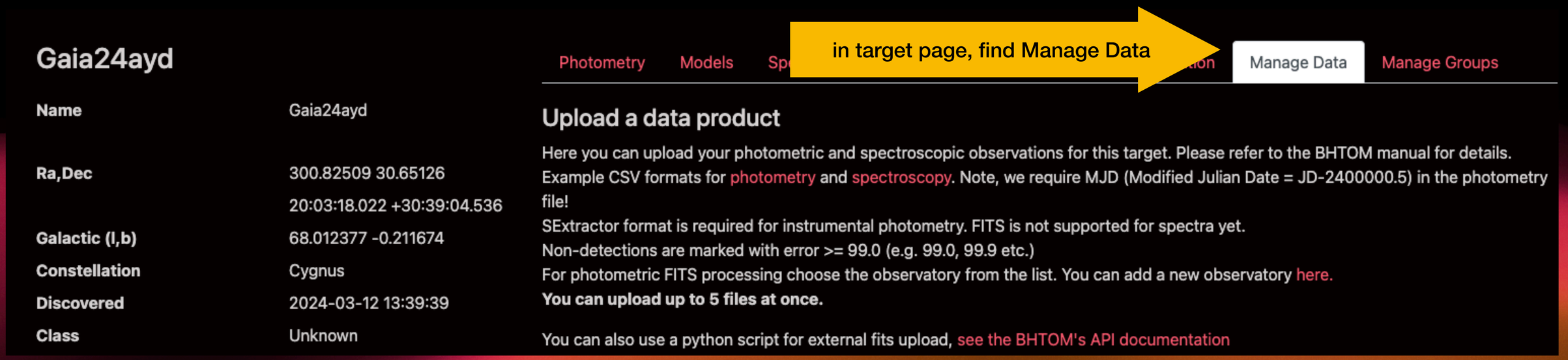
Create Observatory

this will require human acceptance

Target page / Manage Data (fits upload)

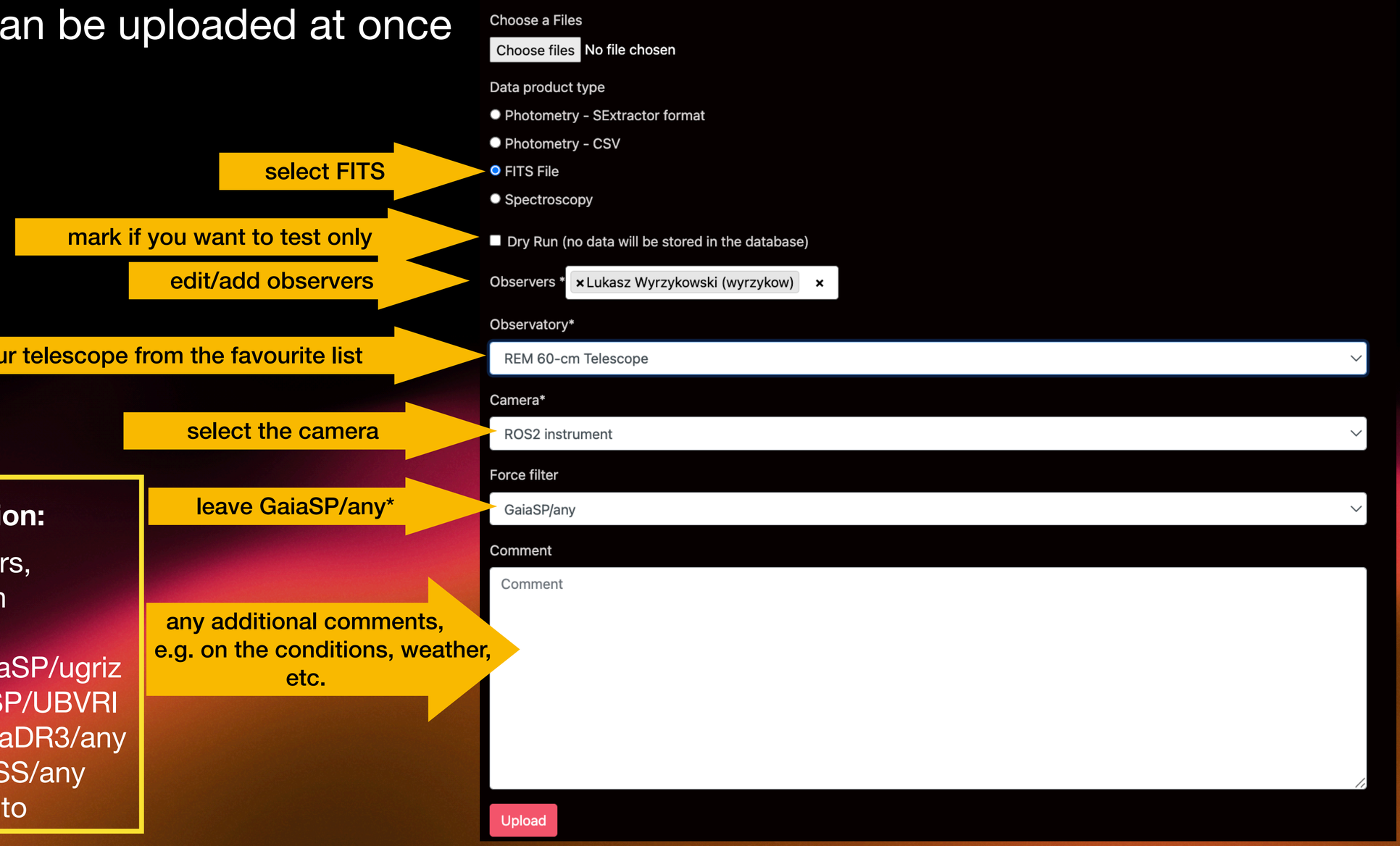
pre-requisites:

