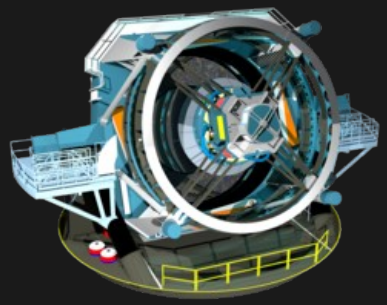


A possibility of follow-up observations of Solar System Objects

gaiagosa.eu

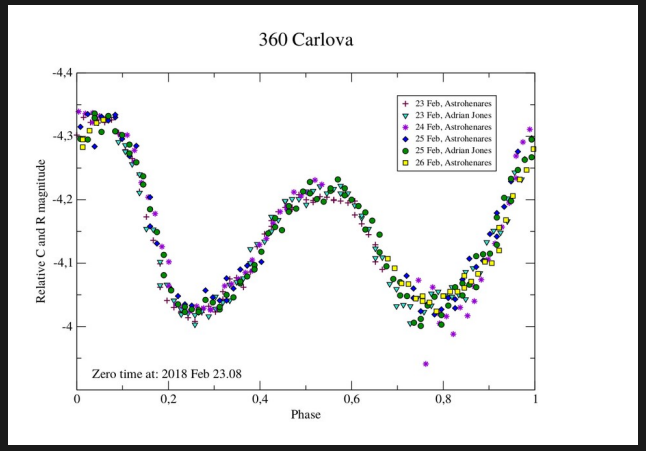
Edyta Podlewska-Gaca
Astronomical Observatory Institute, UAM

Gaia-Groundbased Observational Service for Asteroids

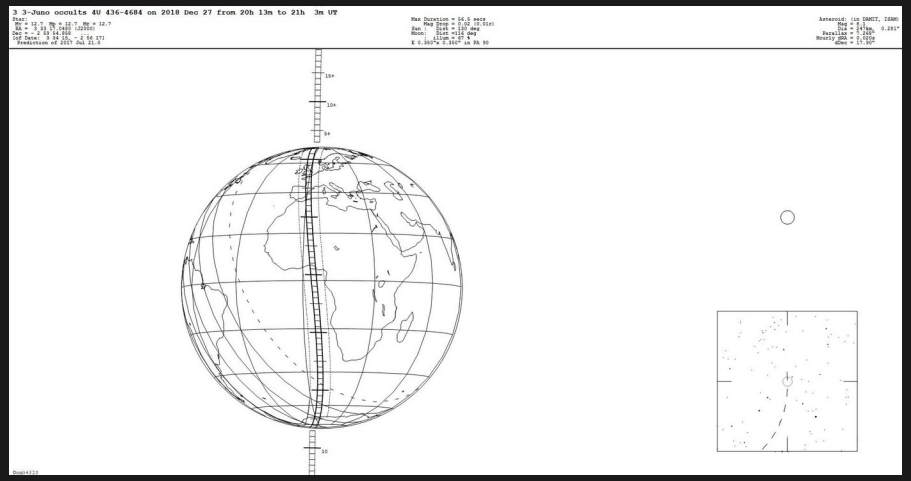
gaiagosa.eu

Amateur observers

Photometric observations



Occultation alerts



Asteroid id	Observation date	Observation time	Observation status
(197389) 2003-YD12	2024-10-22	14:00:37	done
(369881) 2012-MF6	2024-10-22	14:00:51	done
(420299) 2011-WU120	2024-10-22	14:02:31	done
(16421) Roadrunner	2024-10-22	14:10:37	0:02:46
(94226) 2001-BA61	2024-10-22	14:14:58	0:07:07
(103459) 2000-AB201	2024-10-22	14:15:55	0:08:04
(160146) 2001-HU22	2024-10-22	14:30:08	0:22:17
(140345) 2001-TV12	2024-10-22	14:30:14	0:22:23
(360254) 2000-JU3	2024-10-22	14:33:34	0:25:43
(209533) 2004-TR287	2024-10-22	14:34:01	0:26:10

Show previous targets

Search by asteroid number

Search by asteroid name

Show planned targets

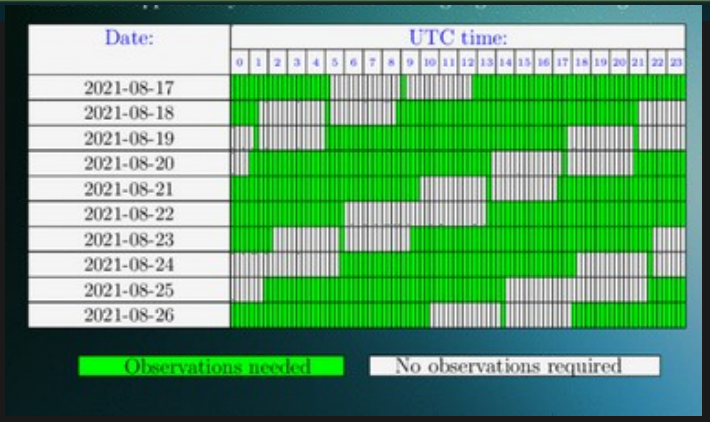
IMPORTANT:

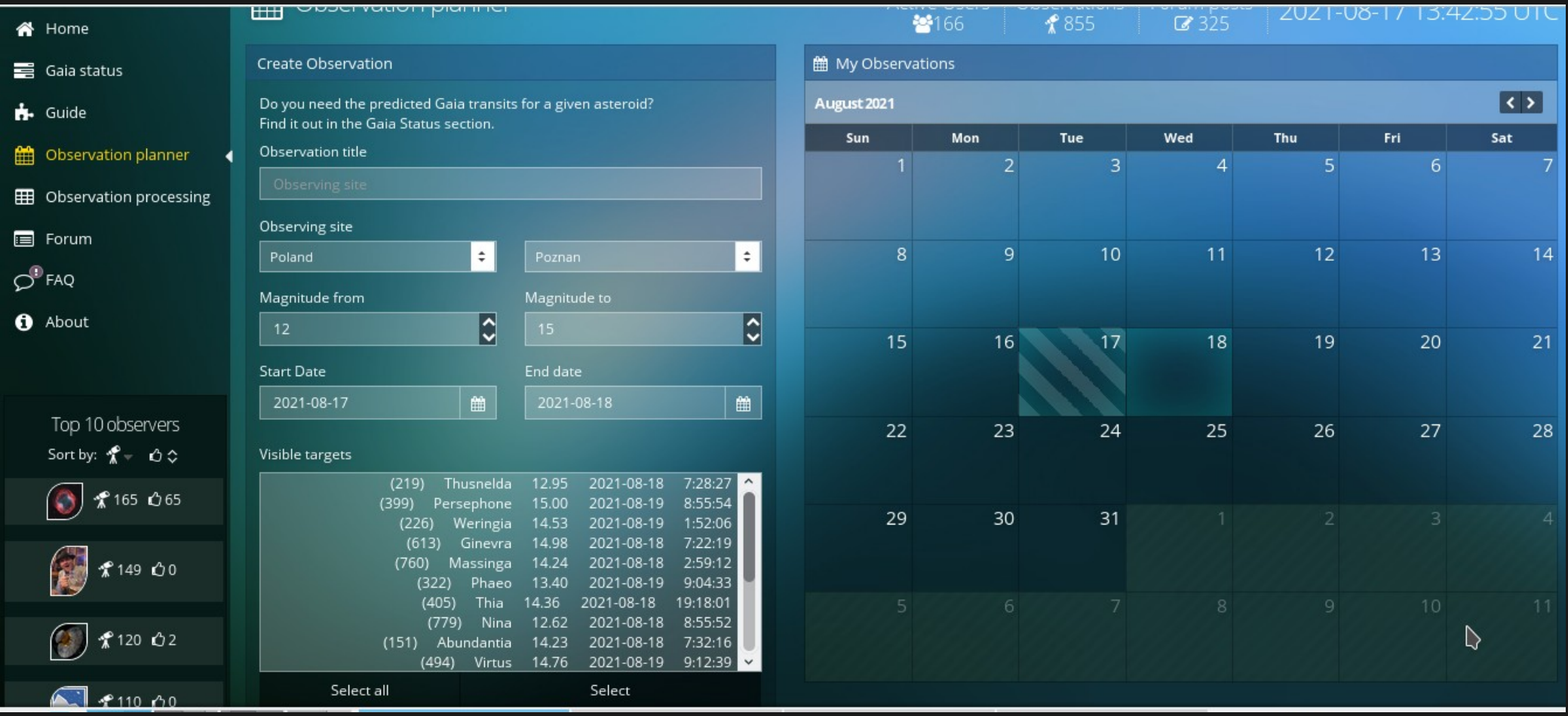
In order to ensure the reliability of the results displayed, only the transits predicted for the following months are shown. The service will regularly update the transit predictions, thus more events shall be included in the future.

