

OPTICON



ŁUKASZ WYRZYKOWSKI *pron: woo-cash vi-zhi-kov-ski*

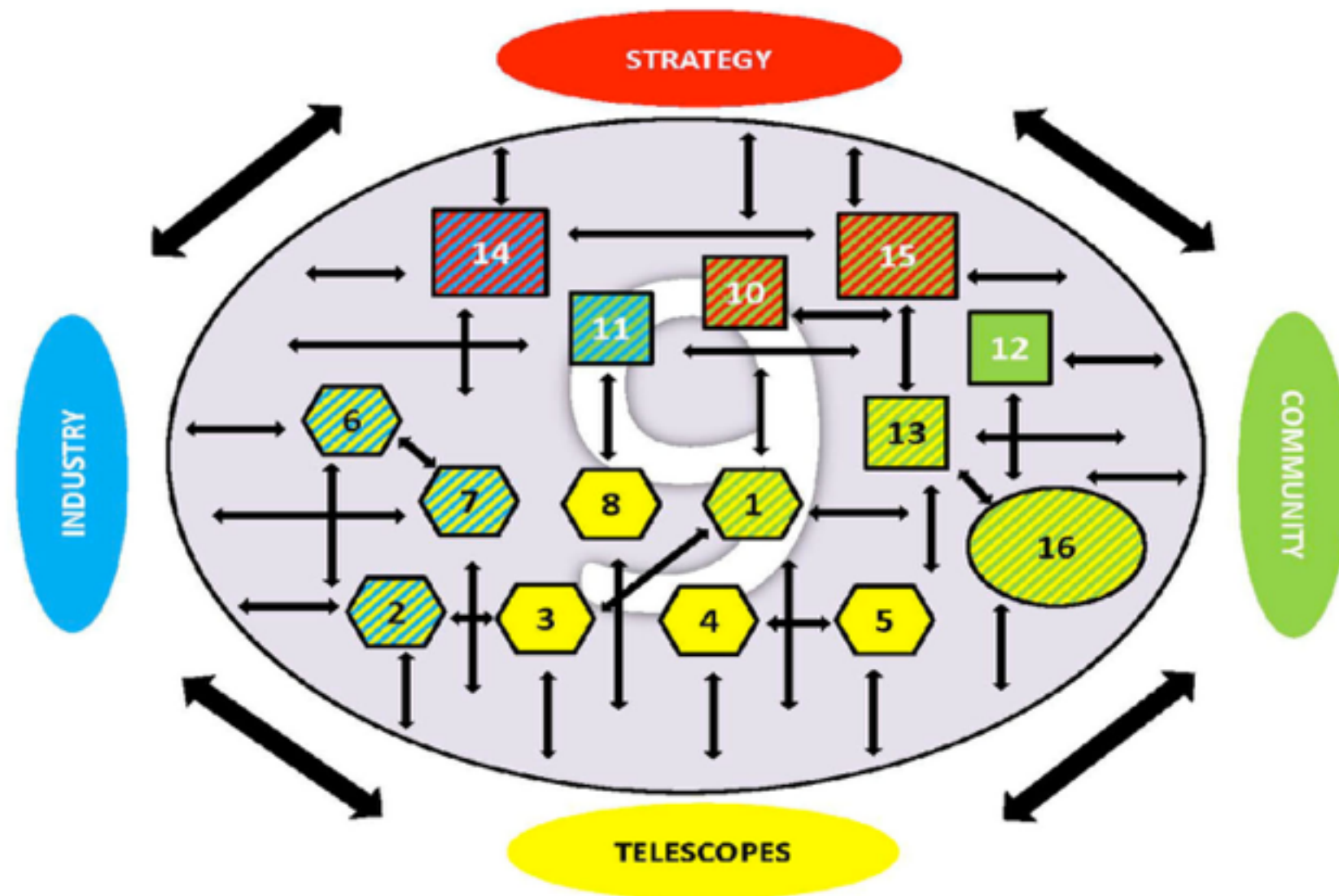
Warsaw University Astronomical Observatory, Poland

Optical Infrared Coordination Network for Astronomy

- ▶ FP5 (2002-2005)
- ▶ FP6 (2005-2008)
- ▶ FP7 (2009-2012)
- ▶ FP7 (2013-2016) - time-domain astronomy added
- ▶ H2020 (2017-2020) - time-domain astronomy expanded

OPTICON – STRUCTURE

Our H2020 ambition: a culture of cooperation and synergy - delivering and disseminating new ideas, ambitions and proposals



WP1 Adaptive Optics
WP2 Fast Cameras
WP3 Fast Detectors
WP4 Freeform Mirrors
WP5 Additive Manufacturing
WP6 Astrophotonics

WP7 Light sensitive Materials
WP8 Next generation instruments
WP9 Management
WP10 Adaptive Optics Network
WP11 Interferometry Network

WP12 Training Schools
WP13 Time-Domain Astronomy
WP14 Technology Foresight
WP15 Community sustainability
WP16 TNA access