- bias/dark/flat corrected fits only
- your observatory registered and activated



upload — uploading fits images

- in GUI only 5 files can be uploaded at once
- use scripts!



Note on filters for standardisation:

* GaiaSP/any is best for most filters, either Johnson-Cousins or Sloan
* if you know your filter, select it
* if you use only Sloan, select GaiaSP/ugriz
* if you use only J-C, select GaiaSP/UBVRI
* if you use Gaia filters, select GaiaDR3/any
* if you observe in IR, select 2MASS/any
* if you are still not sure, select Auto

BHTOM2

upload — uploading SExtractor instrumental photometry

- in GUI only 5 files can be uploaded at once
- use scripts!

select Photometry

mark if you want to test only

MJD of the observation

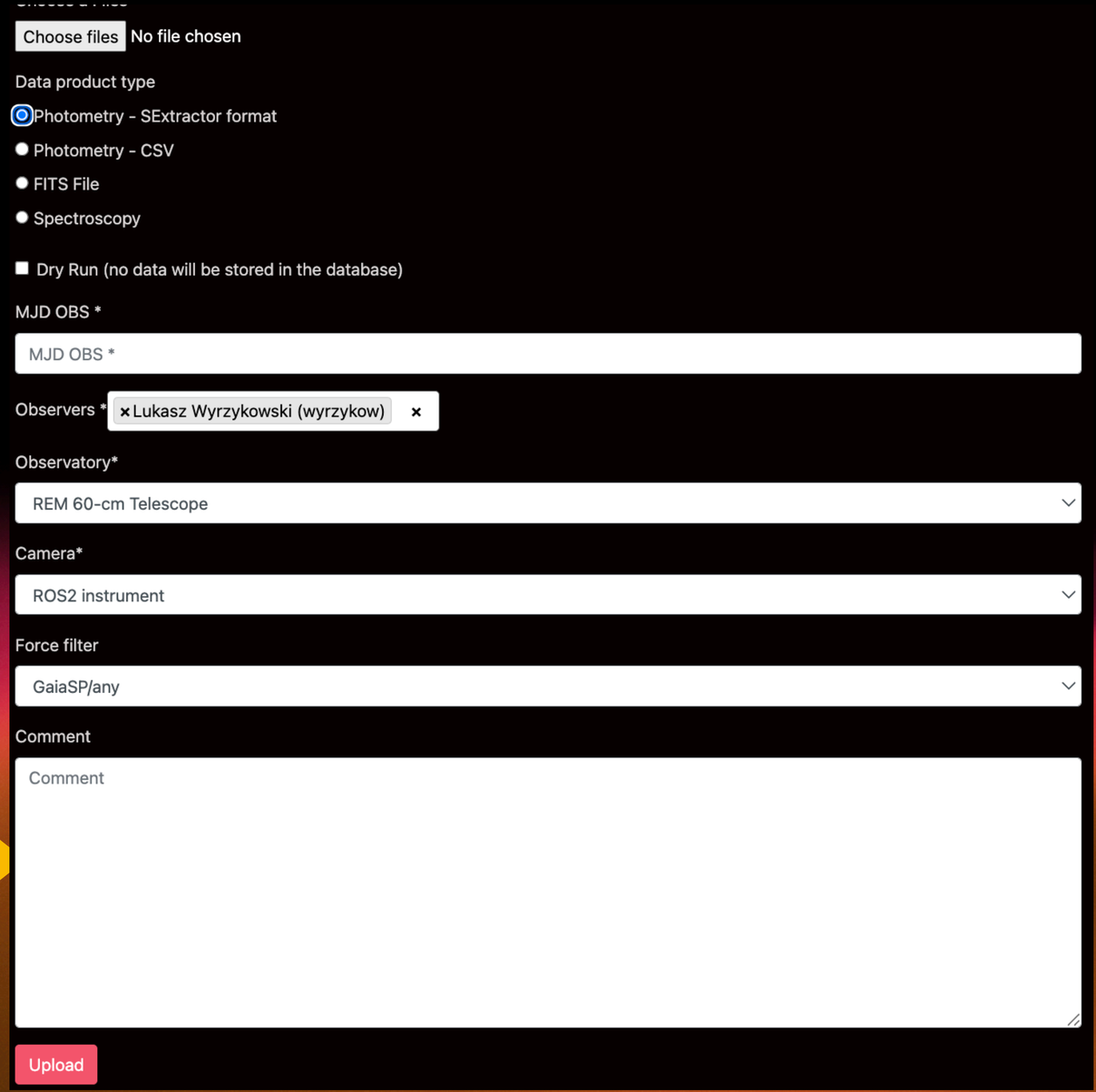
edit/add observers

select your telescope from the favourite list

select the camera

leave GaiaSP/any*

any additional comments, e.g. on the conditions, weather, etc.



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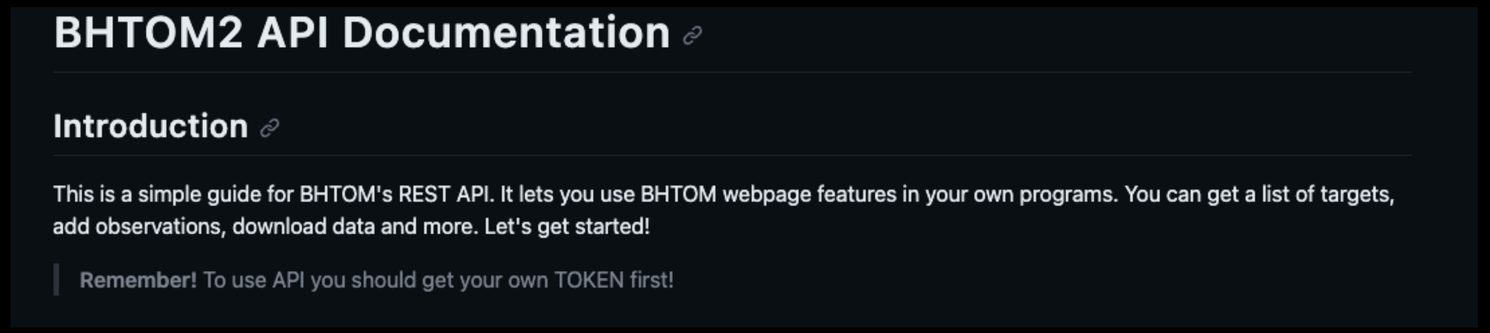
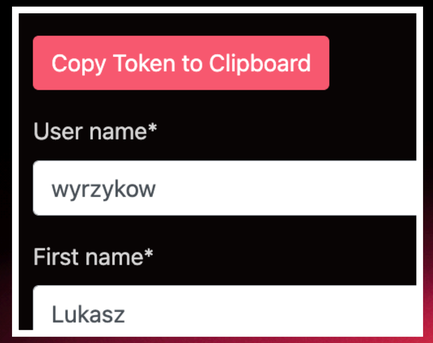
* if you use only Sloan, select GaiaSP/ugriz
* if you use only J-C, select GaiaSP/UBVRI
* if you use Gaia filters, select GaiaDR3/any
* if you observe in IR, select 2MASS/any
* if you are still not sure, select Auto