Follow-up targets

Asteroids with existing observations which need for follow-up to complete the lightcurve. Click on an asteroid id to check if the object is visible from your site.

Asteroid id	Completeness	Visible until	Magnitude range	Preliminary period	Observation strategy	Priority	External resources
(980) Anacostia	36%	20-12-2021	10.9 - 12.2	20.117 h	-	Critical	-
(117) Lomia	0%	30-11-2021	12 - 13.4	9.127 h		Critical	-
(532) Herculina	0%	01-12-2021	10.7 - 11.5	9.405 h		Critical	-
(372) Palma	10%	30-09-2021	12.8 - 14.1	8.567 h	Low amplitude LC	Critical	-
(31) Euphrosyne	0%	01-10-2021	12.5 - 12.9	5.53 h		Important	-
(64) Angelina	0%	30-11-2021	11.5 - 12.6	8.752 h		Important	-
(59) Elpis	0%	01-01-2022	11 - 12.5	13.69 h		Important	-
(37) Fides	100%	01-08-2021	11.7 - 12.9	7.3335 h		Nice to have	-
(27) Euterpe	100%	15-09-2021	10.5 - 12.1	10.408 h	One frame every 10-20 minuts	Nice to have	-
(758) Mancunia	100%	02-09-2021	13.4 - 14.6	12.7253 h		Nice to have	-
(24) Themis	100%	30-08-2021	12 - 13.2	8.347 h	Period resonant with one day	Nice to have	-




Home
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166
855
325
Create Observation
Do you need the predicted Gaia transits for a given asteroid?
Find it out in the Gaia Status section.
Observation title
Observing site
Observing site
Poland
Poznan
Magnitude from
12
Magnitude to
15
Start Date
2021-08-17
End date
2021-08-18
Visible targets
(219) Thusnelda 12.95 2021-08-18 7:28:27
(399) Persephone 15.00 2021-08-19 8:55:54
(226) Weringia 14.53 2021-08-19 1:52:06
(613) Ginevra 14.98 2021-08-18 7:22:19
(760) Massinga 14.24 2021-08-18 2:59:12
(322) Phaeo 13.40 2021-08-19 9:04:33
(405) Thia 14.36 2021-08-18 19:18:01
(779) Nina 12.62 2021-08-18 8:55:52
(151) Abundantia 14.23 2021-08-18 7:32:16
(494) Virtus 14.76 2021-08-19 9:12:39
Select all
Select
My Observations
August 2021
Sun Mon Tue Wed Thu Fri Sat
Top 10 observers
Sort by:
165 65
149 0
120 2
110 0

NOTICE!

This tool provides a forecast of times targets cross the Gaia Focal Plane. It is based on the scanning operations of Gaia. It does not take into account operational activities preventing nominal observations nor matters like e.g. the gaps between CCDs on the Focal Plane. Adding up all dead time components, users should understand that the probability of the data of the target being received on the ground at the indicated time is about 80%. Furthermore, only targets in magnitude range 6<G<20 mag are observed in astrometry and photometry and 6<G_{RVS}<16 mag in spectroscopy. Please note that one more spin phase adjustment to the Gaia orbit will be implemented at a later stage. Therefore the predicted observation time may deviate by up to 6 hours from the actual observation time.

We thank F. Mignard and P. Tanga (OCA, Nice) for putting at our disposal the transit predictions of Solar system objects.

Asteroid id (name)	Gaia transit time	Right ascension	Declination (for max elevation)	Elevation (max value)	Azimuth (for max elevation)	Object visibility start date	Object visibility end date	Magnitude	Observation strategy	Star Chart
(259) Aletheia	2021-08-17 21:33:57	+2 26 18.39	+1 58 19.92	+37 44 4.94	+158 59 56.80	2021-08-17 23:36	2021-08-18 02:30	13.5		open
(129) Antigone	2021-08-18 03:34:37	+2 29 35.03	+1 13 50.54	+36 42 51.59	+157 35 38.70	2021-08-17 23:44	2021-08-18 02:30	12.5		open
(64) Angelina	2021-08-18 00:00:00	+23 46 58.08	- 09 32.47	+37 26 13.11	+179 06 38.79	2021-08-17 21:10	2021-08-18 02:30	11.9		open
(117) Lomia	2021-08-18 00:00:00	+23 55 29.20	- 59 12.70	+36 36 34.07	+180 50 21.85	2021-08-17 21:24	2021-08-18 02:30	12.5		open
(613) Ginevra	2021-08-18 07:22:19	+3 24 12.67	+23 56 53.25	+53 21 2.08	+129 06 43.84	2021-08-17 22:38	2021-08-18 02:30	15		open

Create new observation plan

Previous day | Next day

Top 10 observers

Sort by:

