

Introduction to the Cambridge Photometric Calibration Server

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CALIBRATION SERVER

<http://gsaweb.ast.cam.ac.uk/followup/>

designed by Sergey Koposov and Łukasz Wyrzykowski
since 2011

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Main menu

Welcome to the Cambridge Photometry Calibration Server (CPCS)

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Login

Login Form:

Hash tag:

Your unique access name / pass
(provided by Cambridge)

LIST OF OBSERVATORIES

<http://gsaweb.ast.cam.ac.uk/followup/observatories>

id	Name	Longitude	Latitude	Observations
18	admin	None	None	6
49	Aleks Scholtz James Gregory Telescope 0.94 St.Andrews,UK	-2.8	56.3	0
16	Alex Ball-SMARTS1.3	70.815	-30.16527778	145
76	Anna Hourihane	0.0	0.0	898
1	AnonymousFollowUpAccount	0.0	0.0	0
9	AshishMahabalEulerLaSillaChile	-70.73	-29.257	28
7	AshishMahabalIGOIndia	73.666667	19.083333	0
10	AshishMahabalP60	-116.863889	33.355833	0
8	AshishMahabalSAAO1.9SA	20.811642	-32.378961	0
15	AshishMahabal-SMARTS1.3	70.815	-30.16527778	0
27	BAS NAO 2m Rozhen	24.74	41.7	6
28	BAS NAO 60cm Rozhen	24.74	41.7	0
29	BAS NAO Rozhen 50/70cm Schmidt	24.74	41.7	8
30	Belogradchik, AO, 60cm, Bulgaria	22.67	43.62	19
66	Bialkow, A.Pigulski	16.68	51.48	16
64	Bialkow, D.Mozdziński	16.68	51.48	0
63	Bialkow, G.Kopacki	16.68	51.48	0
65	Bialkow, Z.Kolaczowski	16.68	51.48	467
61	BOOTES4,JJapelj,China	100.03	26.695	0
14	Colin Snodgrass, RoboNET	0.0	0.0	0
75	Euler Geneva Group	-70.73	-29.257	106
31	Gabor Marschalko, Konkoly, Piszkesteto Mountain Station, Hungary	19.8953	47.9181	60
5	GiuseppeAltavillaAPT2CataniaItaly	14.974722	37.693056	0
3	GiuseppeAltavillaAsiagoObservatoryItaly	11.571375	45.843389	0
2	GiuseppeAltavillaLoianoObservatoryItaly	11.333889	44.259167	44
4	GiuseppeAltavillaTNTTeramoItaly	13.733333	42.6575	0
6	GiuseppeAltavillaToppoNaplesItaly	15.463333	40.817778	0
43	Giuseppe Leto APT2 Catania	14.974722	37.693056	26
26	Goran Damijanovic, ASV, Serbia	21.55	43.15	619
36	Heather Campbell	0.0	0.0	7782