API

https://doc.bhtom.space/

- all functionalities of BHTOM available programmatically!
- upload (fits, dat, spec)
- target list and filtering
- data download
- dataproduct download
- standardisation results
- changing/adding observers





API token can be copied from your profile page

API

https://doc.bhtom.space/

- all functionalities of BHTOM available programmatically!
- upload (fits, dat, spec)
- target list and filtering
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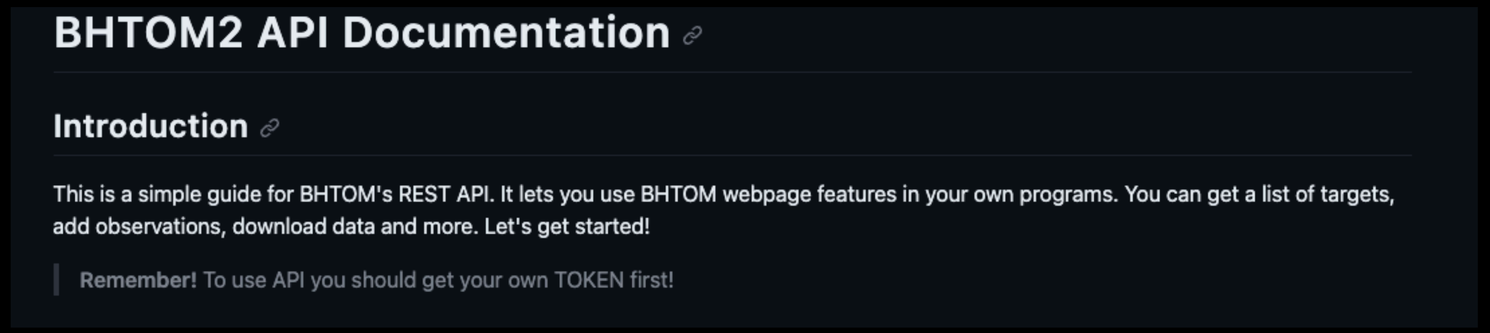
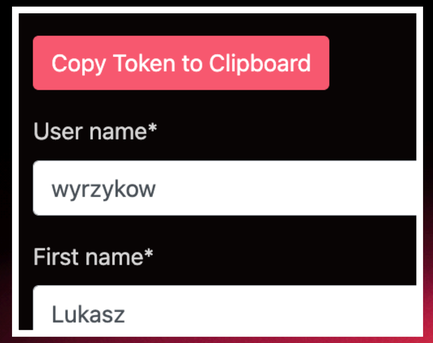
- changing/adding observers





API token can be copied from your profile page

BHTOM API Example Notebooks:

https://drive.google.com/drive/folders/1A9Oe1rApyI7_orazo_1oUNVqdzhE-w4M?usp=sharing

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BHTOM Targets for 08 April, 2024 0 views

Lukasz Wyrzykowski <wyrzykow@gmail.com> 8 Apr 2024, 16:12:21 (5 days ago)

to bhtomtargets@googlegroups.com

Hello,

Greetings from the BHTOM Automated Newsletter!