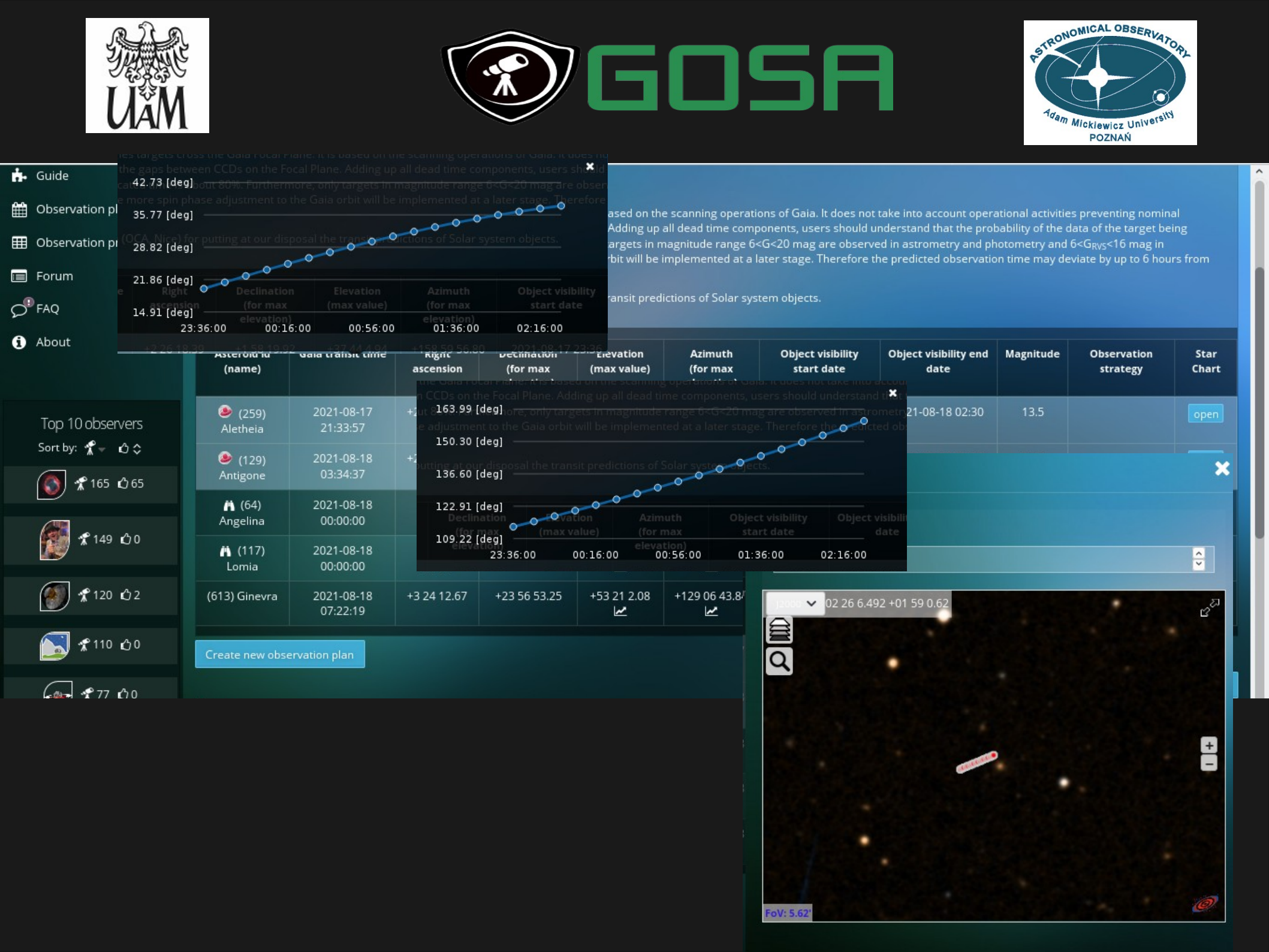
165 65

149 0

120 2

110 0

77 0


GOSA
ASTRONOMICAL OBSERVATORY
Adam Mickiewicz University
POZNAŃ
Guide
Observation pl
Observation pr
Forum
FAQ
About
42.73 [deg]
35.77 [deg]
28.82 [deg]
21.86 [deg]
14.91 [deg]
23:36:00
00:16:00
00:56:00
01:36:00
02:16:00
ased on the scanning operations of Gaia. It does not take into account operational activities preventing nominal
Adding up all dead time components, users should understand that the probability of the data of the target being
argets in magnitude range 6<G<20 mag are observed in astrometry and photometry and 6<G_RVS<16 mag in
rbit will be implemented at a later stage. Therefore the predicted observation time may deviate by up to 6 hours from
ransit predictions of Solar system objects.
Asteroid id (name)
Gaia transit time
Right ascension
Declination (for max
Elevation (max value)
Azimuth (for max
Object visibility start date
Object visibility end date
Magnitude
Observation strategy
Star Chart
(259) Aletheia
2021-08-17 21:33:57
21-08-18 02:30
13.5
open
(129) Antigone
2021-08-18 03:34:37
(64) Angelina
2021-08-18 00:00:00
(117) Lomia
2021-08-18 00:00:00
(613) Ginevra
2021-08-18 07:22:19
+3 24 12.67
+23 56 53.25
+53 21 2.08
+129 06 43.8
Create new observation plan
163.99 [deg]
150.30 [deg]
136.60 [deg]
122.91 [deg]
109.22 [deg]
23:36:00
00:16:00
00:56:00
01:36:00
02:16:00
Top 10 observers
Sort by:
165 65
149 0
120 2
110 0
77 0
02 26 6.492 +01 59 0.62
FoV: 5.62'

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About

Observation processing

Active Users 166 | Observations 855 | Forum posts 325 | 2021-08-17 13:50:33 UTC

Object	Observer	Start Date (UTC)	End Date (UTC)	Comment	Status	Detail information
980 Anacostia	einari	2021-07-14 00:31:36	2021-07-14 04:04:50	G filter	Submitted	available after processed
980 Anacostia	einari	2021-07-13 00:31:38	2021-07-13 04:10:53	G filter	Submitted	available after processed
24 Themis	Josep M. Bosch	2021-07-01 23:44:02	2021-07-02 02:09:16	R filter	Submitted	available after processed
758 Mancunia	Josep M. Bosch	2021-06-30 20:31:25	2021-07-30 21:45:58	R filter. Field full of stars	Submitted	available after processed
37 Fides	PoliUAM	2021-06-19 04:00:00	2021-06-19 06:40:00	RBT	Submitted	available after processed
37 Fides	PoliUAM	2021-06-16 04:10:00	2021-06-16 06:00:00	RBT	Submitted	available after processed
372 Palma	PoliUAM	2021-06-09 09:50:00	2021-06-09 10:45:00	RBT	Submitted	available after processed
24 Themis	PoliUAM	2021-06-09 07:30:00	2021-06-09 09:30:00	RBT	Submitted	available after processed

77 0
64 20
37 5
27 2
24 0
15 19

27 Euterpe	Josep M. Bosch	2021-06-10 23:59:29	2021-06-11 03:21:54	V filter	Submitted	available after processed
27 Euterpe	Josep M. Bosch	2021-06-06 22:47:34	2021-06-07 02:43:43	V filter	Processed!	Show
27 Euterpe	Josep M. Bosch	2021-06-02 22:59:08	2021-06-03 01:56:08	V filter. First images close the horizon	Processed!	Show
27 Euterpe	Josep M. Bosch	2021-05-19 23:58:49	2021-05-20 02:05:12	V filter	Processed!	Show
37 Fides	einari	2021-05-03 22:49:25	2021-05-04 03:14:42	G filter	Processed!	Show
37 Fides	einari	2021-05-01 23:32:19	2021-05-02 03:24:34	G filter	Processed!	Show
387 Aquitania	Josep M. Bosch	2021-05-01 19:38:07	2021-05-01 23:21:58	R filter, high clous	Processed!	Show

Previous Next

Upload information

To upload your data, select the start and end date (in UTC) of your observations and type the name of the asteroid observed. You can also write additional information about your observations in the field. Use button to select the files to be uploaded (science and calibration frames) and click on "Finish" button to confirm the upload process. Please, notice that only files with accepted extensions will be uploaded: .fits, .FITS, .fit, .FIT, .fts, .FTS, .sfits, .SFITS, .sdf, and .SDF - a limit of single file is 25MB.

Start date (UTC) End date (UTC)

Object name Comment

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ers | Observations 855 | Forum posts 325 | 2021-08-17 13:50:33 UTC

Objec	Comment	Status	Detail information
980 Anac	G filter	Submitted	available after processed
980 Anac	G filter	Submitted	available after processed
24 The	R filter	Submitted	available after processed
758 Man	R filter. Field full of stars	Submitted	available after processed
37 Fid	RBT	Submitted	available after processed
37 Fid	RBT	Submitted	available after processed
372 Pal	RBT	Submitted	available after processed
24 The	RBT	Submitted	available after processed
27 Euter	V filter	Submitted	available after processed
27 Euter	V filter	Processed!	Show
27 Euter	r. First images close the horizon	Processed!	Show
27 Euter	V filter	Processed!	Show
37 Fide	G filter	Processed!	Show
37 Fide	G filter	Processed!	Show
387 Aquit	R filter, high clous	Processed!	Show

77 0
64 20
37 5
27 2
24 0
15 19

Next

Upload ir

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roid observed. You can also write additional information about your observations in the
to confirm the upload process. Please, notice that only files with accepted extensions