about ~40 active users

LIST OF ALERTS

http://gsaweb.ast.cam.ac.uk/followup/list_of_alerts

id	ivorn	published	ra	dec	nfollowup	LC	data
26139	ivo://Gaia15aff-bis	2015-10-29 13:36:13	306.69743	42.9949	0	LC	data
26138	ivo://PS15blq	2015-10-07 09:58:18	262.9266667	43.89269444	229	LC	data
26137	ivo://MASTEROTJ183934.91+414404.2	2015-09-25 17:20:51	279.895	41.7345	63	LC	data
26136	ivo://OGLE15gg	2015-09-22 13:10:29	0.695625	-73.51175	6	LC	data
26135	ivo://Gaia15agi	2015-08-31 19:08:59	43.08181	60.57638	1	LC	data
26134	ivo://OGLE15eo	2015-08-31 15:32:50	45.5647917	-74.28675	4	LC	data
26133	ivo://ASASSN-15nr	2015-08-13 22:04:55	261.6743333	13.9098528	16	LC	data
26132	ivo://PSN-J23470615+2929074	2015-08-13 02:23:57	356.775625	29.4853889	10	LC	data
26131	ivo://PS15bpa	2015-08-12 20:24:03	292.18175	56.6893611	18	LC	data
26130	ivo://PS15bpo	2015-08-12 20:22:34	346.5146667	33.6024444	18	LC	data
26129	ivo://ASASSN15nr	2015-08-11 17:02:50	261.67458	13.9095	0	LC	data
26128	ivo://OGLE15eb	2015-08-07 23:23:18	7.055	-76.9906944	2	LC	data
26127	ivo://OGLE15ej	2015-08-07 22:41:19	41.3385417	-73.6565556	9	LC	data
26126	ivo://OGLE15el	2015-08-07 22:08:55	58.011125	-64.991	6	LC	data
26125	ivo://OGLE15eg	2015-08-07 21:13:26	21.41525	-69.3641944	10	LC	data
26124	ivo://PS15bom	2015-08-06 16:15:30	351.654375	-0.2897222	284	LC	data
26123	ivo://v404cyg	2015-08-04 13:37:22	306.0159583	33.86727778	476	LC	data
26120	ivo://Borrar	2015-07-22 14:27:05	181.02133	14.06805	0	LC	data
26118	ivo://OGLE15ef	2015-07-21 12:38:33	353.025	-70.0915833	0	LC	data
26117	ivo://SwiftJ1753.5-0127	2015-07-15 13:06:03	268.36788	-1.45172	0	LC	data

LIST OF ALERTS

http://gsaweb.ast.cam.ac.uk/followup/list_of_alerts?observed_only=1

id	ivorn	published	ra	dec	nfollowup	LC	data
26138	ivo://PS15blq	2015-10-07 09:58:18	262.9266667	43.89269444	229	LC	data
26137	ivo://MASTEROTJ183934.91+414404.2	2015-09-25 17:20:51	279.895	41.7345	63	LC	data
26136	ivo://OGLE15gg	2015-09-22 13:10:29	0.695625	-73.51175	6	LC	data
26135	ivo://Gaia15agi	2015-08-31 19:08:59	43.08181	60.57638	1	LC	data
26134	ivo://OGLE15eo	2015-08-31 15:32:50	45.5647917	-74.28675	4	LC	data
26133	ivo://ASASSN-15nr	2015-08-13 22:04:55	261.6743333	13.9098528	16	LC	data
26132	ivo://PSN-J23470615+2929074	2015-08-13 02:23:57	356.775625	29.4853889	10	LC	data
26131	ivo://PS15bpa	2015-08-12 20:24:03	292.18175	56.6893611	18	LC	data
26130	ivo://PS15bpo	2015-08-12 20:22:34	346.5146667	33.6024444	18	LC	data
26128	ivo://OGLE15eb	2015-08-07 23:23:18	7.055	-76.9906944	2	LC	data
26127	ivo://OGLE15ej	2015-08-07 22:41:19	41.3385417	-73.6565556	9	LC	data
26126	ivo://OGLE15el	2015-08-07 22:08:55	58.011125	-64.991	6	LC	data
26125	ivo://OGLE15eg	2015-08-07 21:13:26	21.41525	-69.3641944	10	LC	data
26124	ivo://PS15bom	2015-08-06 16:15:30	351.654375	-0.2897222	284	LC	data
26123	ivo://v404cyg	2015-08-04 13:37:22	306.0159583	33.86727778	476	LC	data
26115	ivo://Gaia15aev	2015-06-24 13:01:35	200.48016	35.35886	8	LC	data
26114	ivo://Gaia15agm	2015-06-22 02:36:28	358.98623	-43.72412	25	LC	data
26113	ivo://Gaia15agi	2015-06-22 02:19:51	337.79327	-37.82735	8	LC	data
26112	ivo://Gaia15agk	2015-06-22 01:55:28	337.7066	-43.04732	3	LC	data
26111	ivo://Gaia15agf	2015-06-22 01:38:01	330.62236	-20.32945	11	LC	data