As of 2024-04-08 14:09:01.478552+00:00, these are the new targets added in the last week with importance greater than 1, sorted by magnitude:

name	ra	dec	mag_last	sun_separation	classification	description
Gaia24bbw	81.371630	39.506760	14.2	65.0	Unknown	candidate microlensing event
Gaia24bbs	270.968180	-28.183980	16.2	108.0	Unknown	bulge candidate microlensing event
Gaia24bau	266.011980	-25.859980	16.7	112.0	Unknown	candidate microlensing event
Gaia24bay	262.530760	-27.944750	17.0	115.0	Unknown	candidate microlensing event
Gaia24adu	205.400100	43.413980	17.3	129.0	Unknown	~1 mag rise in Gaia source coincident with galaxy
Gaia24bbt	264.611000	-33.329870	17.5	113.0	Unknown	bulge candidate microlensing event
Gaia23dkq	183.716870	-19.030480	17.8	162.0	Unknown	Brightening in Gaia source coincident with galaxy 6dFGS gJ121452.1-190150
Gaia23dgk	228.359390	27.081950	18.1	134.0	Unknown	Brightening in Gaia source coincident with galaxy
Gaia23bat	242.658540	-35.559640	18.2	130.0	Unknown	candidate microlensing event
Gaia24bcm	253.619790	-50.373170	18.9	NaN	Unknown	candidate microlensing event
AT 2024fkm	208.285587	35.720493	20.2	136.0	Unknown	Astro-COLIBRI target

In addition, here are some older targets that are currently visible and requested for observations. These targets have an importance greater than 4, a sun separation greater than 70, and a magnitude less than 18. They are also sorted by magnitude.

BHTOM Newsletter

https://groups.google.com/g/bhtomtargets open group

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In addition, here are some older targets that are currently visible and requested for observations. These targets have an importance greater than 4, a sun separation greater than 70, and a magnitude less than 18. They are also sorted by magnitude.

North (dec>0):

name	ra	dec	mag_last	sun_separation	classification	description
TCrB	239.875676	25.920170	12.3	127.0	Nova	recurent nova predicted to explode 2024/2025
8C0716_714	110.472701	71.343434	14.0	84.0	QSO	high cadence variability suspected
Gaia24ayd	300.825090	30.651260	14.7	74.0	Unknown	bright candidate for microlensing event
Gaia18bwz	174.611270	3.368310	15.3	155.0	CV	Known dwarf nova QZ Vir in outburst
Gaia24azc	296.202220	23.630800	15.4	79.0	Unknown	bright gal.plane source candidate microlensing event or Be-type outburst
NGC5683-Seyfert	218.718578	48.661870	15.5	121.0	AGN	active nucleus of a nearby galaxy for frequent monitoring
SN2024gy	183.963708	13.115589	15.7	156.0	SN	classified SN Ia at 5Mpc
ZTF18aarippg	217.566838	23.062372	16.1	144.0	QSO	Tick-Tok possibly merging Super Massive Black Hole binary
SN2023ixf	210.910654	54.311674	16.8	117.0	SN	Bright supernova in M101
Gaia23dfy	281.922640	9.043970	16.8	94.0	Unknown	red gal.plane source candidate microlensing event rises by 0.7 mag
SN 2024elf	264.113343	39.965370	16.8	102.0	SN	Astro-COLIBRI target
SN 2024eib	200.350801	23.861445	17.0	149.0	SN	Astro-COLIBRI target
Gaia23dgt	204.096070	25.538710	17.1	147.0	QSO	Brightening in Gaia source coincident with Seyfert I galaxy
Gaia24acn	298.644780	30.361130	17.2	76.0	Unknown	Candidate microlensing event
SDSSJ094533.99+100950.1	146.391622	10.163917	17.8	127.0	QSO	Long term variable quasar for monitoring