Start date (

Object name

Comment

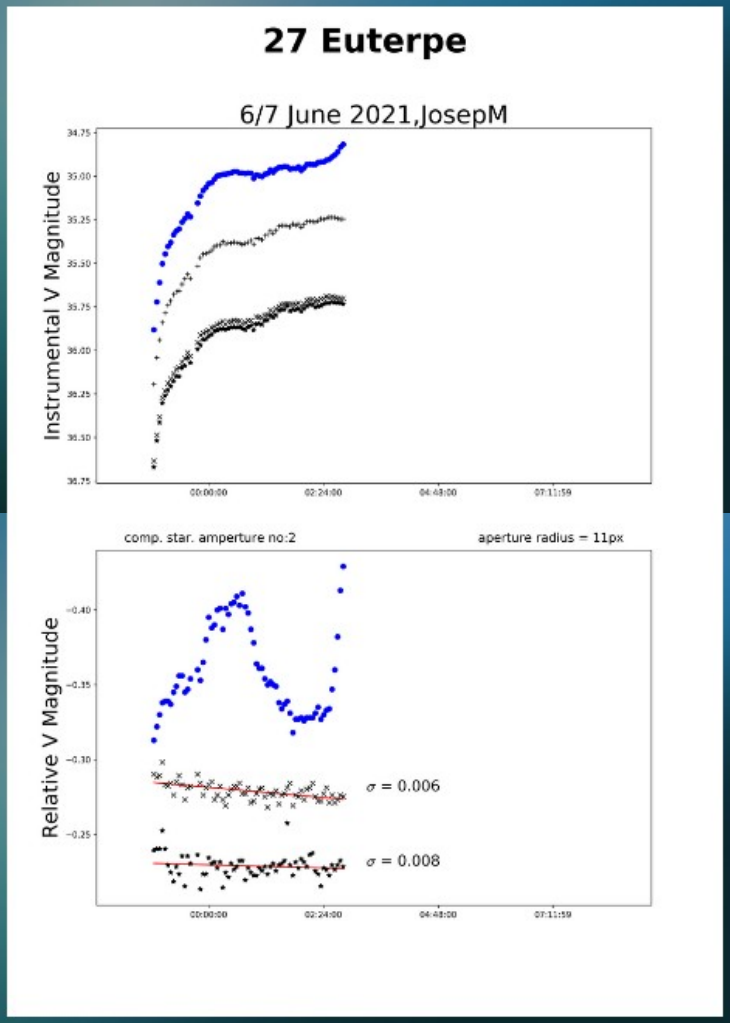
Upload files

Finish

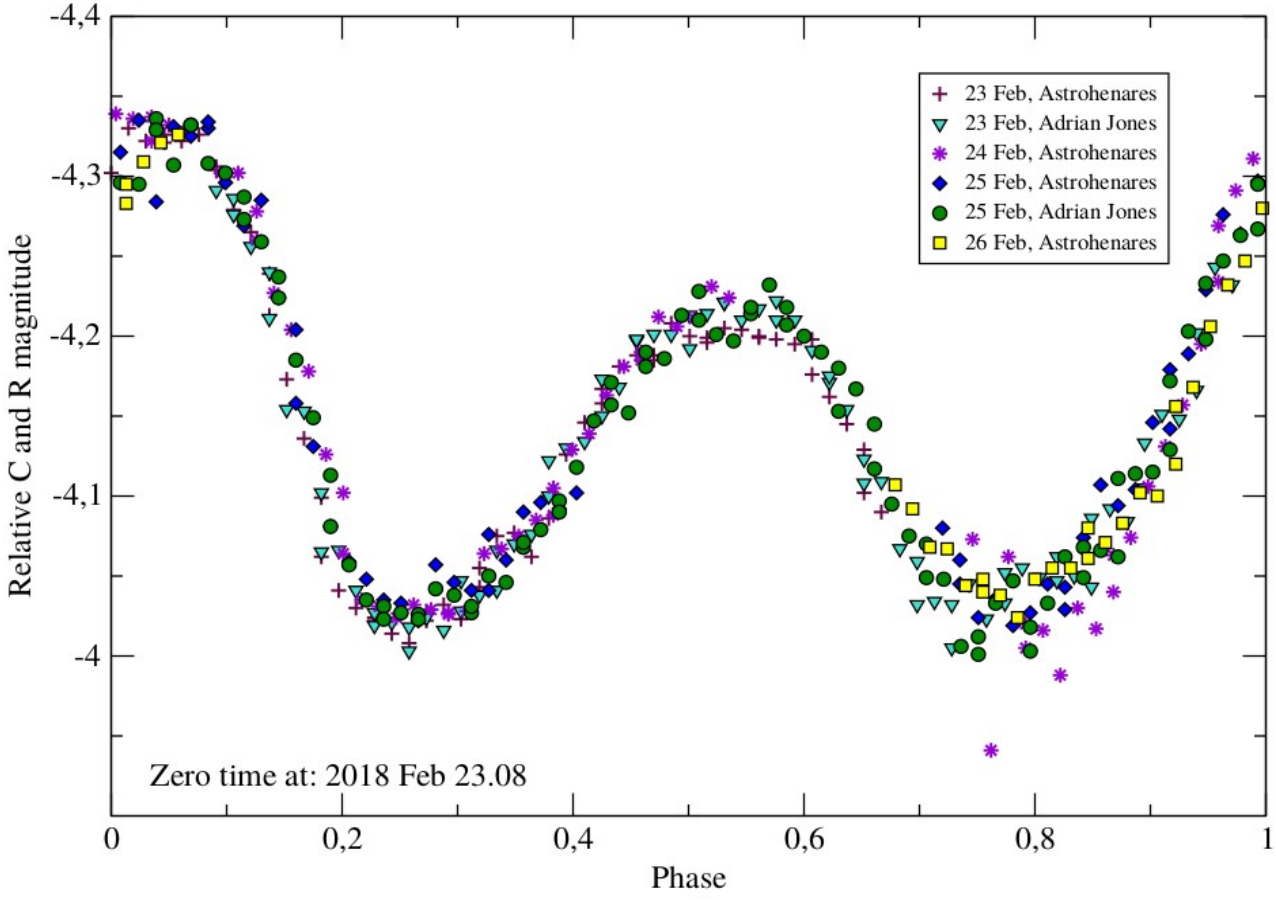
GOSA

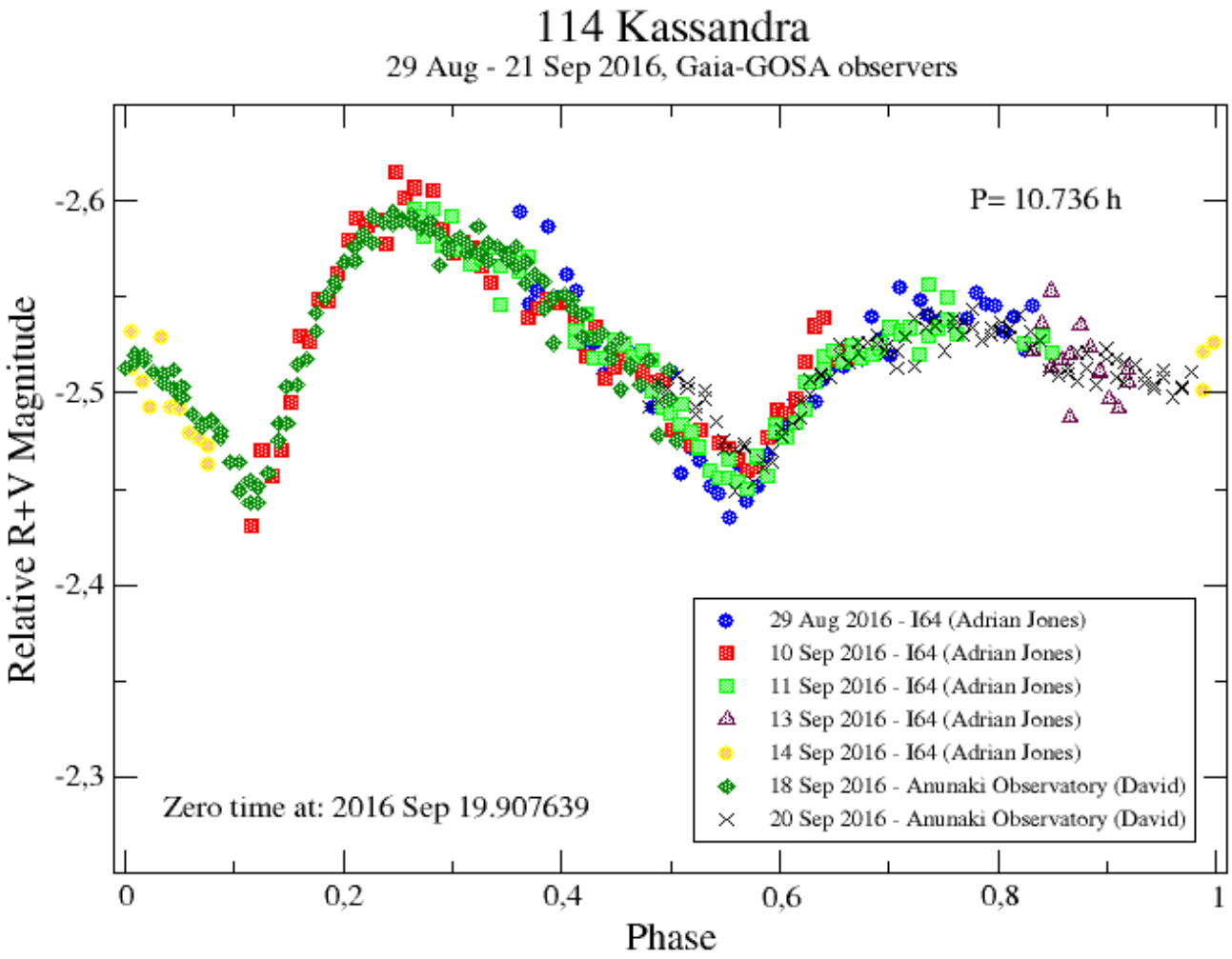
(27) Euterpe