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http://gsaweb.ast.cam.ac.uk/followup/list_of_alerts?offset=20&observed_only=1

id	ivorn	published	ra	dec	nfollowup	LC	data
26109	ivo://Gaia15afs	2015-06-21 09:13:33	171.99183	-11.71668	6	LC	data
26108	ivo://Gaia15afp	2015-06-21 09:12:28	208.90046	-55.8158	3	LC	data
26105	ivo://Gaia15afi	2015-06-17 01:30:54	275.01309	45.58684	4	LC	data
26104	ivo://Gaia15afq	2015-06-12 12:35:01	234.62443	27.29889	61	LC	data
26095	ivo://Gaia15agj	2015-06-10 11:53:55	147.74682	37.96674	30	LC	data
26092	ivo://Gaia15agc	2015-06-05 12:32:07	184.59674	35.61824	69	LC	data
26087	ivo://Gaia15agh	2015-06-05 11:18:23	181.02133	14.06805	48	LC	data
26086	ivo://Gaia15aft	2015-06-03 14:45:28	273.68224	39.61261	34	LC	data
26085	ivo://Gaia15afc	2015-05-27 10:19:48	236.11003	55.66468	2	LC	data
26084	ivo://Gaia15aet	2015-05-25 17:11:12	135.65769	25.93442	1	LC	data
26083	ivo://Gaia15afl	2015-05-24 23:29:53	154.26841	-30.51285	4	LC	data
26082	ivo://Gaia15afj	2015-05-24 23:29:34	26.61369	-16.6738	1	LC	data
26067	ivo://Gaia15aff	2015-05-21 11:55:39	306.69743	42.9949	306	LC	data
26066	ivo://Gaia15afd	2015-05-21 11:32:43	269.87408	43.39004	373	LC	data
26065	ivo://Gaia15afh	2015-05-20 13:25:00	284.66998	43.46885	1	LC	data
26062	ivo://Gaia15afe	2015-05-19 20:28:13	210.46355	21.5594	3	LC	data
26051	ivo://Gaia15aer	2015-05-19 15:43:56	353.96774	23.61441	26	LC	data
26050	ivo://Gaia15afb	2015-05-18 16:33:02	49.0776	-45.28281	1	LC	data
26049	ivo://Gaia15aez	2015-05-18 16:32:39	352.86494	22.84956	2	LC	data
26048	ivo://Gaia15aex	2015-05-18 16:32:18	36.95977	-58.63564	2	LC	data
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LIST OF ALERTS

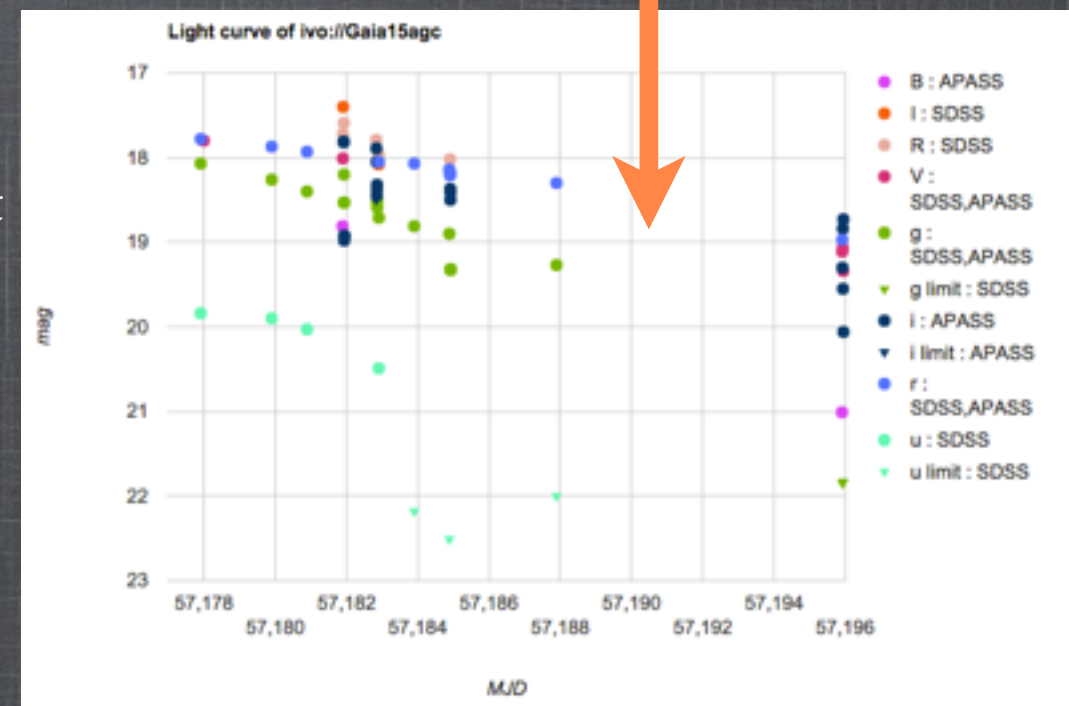
http://gsaweb.ast.cam.ac.uk/followup/list_of_alerts?offset=20&observed_only=1