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South (dec<0):

name	ra	dec	mag_last	sun_separation	classification	description
Gaia23ckh	266.770410	-35.991370	13.0	111.0	Symbiotic star	Mira brightens by 0.8 mag, previous event seen
Gaia23cpd	287.536760	-4.720760	13.8	90.0	Microlensing Event	potential long and bright microlensing event
Gaia19dbf	178.699417	-64.491850	14.2	121.0	Unknown	Possibly a YSO
Gaia23dpn	220.154710	-57.762400	14.4	126.0	Microlensing Event	bright red gal.plane source candidate microlensing event rises by 0.8 mag
V4370 Oph	264.987833	-26.461647	15.1	113.0	Nova	Astro-COLIBRI target
Gaia23cyl	266.467690	-42.760060	15.5	110.0	Microlensing Event	microlensing event in the bulge
Gaia23bsf	276.583080	-14.036970	15.8	102.0	Unknown	unknown
AT2024eff	87.924542	-19.218400	16.1	75.0	Unknown	possible nuclear transient, TDE candidate
Gaia23bzg	195.332390	-14.415280	16.3	173.0	QSO	Brightening in known QSO
Gaia24amo	249.148921	-53.749919	16.4	118.0	Unknown	candidate microlensing event, possibly now on the rise
PMNJ0730-6602	112.706495	-66.038578	16.5	99.0	AGN	IAUZ Target
CTS_C30.10	71.833281	-45.627319	16.8	72.0	QSO	Long term variable quasar for monitoring
Gaia23bsd	273.561870	-22.319870	17.0	105.0	Unknown	very slowly rising object, candidate microlensing or Be or YSO
Gaia23cmf	266.551870	-21.014000	17.1	112.0	Microlensing Event	candidate microlensing event
Gaia23cxu	235.890310	-55.429890	17.1	123.0	Microlensing Event	candidate disk microlensing event
AT2024bgz	146.019850	-4.201358	17.1	129.0	TDE	New TDE, now is approaching the LC peak
SN2013bw	161.718208	-1.390811	17.3	144.0	SN	close to SN2024hw
Gaia24ata	188.027640	-48.157800	17.4	138.0	Unknown	candidate long microlensing event far from the Gal Plane
Gaia23dpi	222.600550	-66.066000	17.6	119.0	Microlensing Event	candidate long microlensing event or Be star
Gaia21cbi	122.889030	-80.519340	17.6	100.0	Unknown	~0.5 mag rise in Gaia, WISE and GALEX source
Gaia23cnm	285.322920	-18.717130	17.6	94.0	Unknown	slow and long rise, possible microlensing or YSO
Gaia23dgf	120.642180	-2.372900	17.8	104.0	TDE	~0.3 mag rise in Gaia source

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Last week's targets observed:

camera	target_names
ASV60_FLI	3C454.3
AsiagoAO-0.67_G4-16000	AT2023zgo, Gaia19bzp
Flarestar-MPC171_G2-1600	Gaia24ayd, TCrB, Gaia23cpd
GeoNAO_SXVR-H36	Gaia23dpn, Gaia23dqt, SN2024gy, Gaia23dau, Gaia24alm
HAO68_G2-1600	Gaia24ayd, SN 2024eib, NGC5683-Seyfert, 8C0716_714, TCrB, Gaia24acn, ZTF18aarippg, Gaia24aup, Gaia23dau, SN2023ixf
Kryoneri-1.2_Andor-Zyla	TCrB, SN2024gy, Gaia18bwz, SN2023ixf
LCOGT-CTIO-1m_4K	Gaia24ata, Gaia24alk, Gaia23cbf, Gaia23cvm, Gaia24ams, Gaia23cvq, Gaia24amf, Gaia23cme, Gaia23cnu, SN2023utm, Gaia23cuq, Gaia23cpd, Gaia18dif, Gaia23dpi, Gaia23cvl, Gaia23dpd, Gaia23dpn, Gaia23cvx, Gaia24aom, Gaia23dta, Gaia23cxu, Gaia24amo, Gaia24asr, Gaia24amk
LCOGT-MCD-1m_4K	Gaia23cua, Gaia23cri, Gaia23dau, Gaia23dgt
LCOGT-MCD-40cm_SBIG6303	SN2024gy
LCOGT-SAAO-1m_4K	Gaia23dpd, Gaia24ata, Gaia23cuq, Gaia23dpn, Gaia23dta, Gaia23cnu, Gaia24amo, Gaia23cbf, Gaia23cxu, Gaia23dfy, Gaia23dpi, Gaia24asr, Gaia24amk
LCOGT-SS-1m_4K	Gaia23cuq, Gaia23dpn, Gaia23cvx, Gaia23dta, Gaia23cvm, Gaia24asr
LCOGT-Teide-1m_4K	Gaia23cvq, Gaia23dgt, Gaia23cnu, Gaia23cua, Gaia23cri, Gaia23dau, Gaia23dfy
LCOGT-Teide-40cm_SBIG6303	SN2024gy
OAUJ-CDK500_U47	TCrB
ROAD_QHY600M	Gaia22bpl, Gaia23dpn, Gaia23dnm, Gaia23cpd, Gaia20fnr, Gaia23dit, Gaia24aeh, Gaia24amo, Gaia21ccu, Gaia24ach
RRRT_SBIG-STX16803	TCrB
ZAO_G2-1600	TCrB, Gaia24ayd, SN2024gy, 8C0716_714