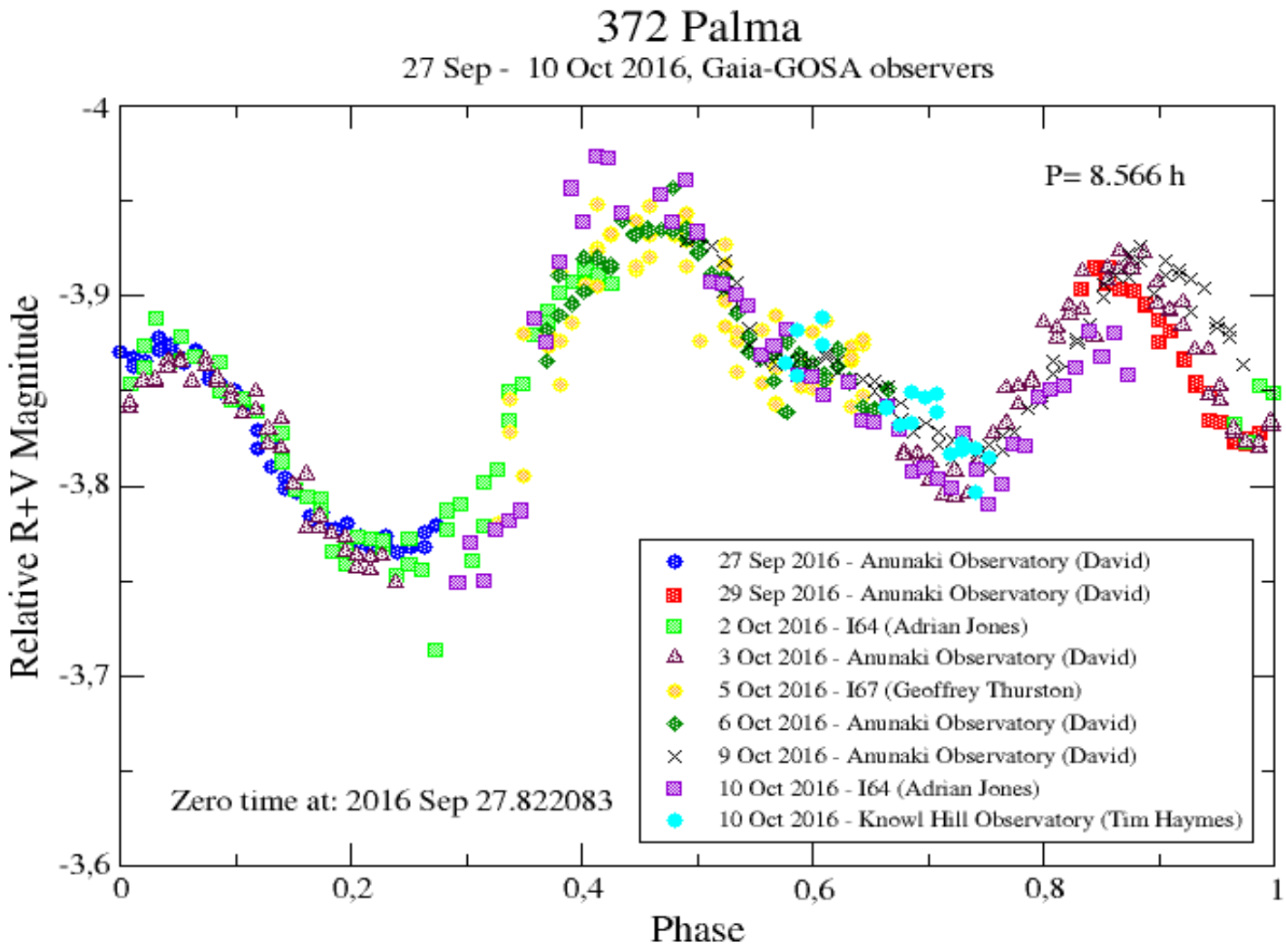
Observation quality: Excellent
Observed amplitude: 1.0
Synodic period: 10.408 [Very good]
Number of existing observations: 1
Follow-up needed: true