OPTICON

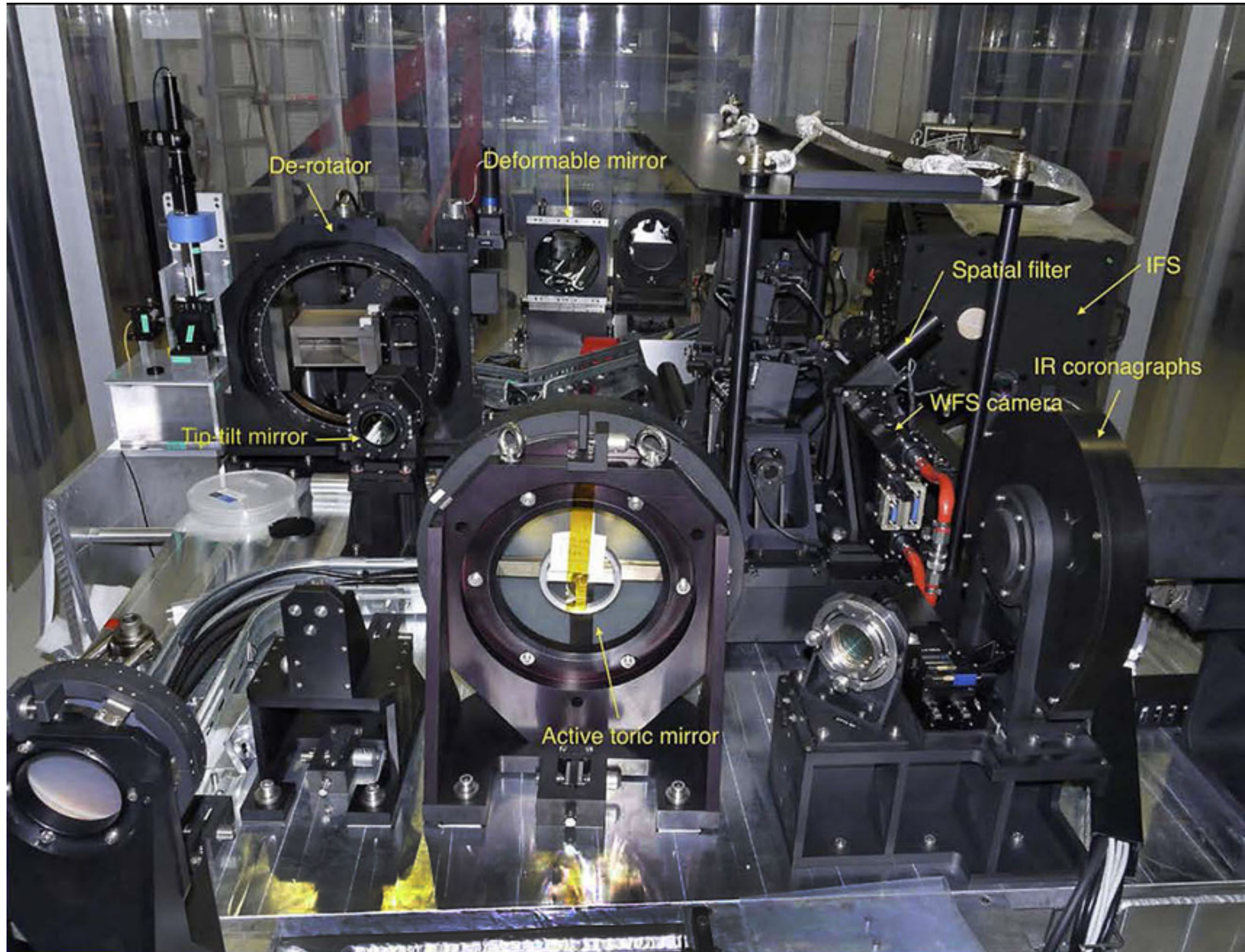
Trans-national Access Programme



OPTICON – TRAINING

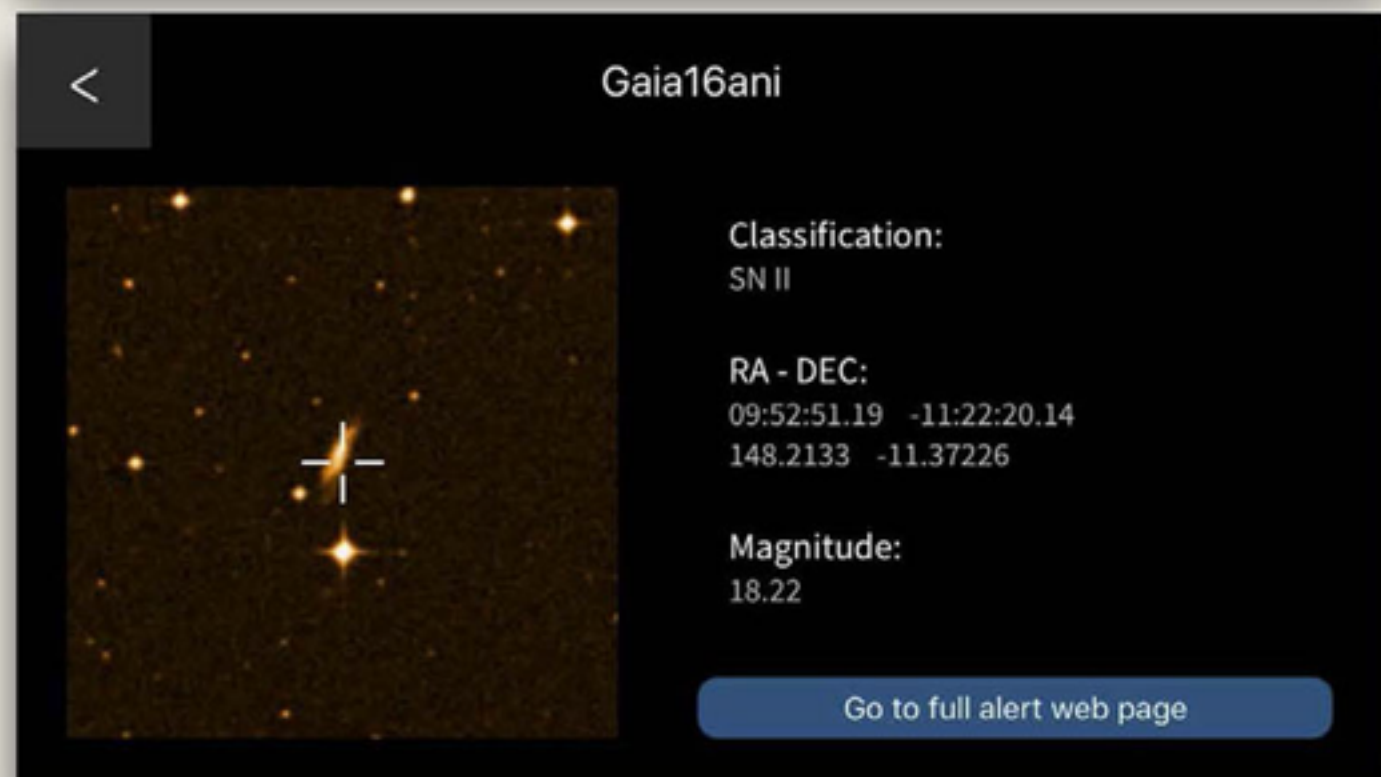
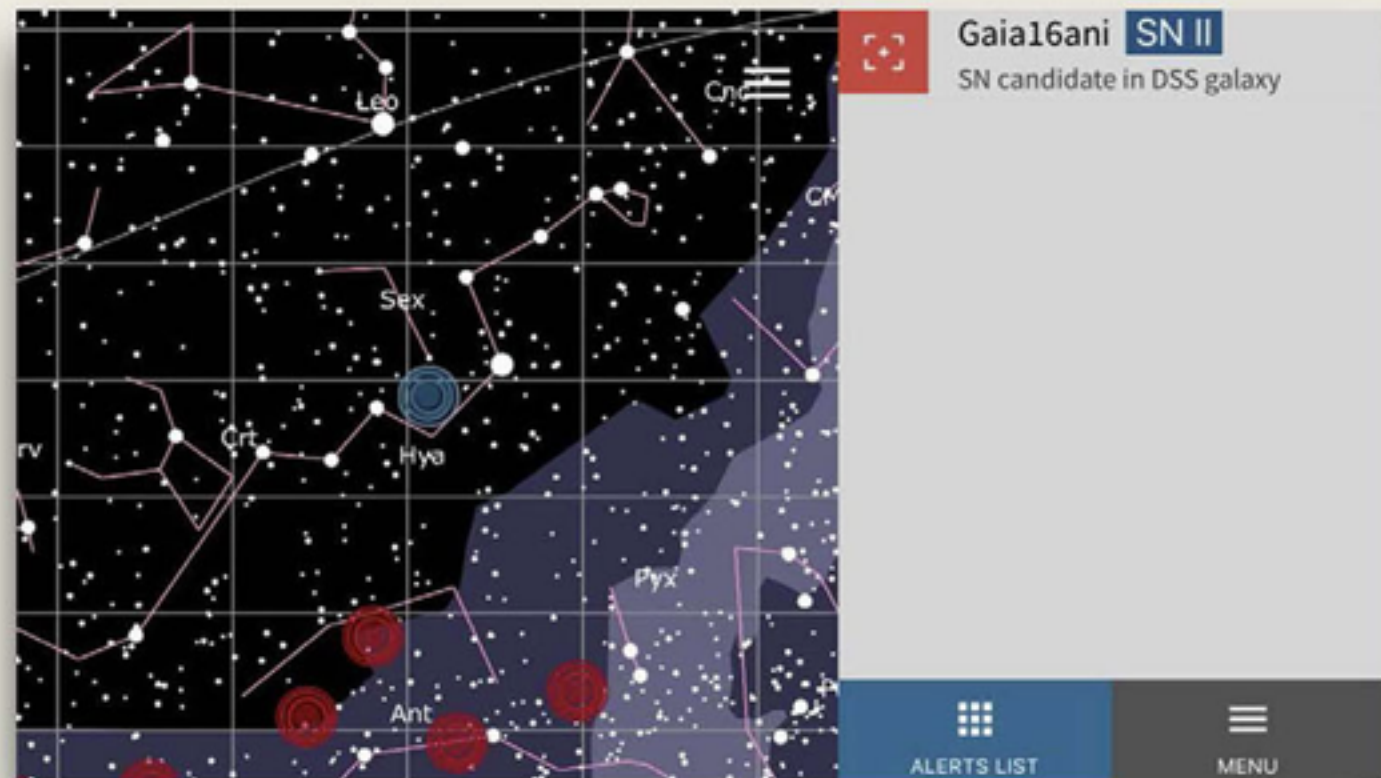


OPTICON – NEW TECHNOLOGY



OPTICON – DEVELOPMENT OF TOOLS

GaiaAlerts apps



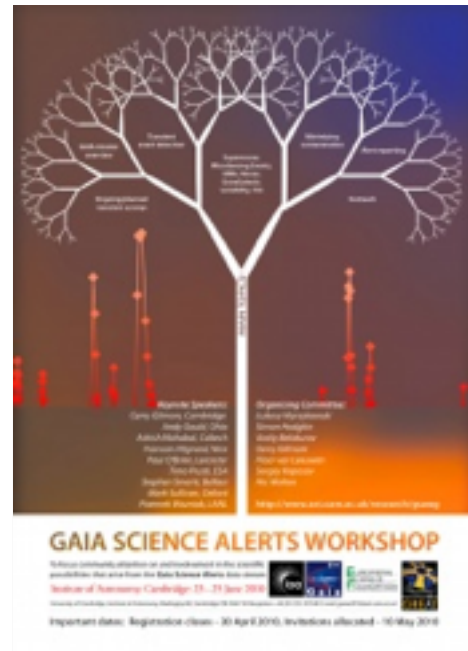
OPTICON – TIME-DOMAIN ASTRONOMY (TDA)

- ▶ networking (workshops)
- ▶ coordination of scientific goals in time-domain
- ▶ support in observations and data processing
- ▶ observing trips
- ▶ robotic telescopes in TNA support

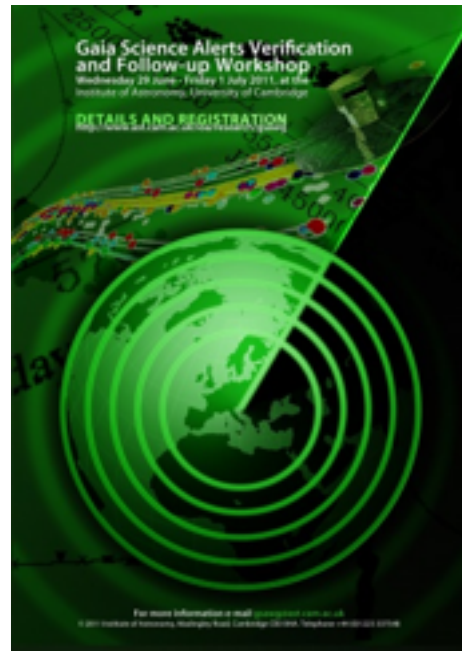
WORKSHOPS



2010-
Cambridge



2011-
Cambridge



2012-Bologna



2013-Paris



2014-Warsaw



2015-Liverpool



2016-Utrecht



2017-Warsaw



Archive of slides
and videos:

<http://www.ast.cam.ac.uk/ioa/wikis/gsawgwiki>

OPTICON – TIME-DOMAIN ASTRONOMY (TDA)

ORGANIZATION OF FOLLOW-UP NETWORK

Gaia Science Alerts Working Group #10 - Photometric Follow-up

- ▶ data from Gaia arrives, alert candidates published
- ▶ interesting targets identified (microlensing, TDEs)
- ▶ visibility check
- ▶ information on the mailing list (GSAWG-10)
- ▶ follow-up observations (YOU) going to the Calibration Server