CALIBRATION SERVER

List of alerts

id	ivorn	published	ra	dec	nfollowup	LC	data
25987	ivo://Gaia15acw	2015-04-16 17:39:51	132.33462	36.71581	1	LC	data
25986	ivo://Gaia15ads	2015-04-16 14:33:15	251.47004	32.11807	32	LC	data
25973	ivo://Gaia15ado	2015-04-13 18:46:52	347.09059	-50.72458	8	LC	data

Light curve with
all data collected
for a given object



http://gsaweb.ast.cam.ac.uk/followup/get_alert_lc?alert_id=25955

http://gsaweb.ast.cam.ac.uk/followup/get_alert_lc?alert_name=ivo://Gaia15ael

CALIBRATION SERVER

List of alerts

id	ivorn	published	ra	dec	nfollowup	LC	data
25987	ivo://Gaia15acw	2015-04-16 17:39:51	132.33462	36.71581	1	LC	data
25986	ivo://Gaia15ads	2015-04-16 14:33:15	251.47004	32.11807	32	LC	data
25973	ivo://Gaia15ado	2015-04-13 18:46:52	347.09059	-50.72458	8	LC	data

JSON format
(only available after login!)



```
{"mjd": [57121.979638299999, 57125.995006999998, 57130.994694000001, 57132.004650499999, 57132.9880643], "magerr": [0.010099999606609344, -1.0, -1.0, -1.0, -1.0], "observatory": ["Euler Geneva Group", "Euler Geneva Group", "Euler Geneva Group", "Euler Geneva Group", "Euler Geneva Group"], "mag": [19.315700531005859, 19.723800659179688, 19.765199661254883, 27.658000946044922, 19.523700714111328], "filter": ["r", "r", "r", "r", "r"], "catalog": ["APASS", "APASS", "APASS", "APASS", "APASS"], "caliberr": [0.16949599981307983, 0.063841402530670166, 0.059290699660778046, 0.029510200023651123, 0.060793299227952957]}
```

http://gsaweb.ast.cam.ac.uk/followup/get_alert_lc_data?alert_id=25960

http://gsaweb.ast.cam.ac.uk/followup/get_alert_lc_data?alert_name=ivo://Gaia15ael