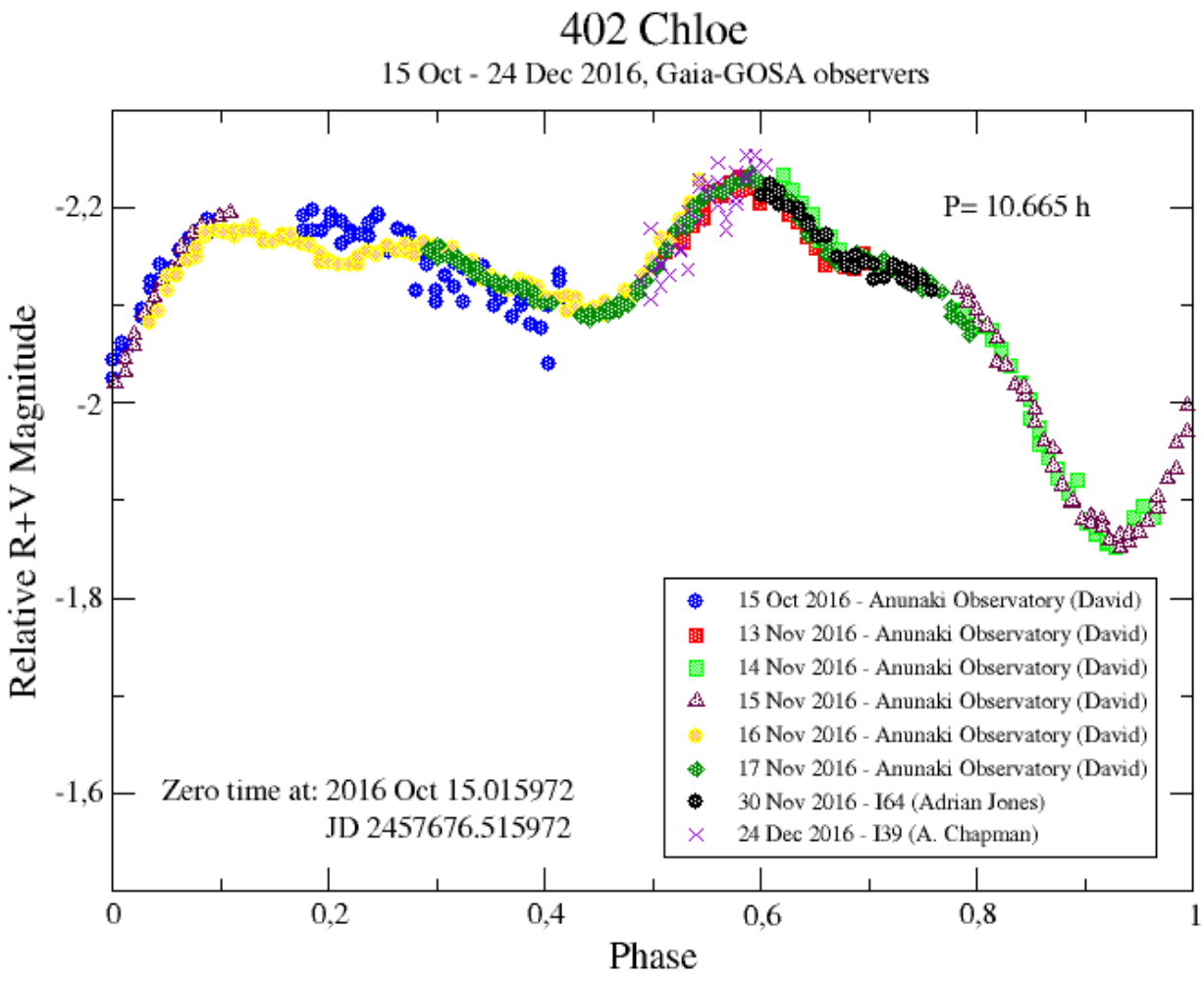


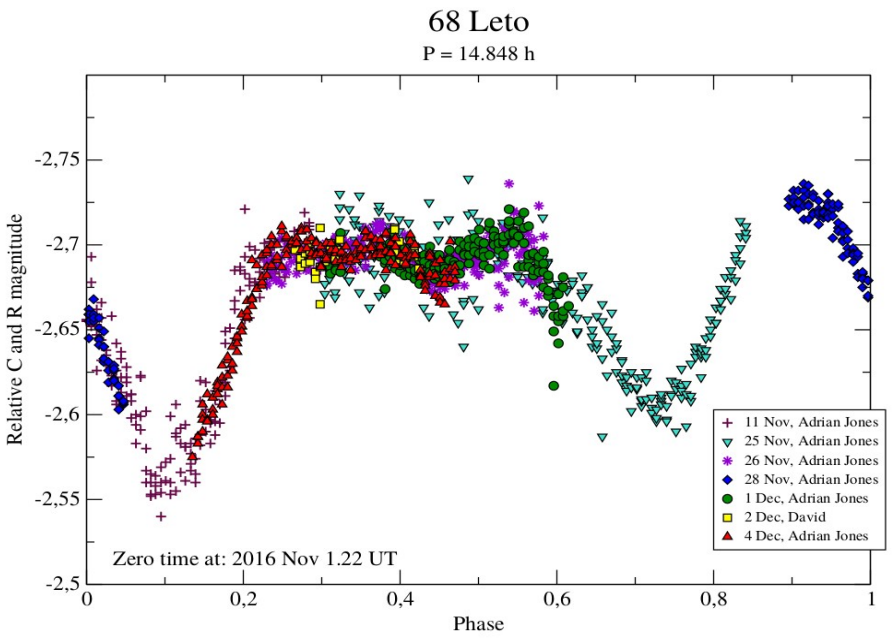
Comments: Very nice. Passage through the star in the last few frames.

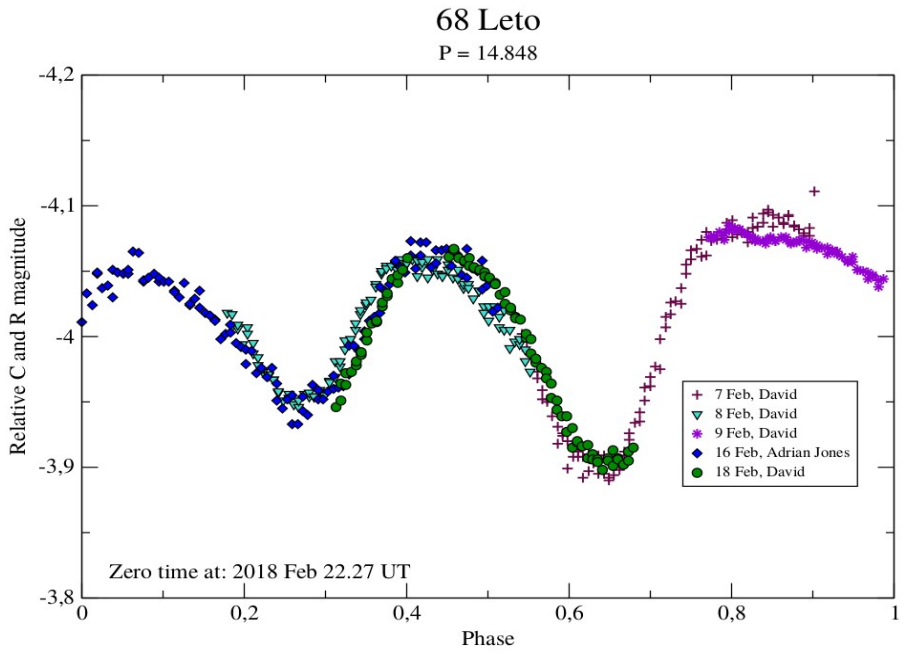

360 Carlova
-4,4
-4,3
-4,2
-4,1
-4
Relative C and R magnitude
23 Feb, Astrohenares
23 Feb, Adrian Jones
24 Feb, Astrohenares
25 Feb, Astrohenares
25 Feb, Adrian Jones
26 Feb, Astrohenares
Zero time at: 2018 Feb 23.08
0
0,2
0,4
0,6
0,8
1
Phase


114 Kassandra
29 Aug - 21 Sep 2016, Gaia-GOSA observers
P= 10.736 h
Relative R+V Magnitude
-2,6
-2,5
-2,4
-2,3
0
0,2
0,4
0,6
0,8
1
Phase
Zero time at: 2016 Sep 19.907639
29 Aug 2016 - I64 (Adrian Jones)
10 Sep 2016 - I64 (Adrian Jones)
11 Sep 2016 - I64 (Adrian Jones)
13 Sep 2016 - I64 (Adrian Jones)
14 Sep 2016 - I64 (Adrian Jones)
18 Sep 2016 - Anunaki Observatory (David)
20 Sep 2016 - Anunaki Observatory (David)


372 Palma
27 Sep - 10 Oct 2016, Gaia-GOSA observers
P= 8.566 h
Relative R+V Magnitude
Phase
-4
-3,9
-3,8
-3,7
-3,6
0
0,2
0,4
0,6
0,8
1
Zero time at: 2016 Sep 27.822083
27 Sep 2016 - Anunaki Observatory (David)
29 Sep 2016 - Anunaki Observatory (David)
2 Oct 2016 - I64 (Adrian Jones)
3 Oct 2016 - Anunaki Observatory (David)
5 Oct 2016 - I67 (Geoffrey Thurston)
6 Oct 2016 - Anunaki Observatory (David)
9 Oct 2016 - Anunaki Observatory (David)
10 Oct 2016 - I64 (Adrian Jones)
10 Oct 2016 - Knowl Hill Observatory (Tim Haymes)


402 Chloe
15 Oct - 24 Dec 2016, Gaia-GOSA observers
P= 10.665 h
Relative R+V Magnitude
-2,2
-2
-1,8
-1,6
0
0,2
0,4
0,6
0,8
1
Phase
Zero time at: 2016 Oct 15.015972
JD 2457676.515972
15 Oct 2016 - Anunaki Observatory (David)
13 Nov 2016 - Anunaki Observatory (David)
14 Nov 2016 - Anunaki Observatory (David)
15 Nov 2016 - Anunaki Observatory (David)
16 Nov 2016 - Anunaki Observatory (David)
17 Nov 2016 - Anunaki Observatory (David)
30 Nov 2016 - I64 (Adrian Jones)
24 Dec 2016 - I39 (A. Chapman)


68 Leto
P = 14.848 h
Relative C and R magnitude
Phase
-2,75
-2,7
-2,65
-2,6
-2,55
-2,5
0
0,2
0,4
0,6
0,8
1
11 Nov, Adrian Jones
25 Nov, Adrian Jones
26 Nov, Adrian Jones
28 Nov, Adrian Jones
1 Dec, Adrian Jones
2 Dec, David
4 Dec, Adrian Jones
Zero time at: 2016 Nov 1.22 UT


68 Leto
P = 14.848
Relative C and R magnitude
Phase
-4,2
-4,1
-4
-3,9
-3,8
0
0,2
0,4
0,6
0,8
1
7 Feb, David
8 Feb, David
9 Feb, David
16 Feb, Adrian Jones
18 Feb, David
Zero time at: 2018 Feb 22.27 UT

Occultation alerts

Asteroids which may have observable occultations in the near future

Date	Asteroid id	Asteroid magnitude	Star name	Star magnitude	Visibility	Duration of event (seconds)	External resources
31-08-2021 01:30:00	(489) Comacina	14.5	UCAC4 505-012002	12.3	Europe	5	More information
05-09-2021 02:30:00	(22) Kalliope	11.9	2UCAC 404288211	12.1	Europe, N Africa	6	More information

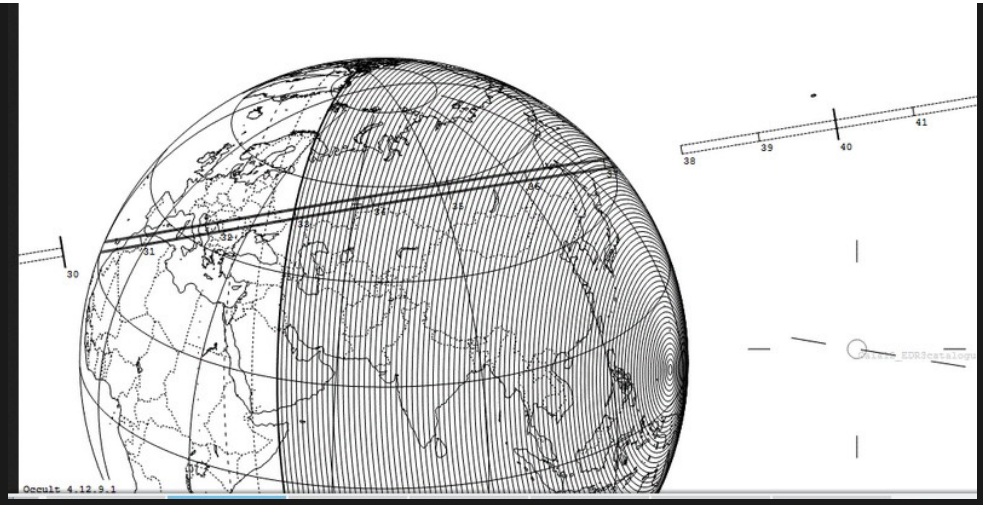
22 Kalliope #1 occults 2UCAC 40488211 on 2021 Sep 5 from 2h 30m to 2h 37m UT