Gaia17ddi

DetailsFollow-up



Other surveys detections
None

Comments
slowly rising galactic plane transient, candidate microlensing event

ATels
None

TNS ID
AT2017ism

RA - DEC
295.10007 28.10117
19:40:24.02 28:06:04.21

Galactic coords.
63.26867 2.77035

Alerting date
2017-12-02 19:35:49

Julian date
2458090.32

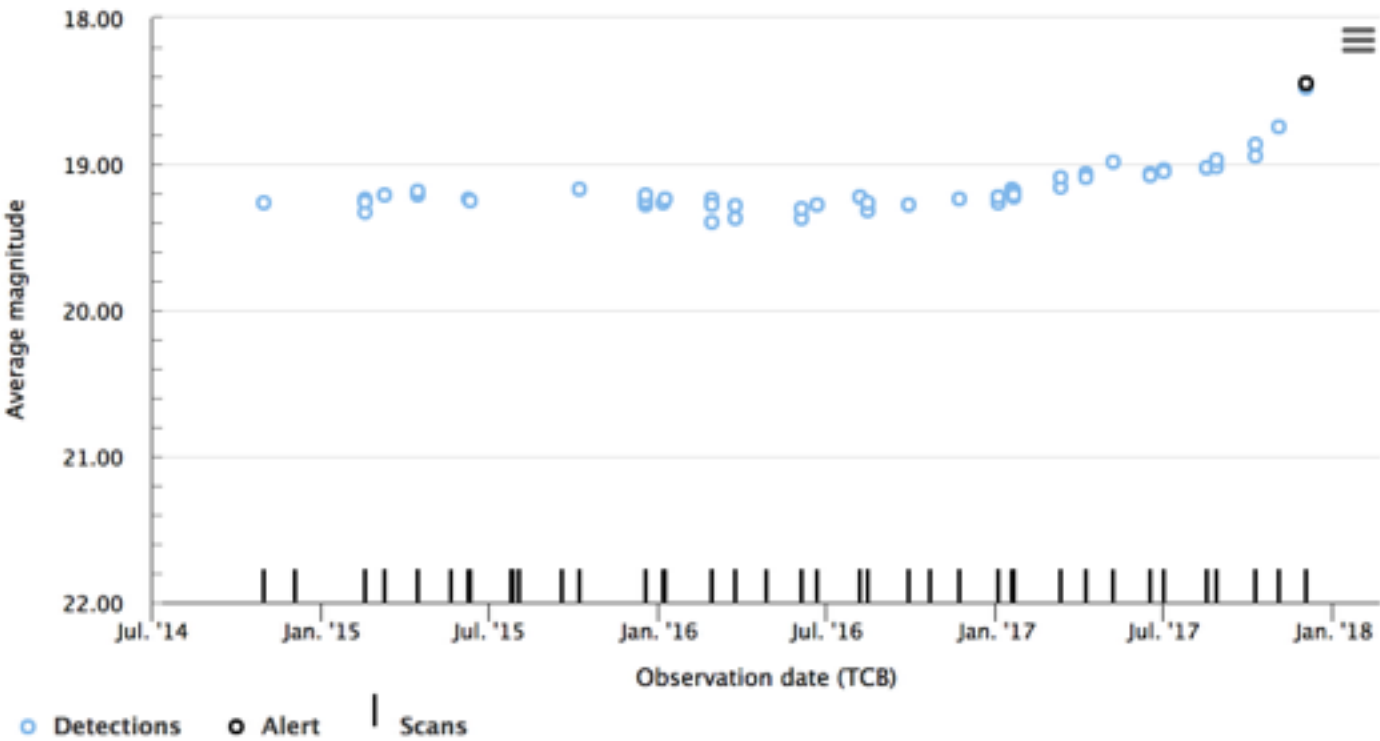
Alerting magnitude
18.45

Historic magnitude
19.18

Historic StdDev
0.13

Class
unknown

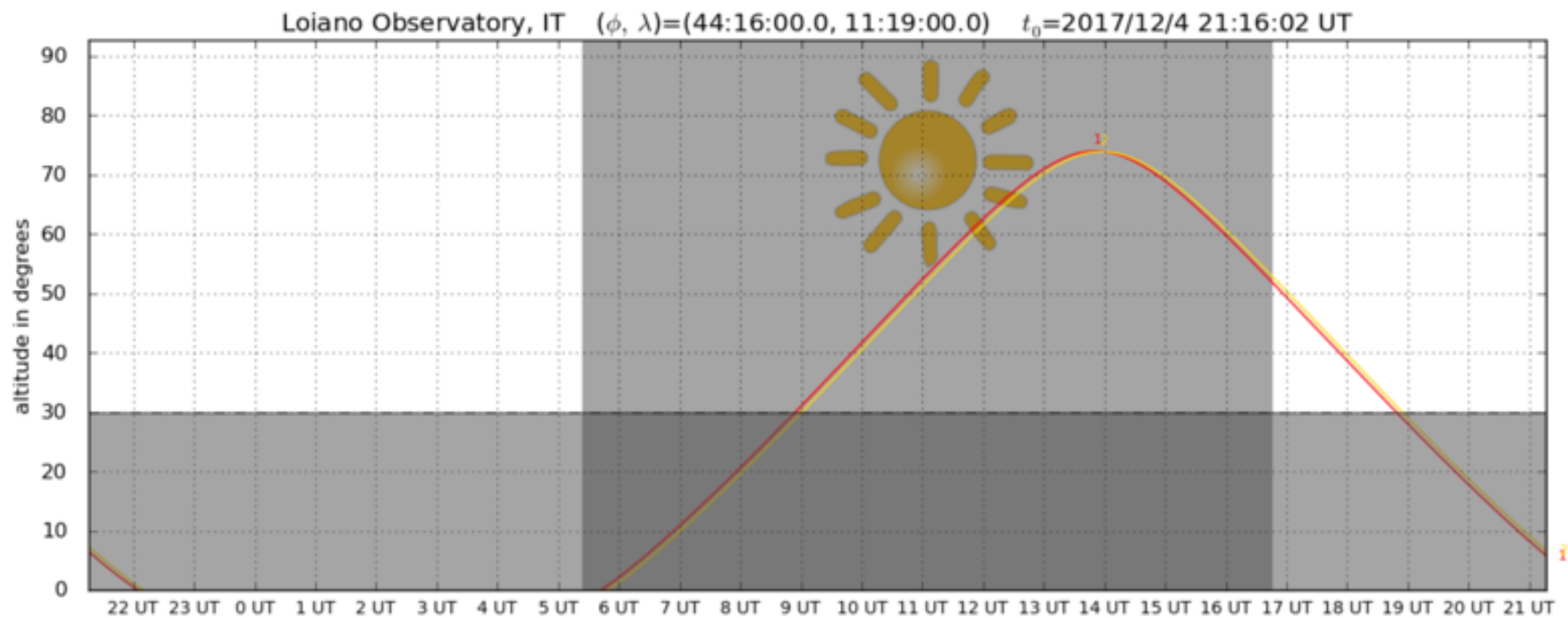
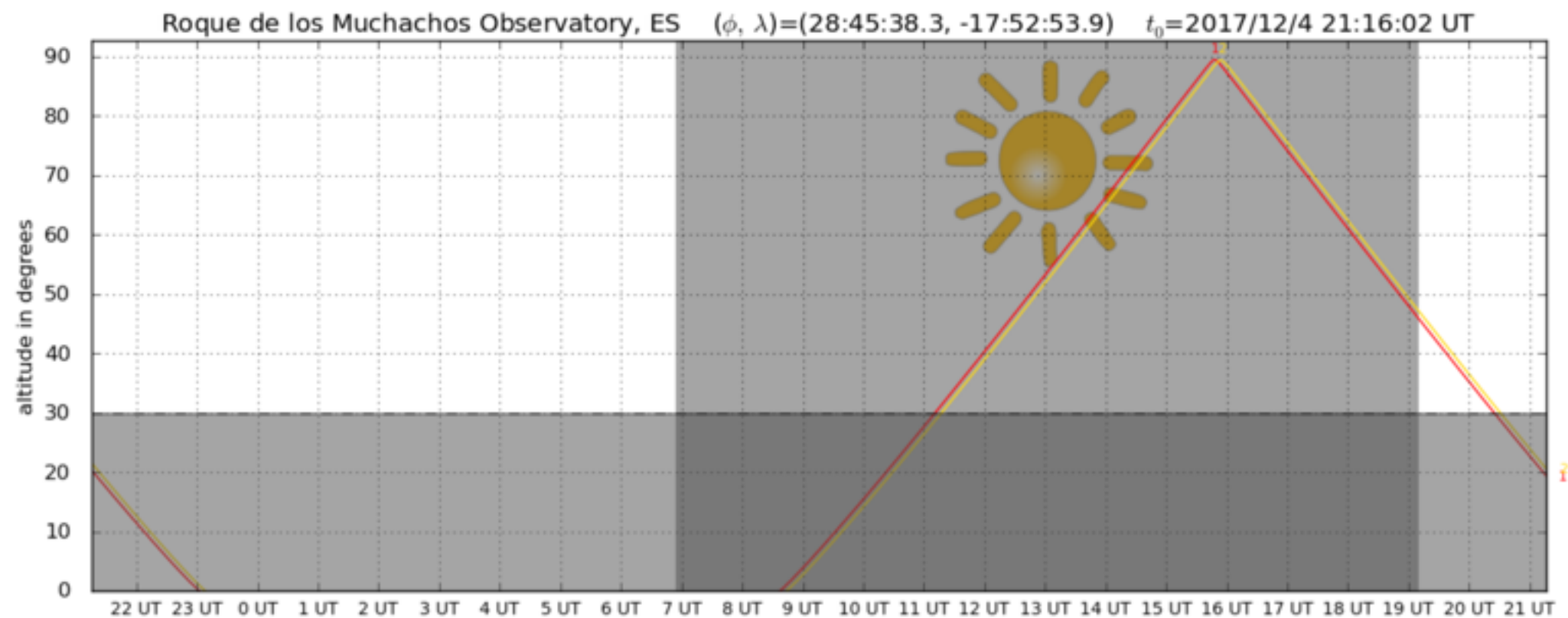
Publication date
Dec. 4, 2017, 8:06 p.m.



Get lightcurve data

1) ddp d293.58517 28.20143 2) ddi d295.10007

Modify parameters and recalculate



MAILING LIST





Groups

NEW TOPIC



Mark all as read

Actions ▾

Filters ▾





GSAWG10 Photometric Follow-up

Shared privately

31 of 76 topics (2 unread) ★

Manage · Members · About ▾

This group does not have a welcome message.

[Add welcome message](#)

☐	 two microlensing events in the North! (1) By me - 1 post - 0 views	4 Dec
☐	 URGENT!! Bright microlensing event! (2) By me - 2 posts - 4 views	2 Nov
☐	 Targets October/November 2017 (2) By me - 2 posts - 6 views	17 Oct
☐	 8th Gaia Science Alerts Workshop - new dates (1) By me - 1 post - 2 views	3 Oct
☐	 Warsaw Gaia Science Alerts Workshop - change of dates?? (1) By me - 1 post - 2 views	29 Sep
☐	 Additional target for early evening (1) By me - 1 post - 2 views	21 Sep
☐	 Targets for September/October 2017 (1) By me - 1 post - 5 views	21 Sep
☐	 ASASSN-17gs/17egv got brighter (3) By me - 3 posts - 5 views	15 Sep

gsaweb.ast.cam.ac.uk/followup/

Welcome to the Cambridge Photometry Calibration Server (CPCS)

Logged as admin

[Login](#) into the system
[List](#) of alerts ([observed only](#))
[List](#) of followup data
[List](#) of observatories
[Upload](#) new followup data
[Enter](#) new event
[Delete](#) a followup point from the system