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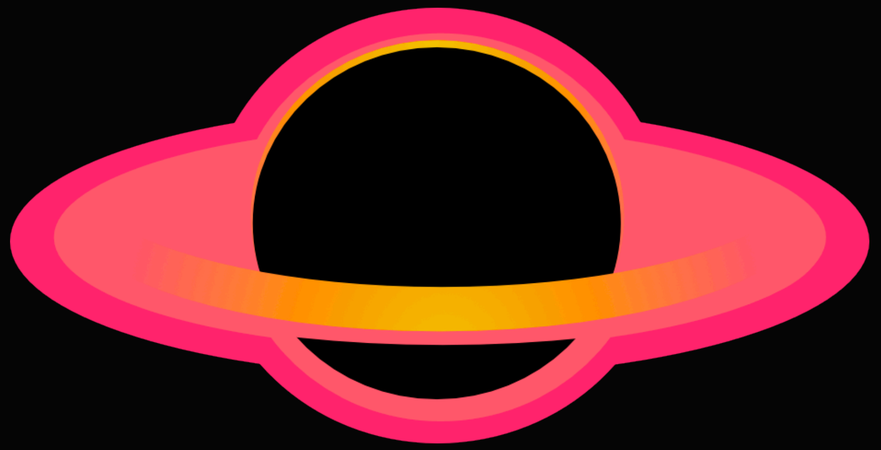
Last week's fits uploads score (sorted by count)

observatory-user	count
Franz-Josef Hambsch (ROAD_QHY600M)	879
Charles Galdies (ZAO_G2-1600)	168
Uliana Pylypenko (LCOGT-SAAO-1m_4K)	103
Nada Ihanec (LCOGT-CTIO-1m_4K)	89
Uliana Pylypenko (LCOGT-CTIO-1m_4K)	87
Nada Ihanec (LCOGT-SAAO-1m_4K)	58
Staszek Zola (OAUJ-CDK500_U47)	47
Alexios Liakos (Kryoneri-1.2_Andor-Zyla)	40
Jan Kåre Trandem Qvam (HAO68_G2-1600)	37
Nada Ihanec (LCOGT-Teide-1m_4K)	35
Nada Ihanec (LCOGT-SS-1m_4K)	32
Teimuraz Kvernadze (GeoNAO_SXVR-H36)	28
Uliana Pylypenko (LCOGT-Teide-1m_4K)	26
Stephen M. Brincat (Flarestar-MPC171_G2-1600)	22
Staszek Zola (RRRT_SBIG-STX16803)	15
Tom Killestein (LCOGT-Teide-40cm_SBIG6303)	15
Uliana Pylypenko (LCOGT-MCD-1m_4K)	13
Nada Ihanec (LCOGT-MCD-1m_4K)	6
Rachel Street (LCOGT-SAAO-1m_4K)	6
Rachel Street (LCOGT-Teide-1m_4K)	5
Rachel Street (LCOGT-CTIO-1m_4K)	5
Tom Killestein (LCOGT-MCD-40cm_SBIG6303)	3
Andrea Reguitti (AsiagoAO-0.67_G4-16000)	2
Uliana Pylypenko (LCOGT-SS-1m_4K)	2
Rachel Street (LCOGT-MCD-1m_4K)	1
Przemyslaw J. Mikolajczyk (ASV60_FLI)	1



enjoy bhtom !

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