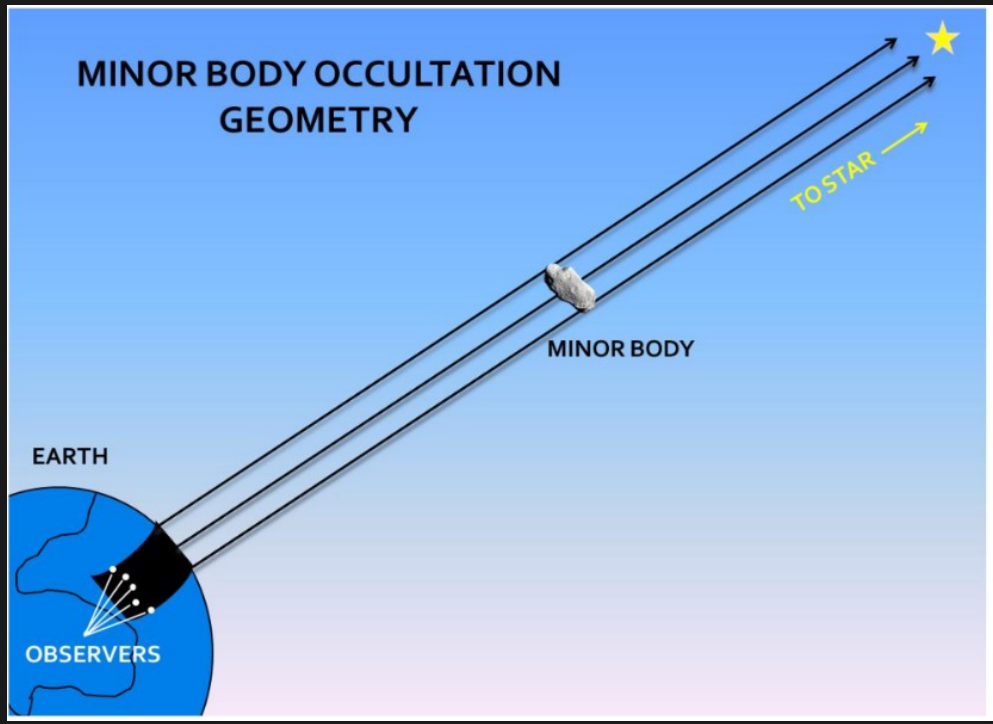
Star: (Dia < 0.1 mas)
Mv 12.1
RA = 6 9 20.8958 (astrometric)
Dec = 24 33 5.014 ...
[of Date: 6 10 39, 24 32 50]
Prediction of 2021 Jul 15.0
Reliable not available

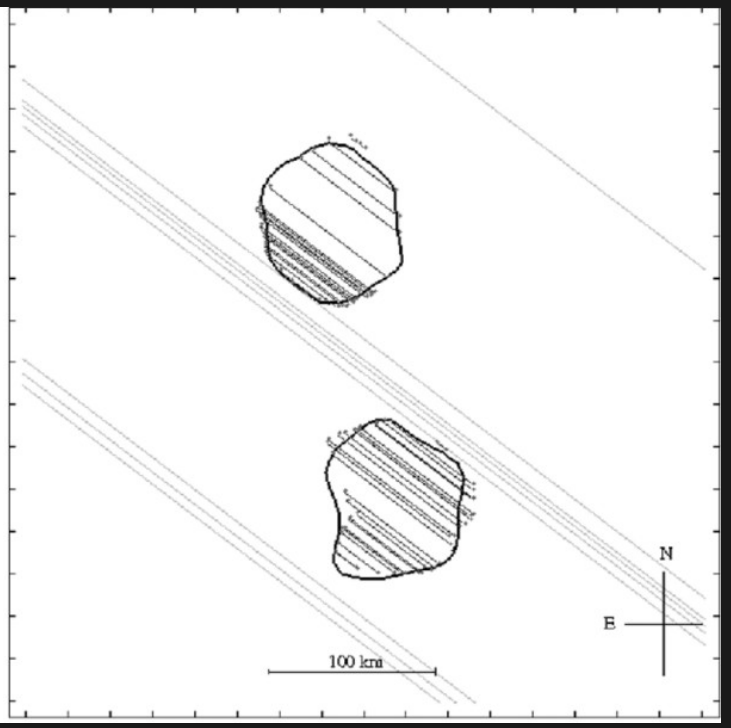
Max Duration = 6.4 secs
Mag Drop = 0.6 (0.0r)
Sun : Dist = 71°
Moon: Dist = 46°
: illum = 5 %
Error 22.7x9.4 mas in PA 76°

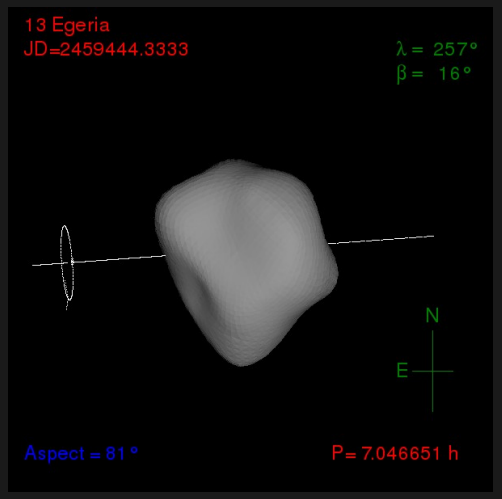
Asteroid: (in DAMIT, ISAM)
Mag = 11.9
Dia = 177 ±10km, 87 mas
Parallax = 3.155"
Hourly dRA = 3.528s
dDec = 7.95"
JPL#1072021Jul08 Binary solution 1 : Kepler, Known errors + binary orbit

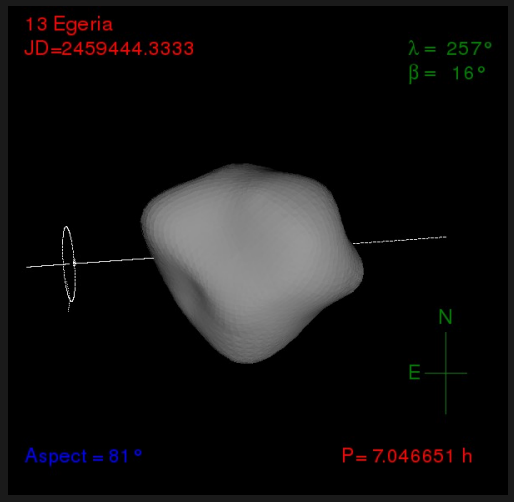
1 moon. {Linus} 28km at 1095km, Period 3.596days