Admin stuff

[Add](#) a new user into the system
[Update](#) the coordinates of an alert

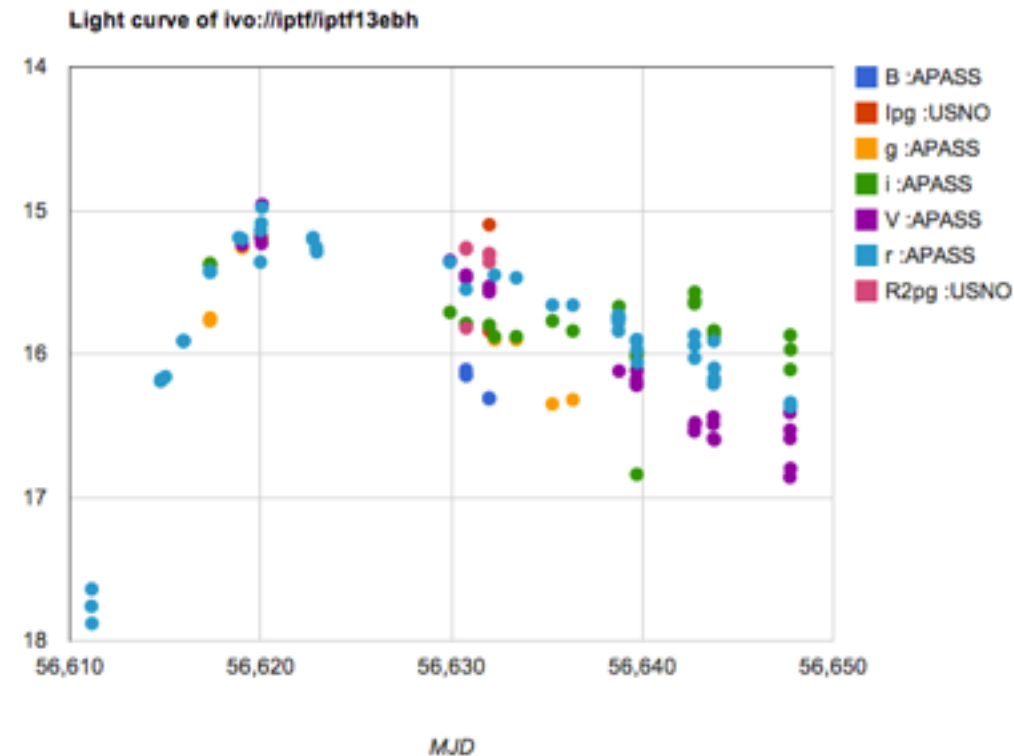
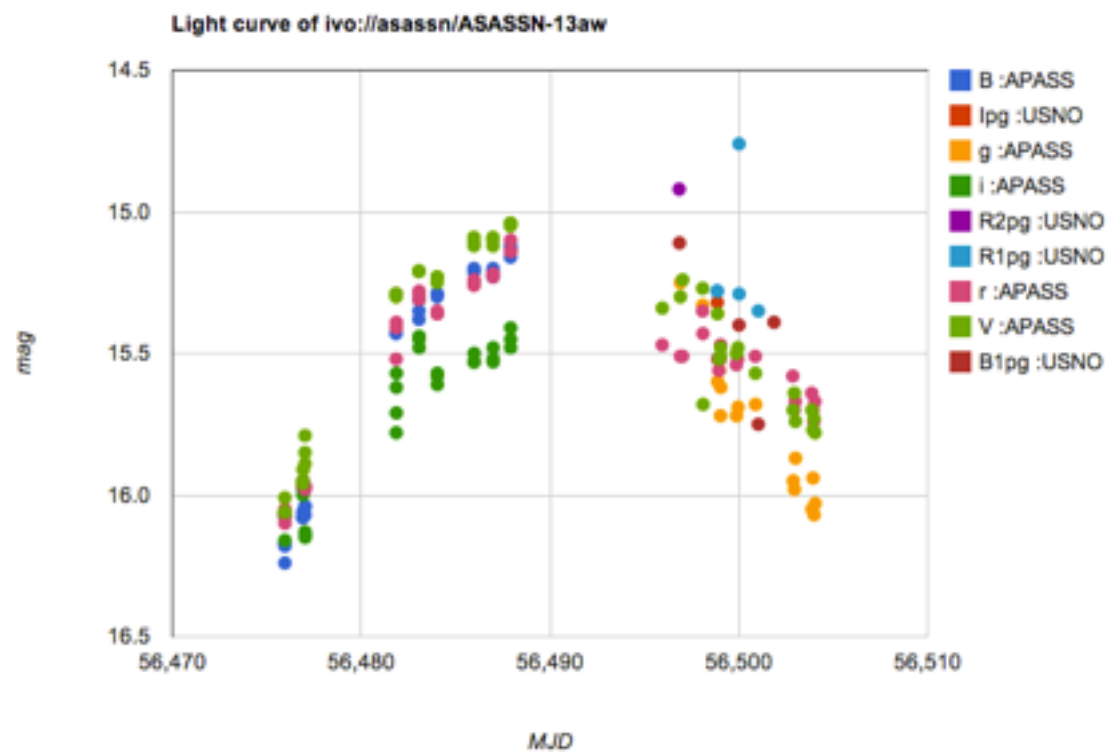
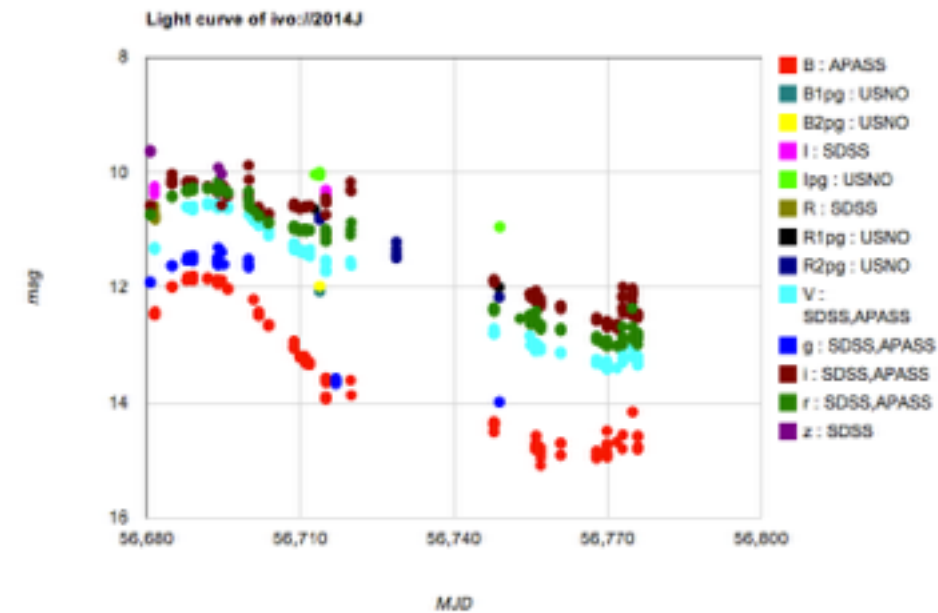
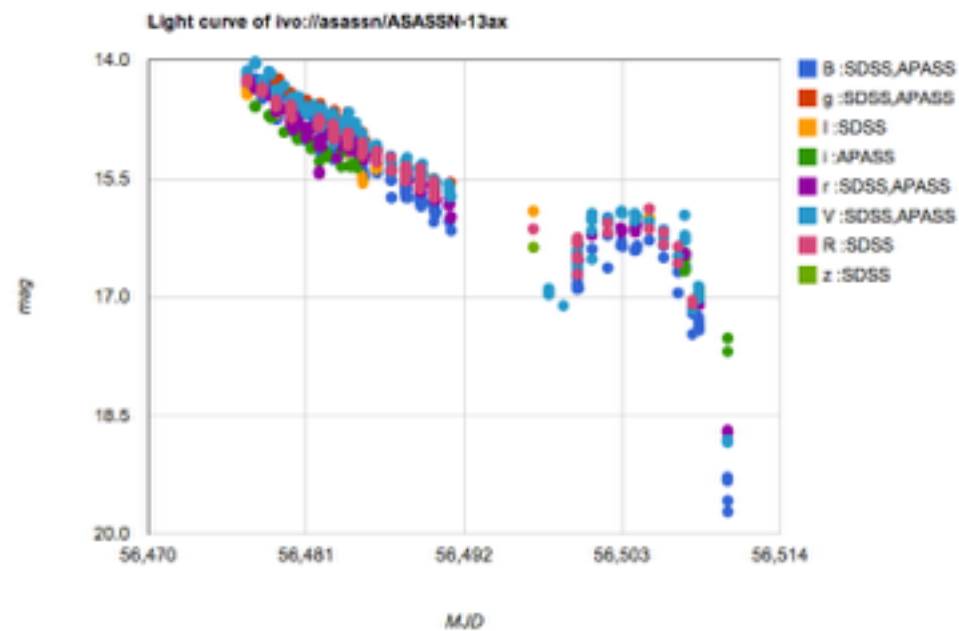
Last data upload was done on Thu Aug 14 15:47:16 2014 for ivo://asassn/ASASSN-14bb

[Logout](#)

[Manual](#)

CALIBRATION SERVER

gsaweb.ast.cam.ac.uk/followup/



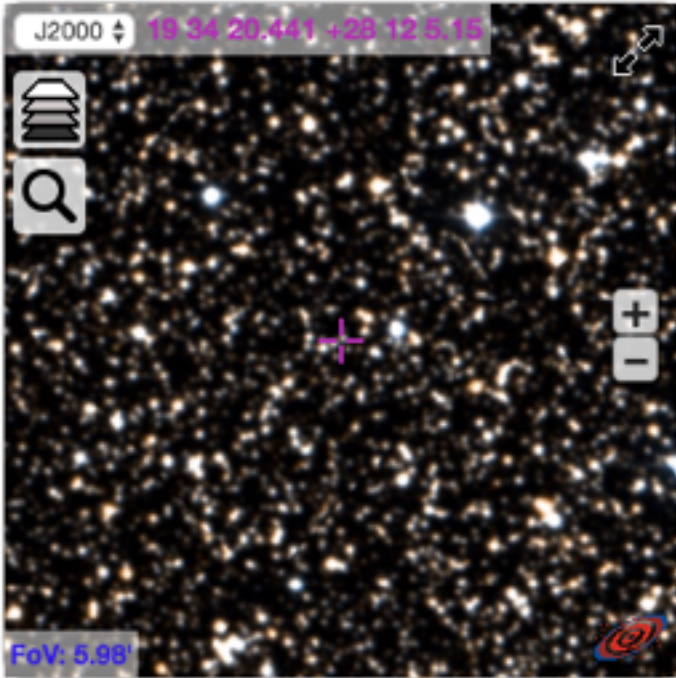
CALIBRATION SERVER

<< previous next >>

Gaia17ddp

Details

Follow-up



Other surveys detections
None

Comments
Gaia source near Galactic plane rises by more than 1 mag and gets redder

ATels
None

TNS ID
AT2017isp

RA - DEC
293.58517 28.20143
19:34:20.44 28:12:05.15

Galactic coords.
62.70548 3.98609

Alerting date
2017-12-02 19:37:02

Julian date
2458090.32

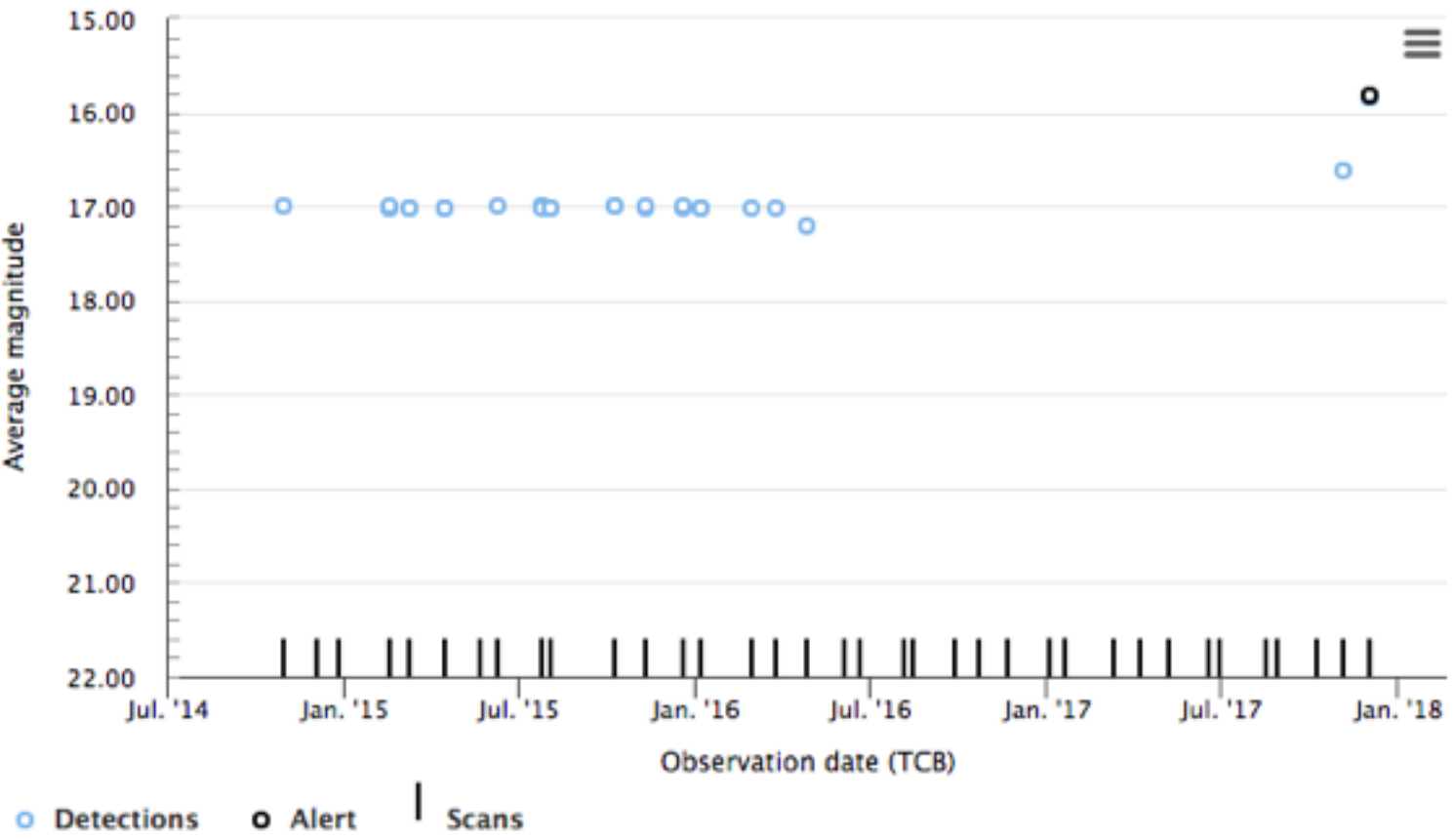
Alerting magnitude
15.83

Historic magnitude
17.00

Historic StdDev
0.09

Class
unknown

Publication date
Dec. 4, 2017, 8:46 p.m.



Get lightcurve data

Gaia17ddp

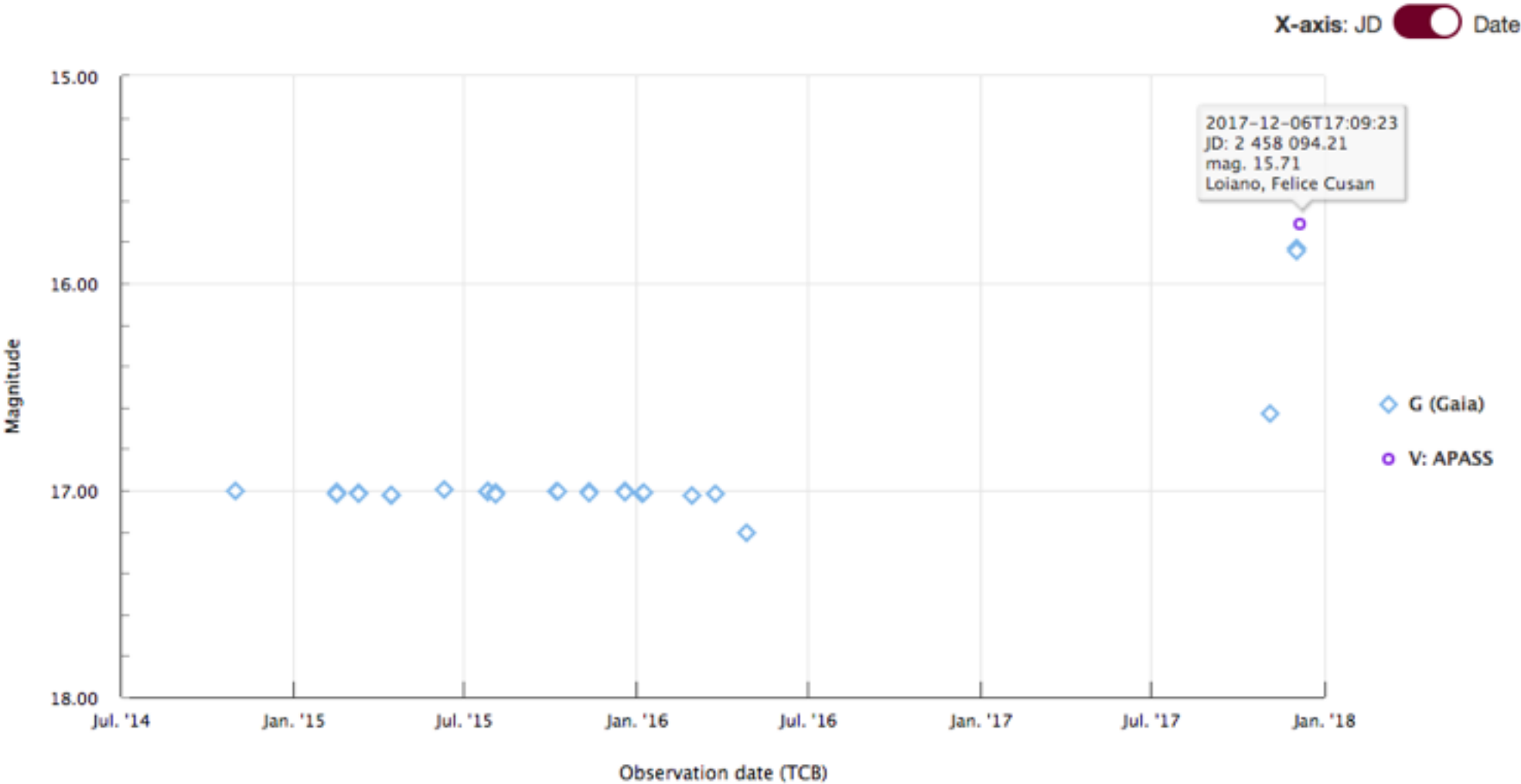
Details

Follow-up

The figure shows the Gaia lightcurve combined with photometric follow-up photometry generously provided by the astronomical community using the [Cambridge Photometry Calibration Server \(CPCS\)](#). Multiple filters are shown in one figure and can be toggled on/off using the legend on the side. Click and drag in the chart to zoom in. Clicking on datapoints provides additional information of the observation.

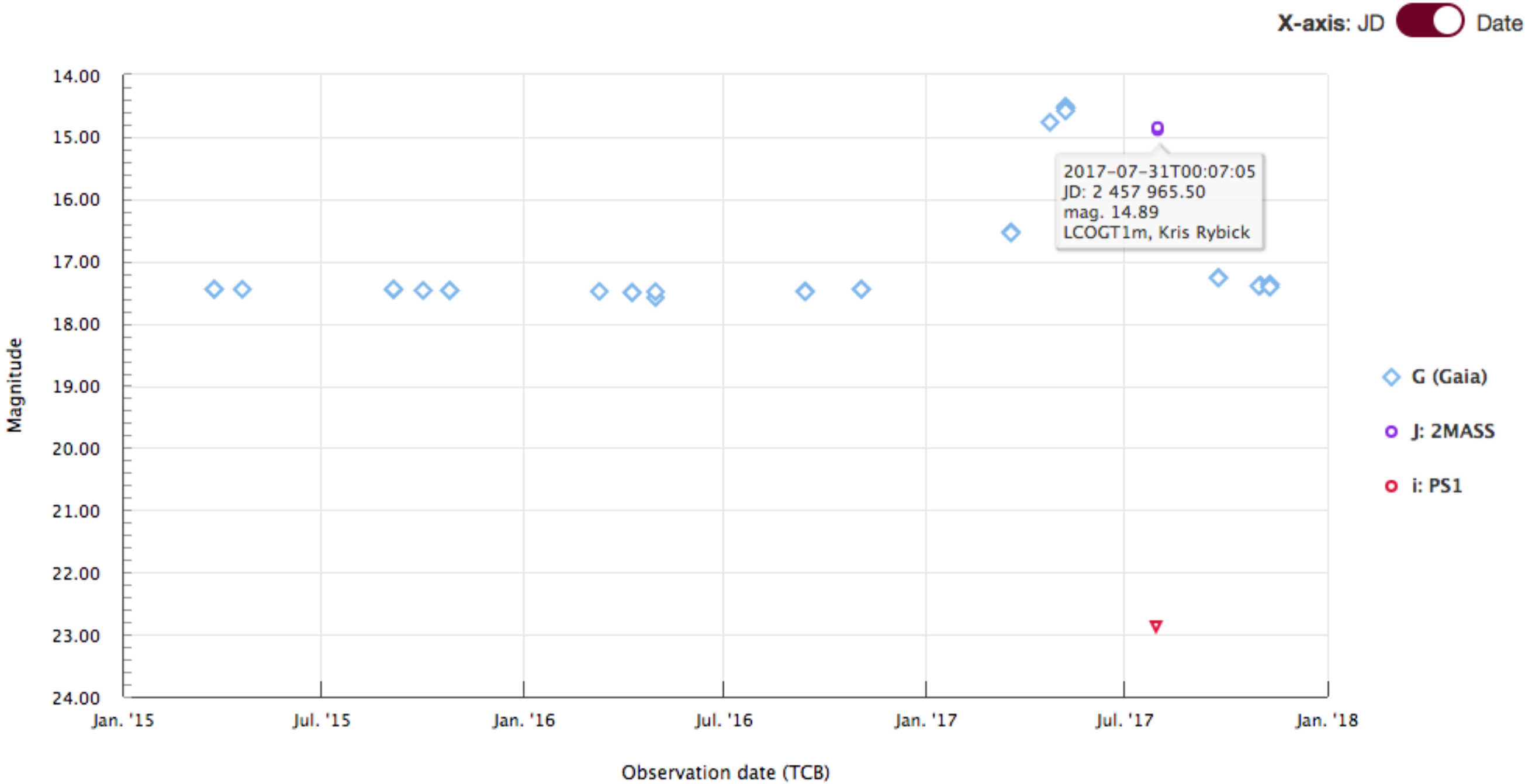
Access to these photometric data may be requested from the individuals who took the data. Please contact us if you would like to ask for access and we will pass on your request.