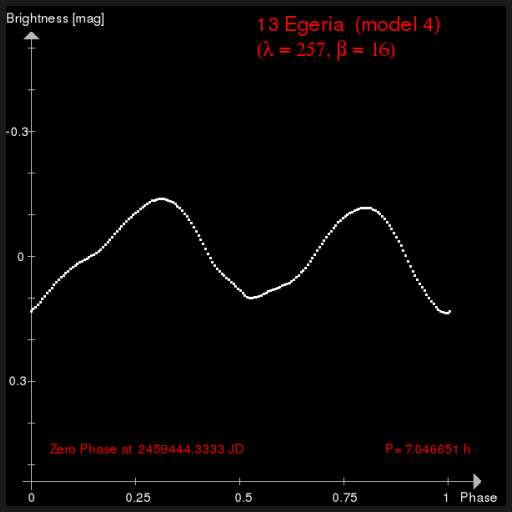


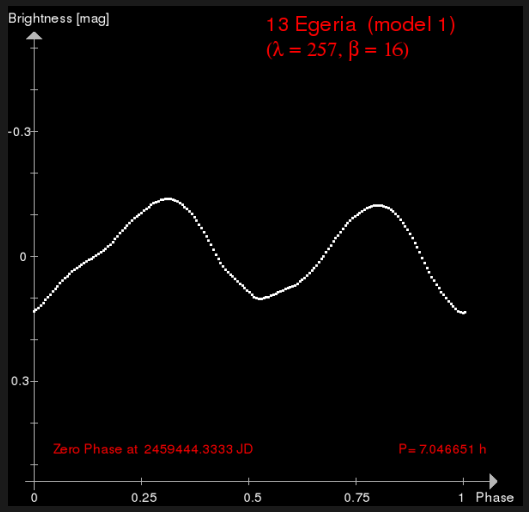

MINOR BODY OCCULTATION
GEOMETRY
TO STAR
MINOR BODY
EARTH
OBSERVERS


N
E
100 km


13 Egeria
JD=2459444.3333
λ = 257°
β = 16°
N
E
Aspect = 81°
P= 7.046651 h


13 Egeria
JD=2459444.3333
λ = 257°
β = 16°
N
E
Aspect = 81°
P= 7.046651 h


Brightness [mag]
13 Egeria (model 4)
(λ = 257, β = 16)
-0.3
0
0.3
Zero Phase at 2459444.3333 JD
P= 7.046651 h
0
0.25
0.5
0.75
1
Phase


Brightness [mag]
13 Egeria (model 1)
(λ = 257, β = 16)
-0.3
0
0.3
Zero Phase at 2459444.3333 JD
P= 7.046651 h
0
0.25
0.5
0.75
1
Phase

Summary of GaiaGOSA:
205 registered users
~ 1028 nights of observations

Calculated models for 15 asteroids (A&A) H2020: SBNAF

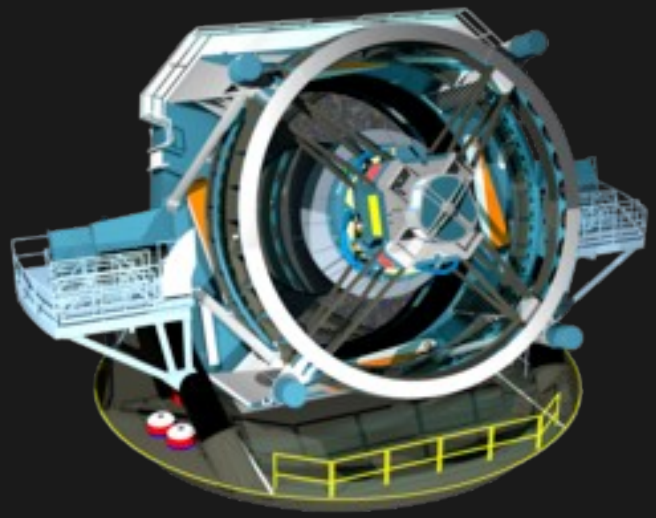
Support for „Large Programme” on VLT (A&A, Nature Astronomy)

Asteroids as tracers of solar system formation:
Probing the interior of primordial main belt asteroids

PI: Pierre Vernazza

Duration:04. 2017- 04. 2019

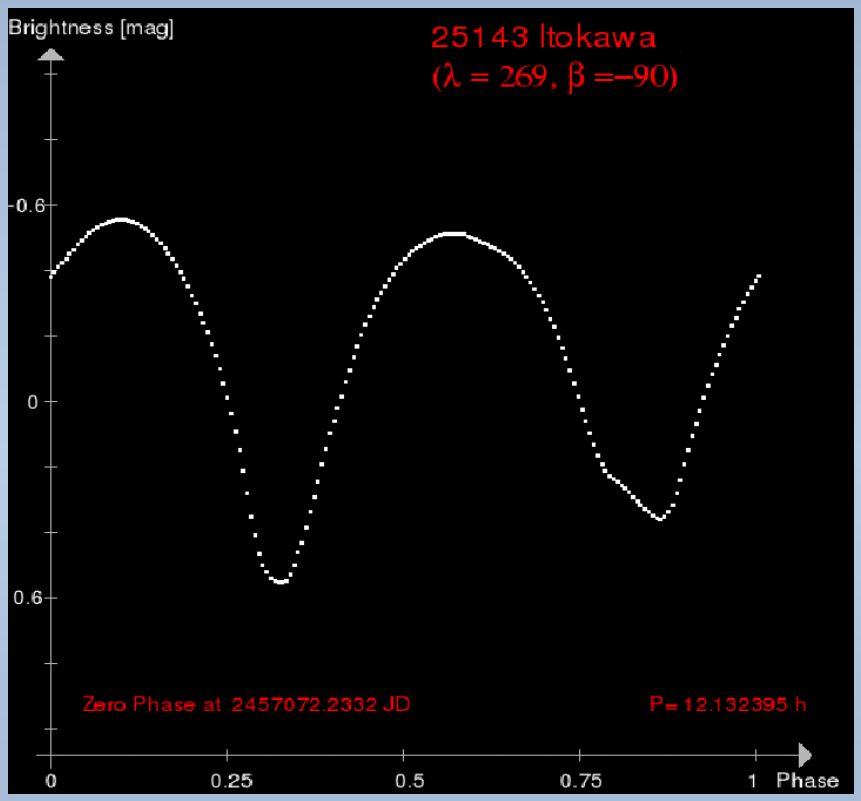
LSST era

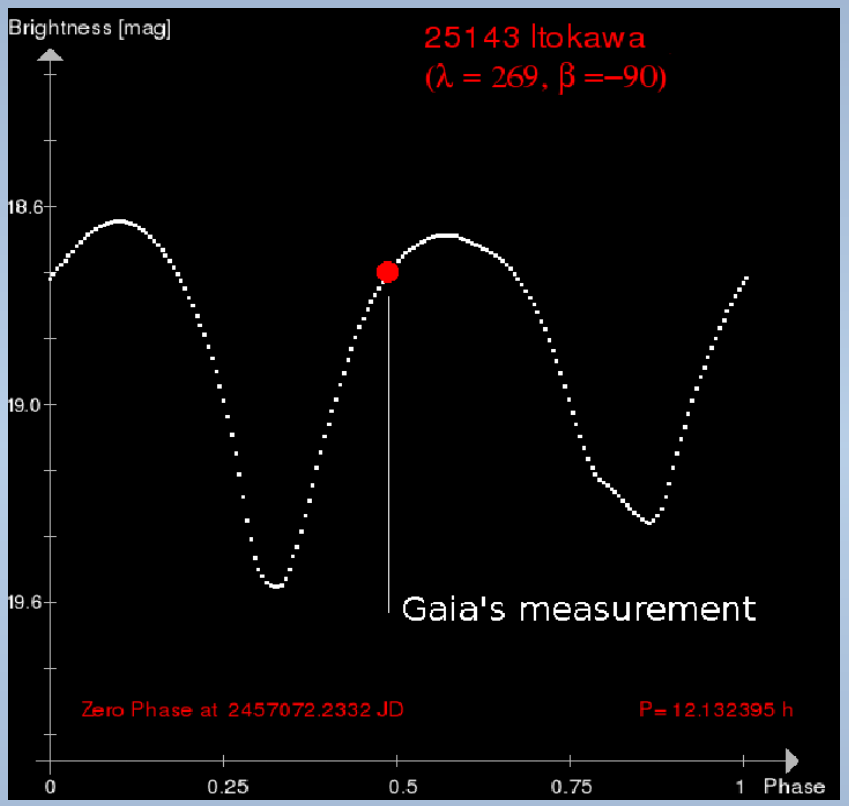


Needs, ideas, goals ???

Potential targets:

- dynamically new comets
- active asteroids
- orbital pairs
- unusual phase curves
- sudden brightness changes


Brightness [mag]
25143 Itokawa
(λ = 269, β =–90)
-0.6
0
0.6
Zero Phase at 2457072.2332 JD
P= 12.132395 h
0
0.25
0.5
0.75
1
Phase


Brightness [mag]
25143 Itokawa
(λ = 269, β =–90)
18.6
19.0
19.6
Gaia's measurement
Zero Phase at 2457072.2332 JD
P= 12.132395 h
0
0.25
0.5
0.75
1
Phase