Warning: The follow-up data is obtained using rough calibrations and we can not guarantee its complete correctness at this stage.



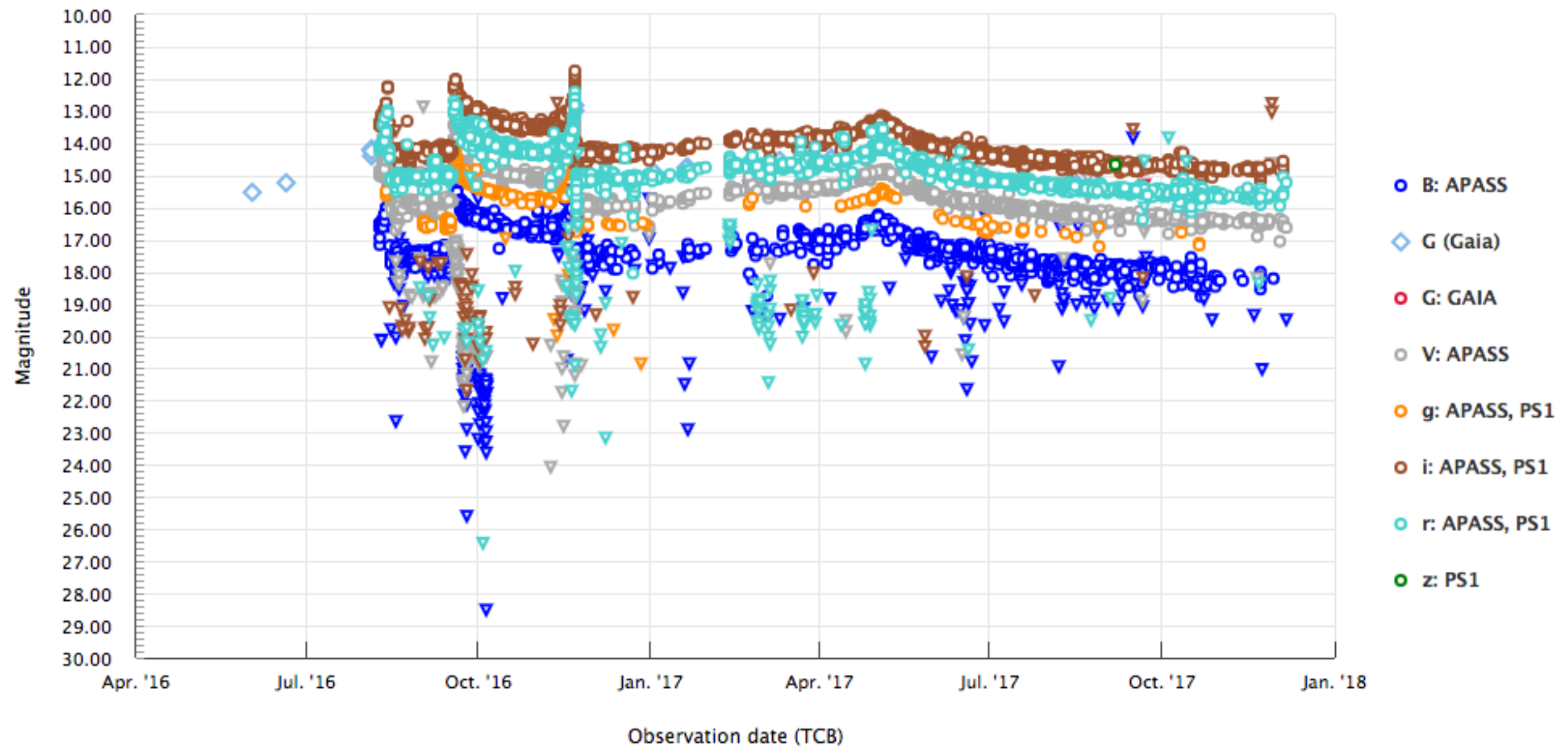
CALIBRATION SERVER

Gaia17bej - not enough data points!



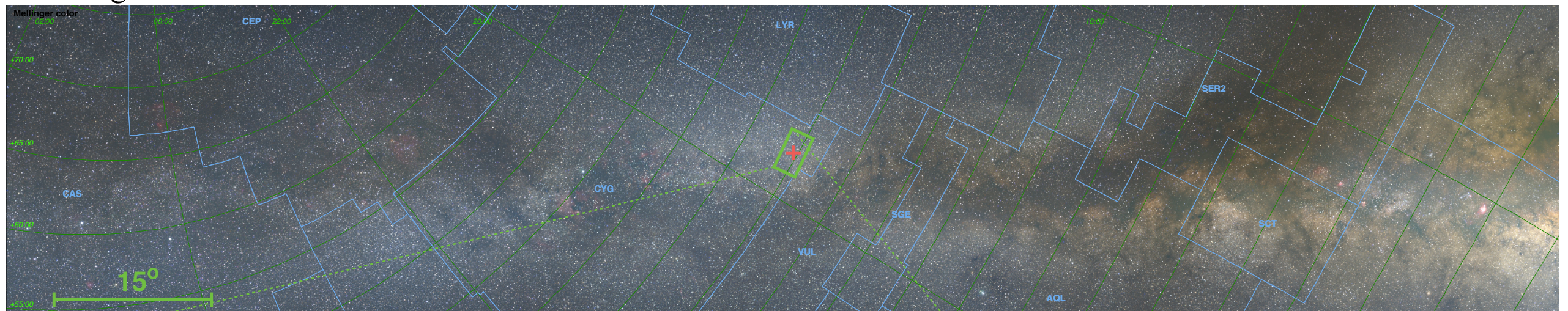
GAIA16AYE

>20,000 data points!

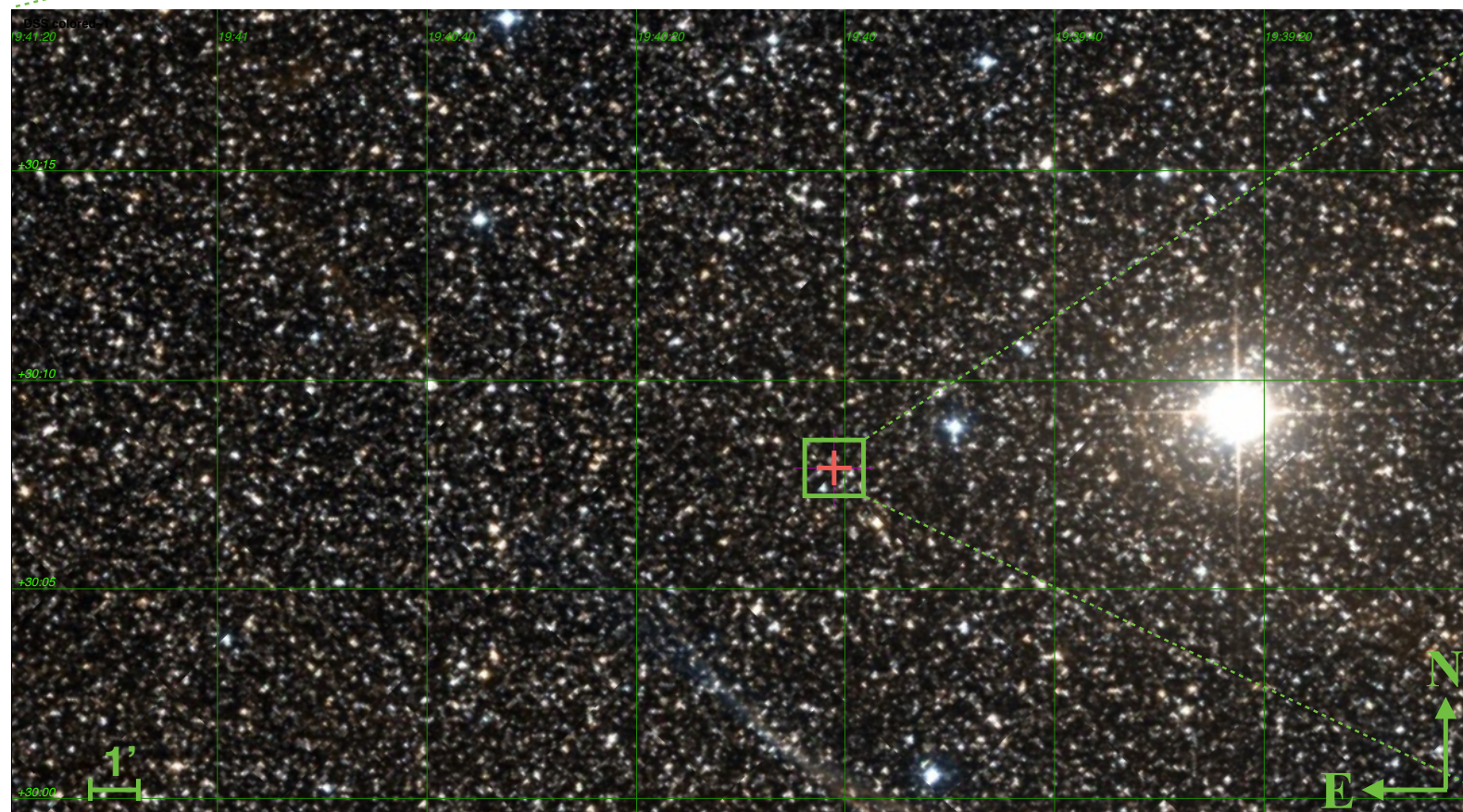


first binary microlensing event in the Galactic Disk!

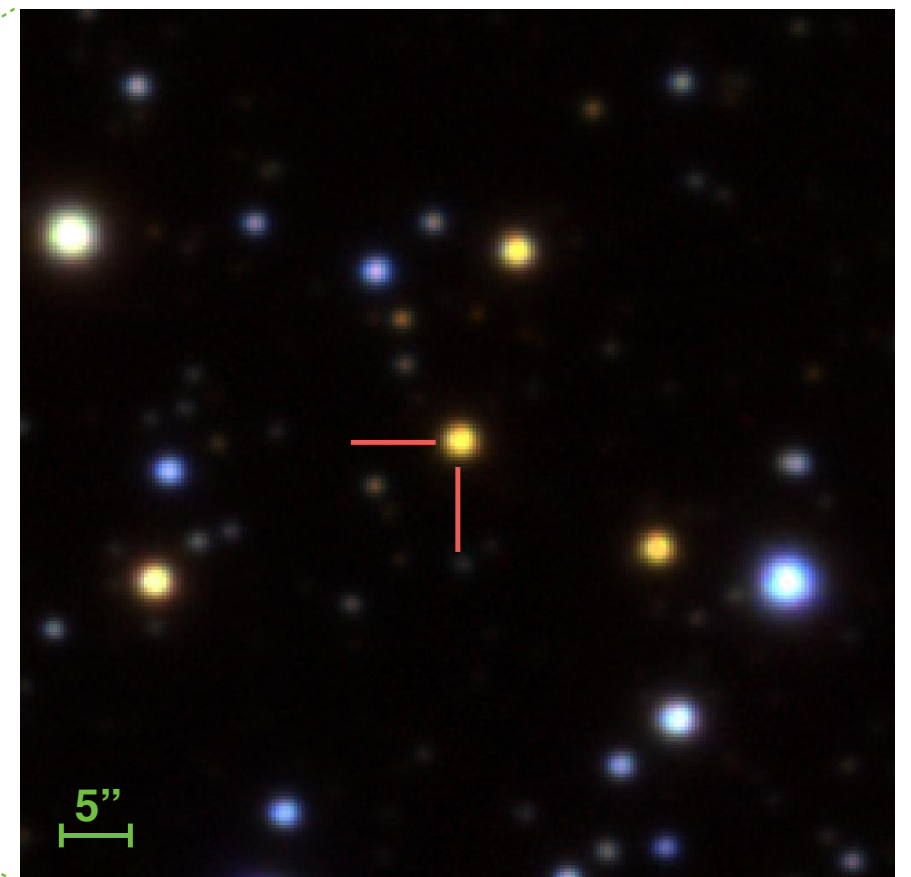
Mellinger



DSS



PS1



Gaia16aye - First Binary Microlensing Event in the Northern Galactic Disk.

Łukasz Wyrzykowski^{1,*}, P. Mroz¹, K. Rybicki¹, G. Altavilla², V. Bakis³, P. Bendjoya⁴, G. Birenbaum⁵, N. Blagorodnova⁶, S. Blanco-Cuaresma⁷, A. Bonanos⁸, V. Bozza⁹, N. Britavskiy¹⁰, U. Burgaz¹¹, T. Butterley¹², P. Capuozzo¹³, J.M. Carrasco¹⁴, M. Chruslinska¹, G. Damjanovic¹⁵, M. Dennefeld¹⁶, V.S. Dhillon¹⁷, M. Dominik¹⁸, H. Esenoglu¹⁹, S. Fossey²⁰, A. Gomboc²¹, N. Hallokoun⁵, A. Hamanowicz¹, L.K. Hardy¹⁷, R. Hudec²², I. Khamitov²³, J. Klencki¹, Z. Kolaczowski²⁴, U. Kolb²⁵, S. Leonini²⁶, G. Leto²⁷, F. Lewis²⁸, A. Liakos⁸, S.P. Littlefair¹⁷, D. Maoz⁵, J.R. Maund¹⁷, P. Mikolajczyk²⁴, L. Palaversa²⁹, M. Pawlak¹, M. Penny³⁰, A. Piascik³¹, P. Reig³², L. Rhodes¹⁷, D. Russell³³, R.Z. Sanchez²⁷, B. Shappee³⁰, Y. Shvartzvald⁵, M. Sitek¹, M. Sniegowska¹, K. Sokolovsky³⁴, I. Steele³¹, R. Street³⁵, L. Tomasella³⁶, L. Trascinelli¹³, K. Wiersema³⁷, R.W. Wilson¹², I. Zharkov¹³, S. Zola³⁸, and A. Zubareva³⁴

¹ Warsaw

² INAF Bologna

³ Akdeniz Univ.

⁴ C2PU-Omicron

⁵ Wise Obs.

⁶ Caltech

⁷ Geneva

⁸ NOA Athens

⁹ Salerno

¹⁰ Odessa

¹¹ Ege Univ.

¹² Durham Univ.

¹³ Ardingly College

¹⁴ Barcelona Univ.

¹⁵ Belgrade

¹⁶ IAP

¹⁷ Sheffield Univ.

¹⁸ St.Andrews Univ.

¹⁹ TUG

²⁰ UCL

²¹ Nova Gorica Univ.

²² Ondrejov

²³ TUG Antaluya

²⁴ Wroclaw

²⁵ Open Univ.

²⁶ Montarrenti Obs

²⁷ INAF OACT

²⁸ Cardiff Univ.

²⁹ Geneva/Cambridge

³⁰ Ohio State

³¹ Liverpool JMU

³² Crete Univ.

³³ New York Univ.

³⁴ IAASARS NOA/SAI/ASC Lebedev

³⁵ LCOGT

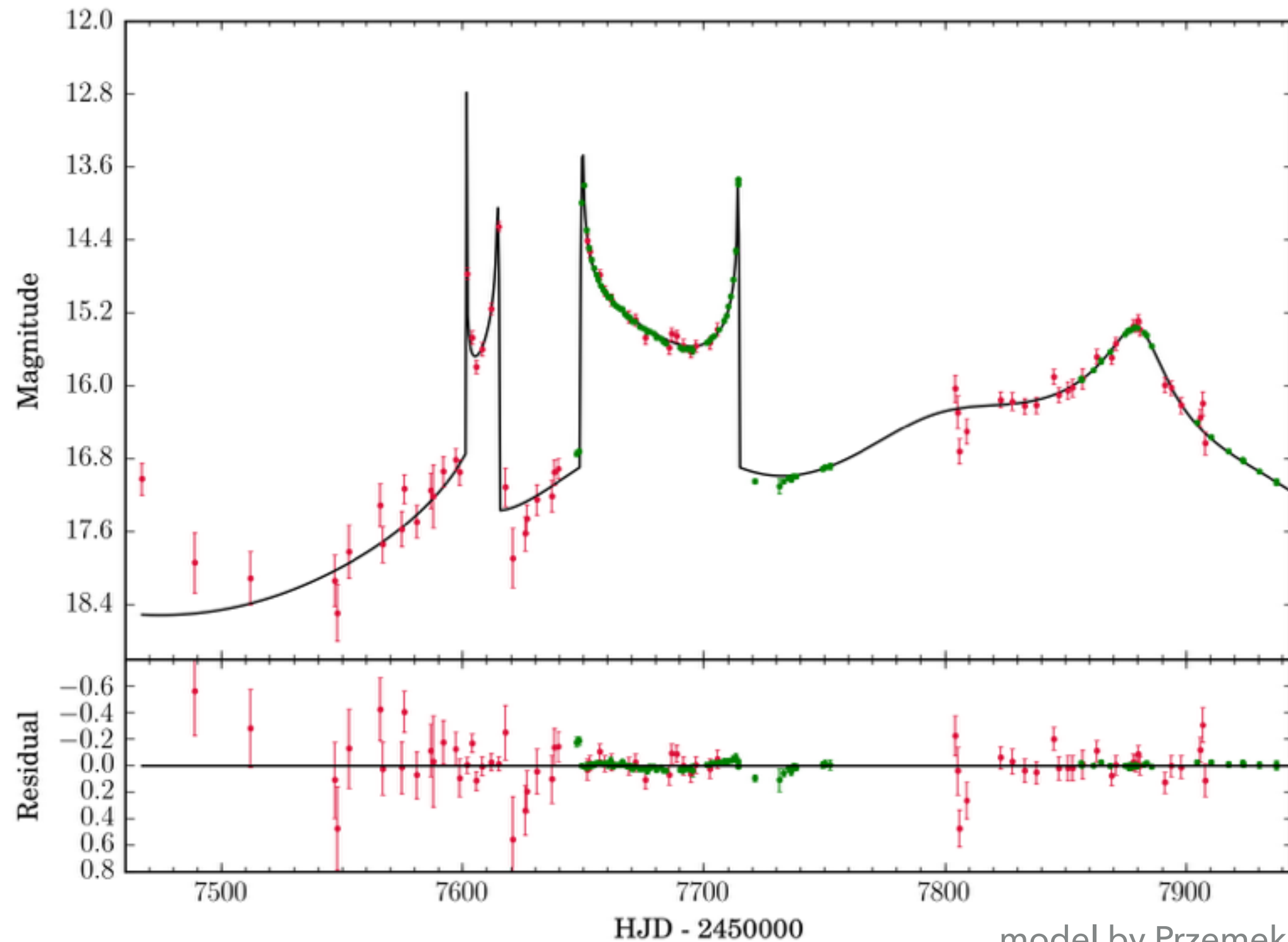
³⁶ INAF OAPD

³⁷ Leicester

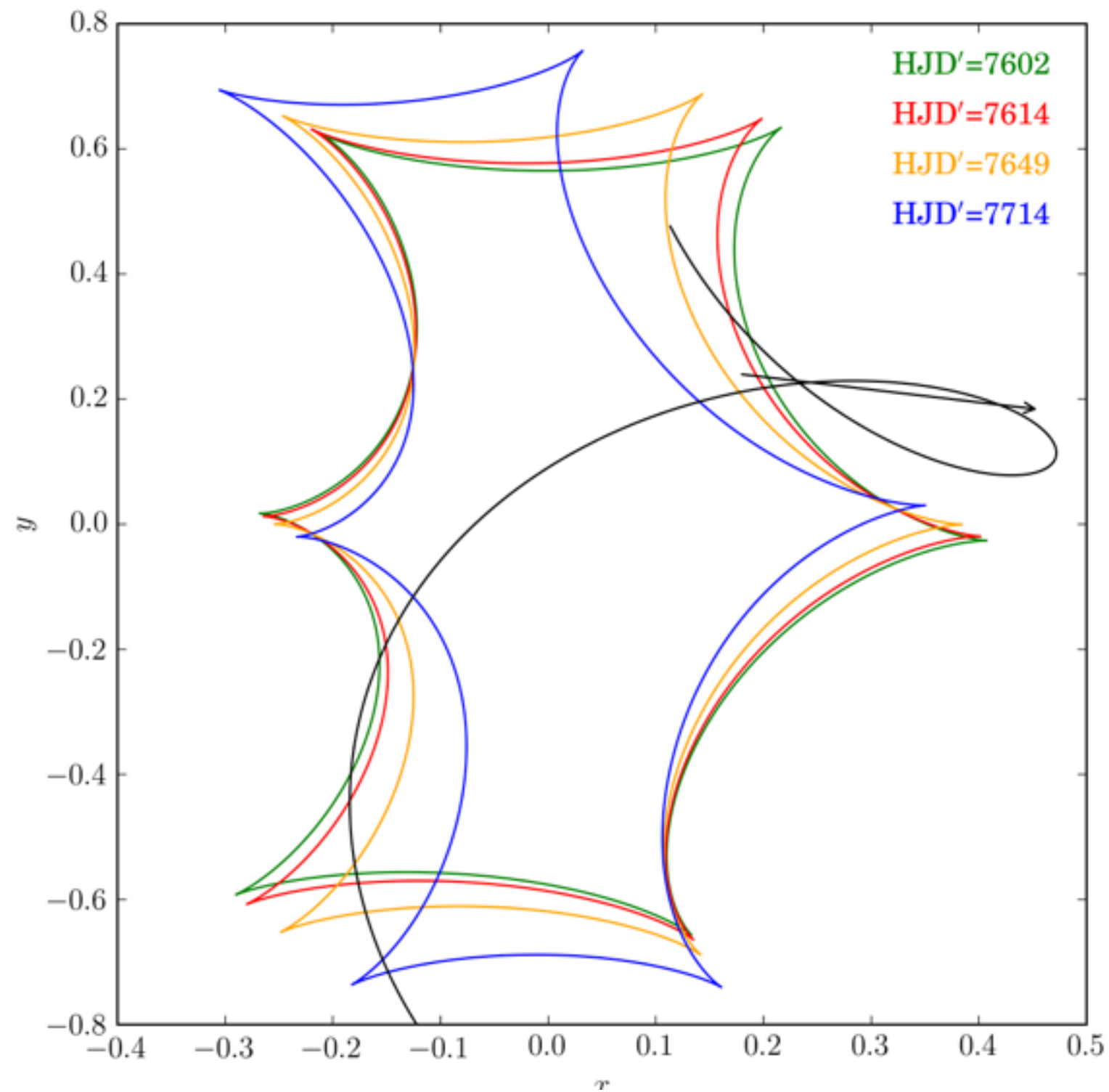
³⁸ Jagiellonian Univ.

>60 authors, >30 institutes

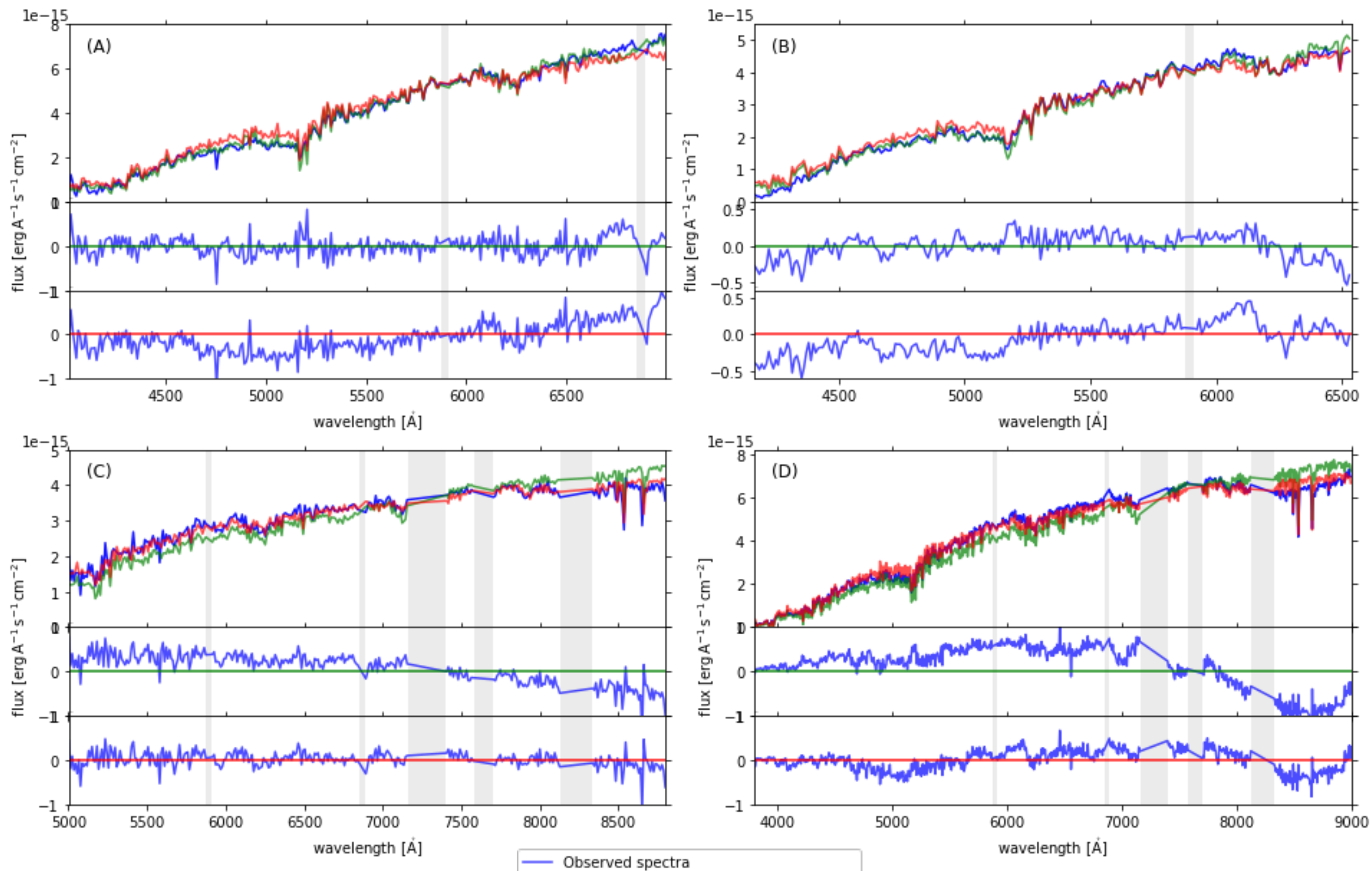
rotation of the binary and Earth motion visible



rotation of the binary and Earth motion visible



GAIA16AYE



WE WANT YOUR DATA!

Photometric observations of Gaia17cvx

ATel #11005; *Andrew Simon (Taras Shevchenko National University of Kyiv, Ukraine), Yurii Bufan (ICAMER Observatory & Ivan Franko National University of Lviv, Ukraine), Vira Godunova (ICAMER Observatory, Ukraine)*

on 24 Nov 2017; 17:49 UT

Distributed as an Instant Email Notice Transients

Credential Certification: Andrew Simon (skazhenijandrew@gmail.com)

Subjects: Optical, Transient



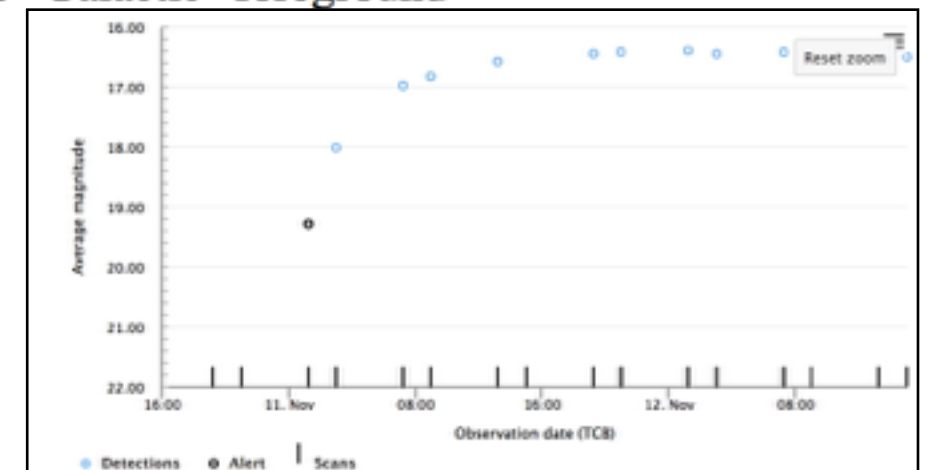
Tweet



Recommend 2

The optical transient Gaia17cvx was discovered by Gaia on 2017-11-11 at magnitude $G = 19.28$. We confirmed Gaia17cvx with images taken with the 0.6-m Zeiss telescope at the Terskol Observatory on 2017-11-15, just after the alert was published. The source was found to be bright enough that allowed us to perform its differential photometry. The following magnitudes of Gaia17cvx were derived (calibrated against NOMAD field stars; not corrected for the Galactic foreground extinction):

MJD	exptime	filter	mag	errstat
58072,6341	600 s	B	18,62	0,32
58072,6356	600 s	V	17,49	0,10
58072,6367	300 s	R	16,72	0,14



Additionally, we estimated an I magnitude of the source against three USNO-B stars; its value of 15.63 ± 0.07 (MJD 58072,6375) suggests Gaia17cvx to be a red object. We acknowledge ESA Gaia, DPAC and the Photometric Science Alerts Team (<http://gsaweb.ast.cam.ac.uk/alerts>).

WE WANT YOUR DATA!

Follow-up photometry of transients Gaia16asm, Gaia17cao, and Gaia17cuh

ATel #11006; *V. Reshetnyk (Taras Shevchenko National University of Kyiv, Ukraine), Y. Bufan (ICAMER Observatory & Ivan Franko National University of Lviv, Ukraine), V. Kozlov (ICAMER Observatory, Ukraine), I. Sokolov (INASAN RAS, Russia), A. Simon (Taras Shevchenko National University of Kyiv, Ukraine), V. Godunova (ICAMER Observatory, Ukraine), O. Sergeev (ICAMER Observatory, Ukraine)*

on 24 Nov 2017; 19:05 UT

Credential Certification: Andrew Simon (skazhenijandrew@gmail.com)

Subjects: Optical, Transient



Tweet



Recommend 1

We report optical observations of transients Gaia17cuh, Gaia17cao, and Gaia16asm, which are assumed to be CVs. Their photometry was performed at the Terskol Observatory (the Northern Caucasus) in July-November 2017.

A bright blue transient **Gaia17cuh** on faint red Gaia source near Galactic plane was discovered on 2017-11-02 at magnitude $G = 15.48$; its previous observations by Gaia in 2015-2017 showed the mean magnitude $G = 18.92 \pm 0.23$. We detected the source on the images taken on 2017-11-18 with the 2-m RCC telescope. The following magnitudes of the object were measured (calibrated against NOMAD field stars; not corrected for the Galactic foreground extinction):

MJD	filter	mag	errstat
58076.1949	B	19.35	0.04
58076.1926	V	19.08	0.04
58076.1934	R	18.49	0.05

A long-term increase in brightness of Gaia source **Gaia17cao** was announced on 2017-08-11 after its G magnitude reached 18.62 on 2017-08-08 08:33:06 (and 18.31 two hours later). We had begun to observe this object on 2017-08-28 using the 0.6-m Zeiss telescope. Gaia17cao was detected at