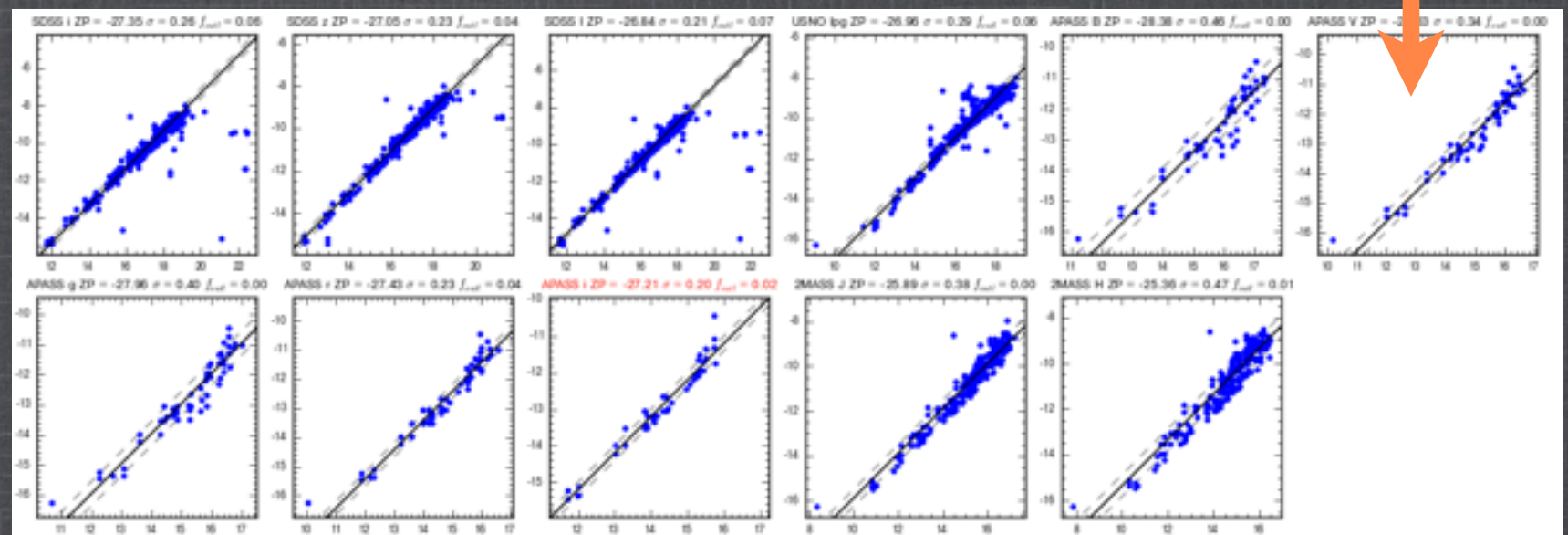
CALIBRATION SERVER

List of follow-up data

Lists all individual follow-up observations, original data (dat) and results of the calibration

24088	ivo://Gaia15afq	Goran Damljanovic, ASV, Serbia	57244.8311806	18.8181	0.05	0.12	34	APASS	r	AUTO	2015-08-11 10:46:02	ID
24087	ivo://Gaia15afq	Goran Damljanovic, ASV, Serbia	57244.8348264	18.52	0.07	0.12	214	SDSS	I	AUTO	2015-08-11 10:45:57	ID
24077	ivo://Gaia15afd	Goran Damljanovic, ASV, Serbia	57243.8690509	19.349	0.10	0.13	63	APASS	r	AUTO	2015-08-11 10:25:38	ID

Calibration plots
for each filter



UPLOADING THE FOLLOW-UP DATA

<http://gsaweb.ast.cam.ac.uk/followup/uploader>

Follow-up Data Uploading Form

Event ID:

MJD OBS:

Exposure time (sec):

Comment(optional):

SExtractor catalog
(ASCII, FITS, FITS-
LDAC): No file chosen

Matching radius:

Force filter:

Dry Run (no data will be
stored in the database): ☐

only alerts present in the database can be calibrated
if the event is not there it can be added manually - see later

id	ivorn	published	
25090	ivo://nvo.caltech/voeventnet/catot#1206121210604127753	2012-06-11 22:06:54	178.
25087	ivo://nvo.caltech/voeventnet/catot#1204240090814131436	2012-05-17 12:31:29.738149	229.
25086	ivo://nvo.caltech/voeventnet/sssot#1205140310714115953	2012-05-17 12:29:53.886991	164.
25084	ivo://nvo.caltech/voeventnet/sssot#1204260070624132119	2012-05-14 08:56:37.080339	124.
25083	ivo://nvo.caltech/voeventnet/catot#1204231150484101073	2012-05-14 08:52:38.205503	138.

UPLOADING THE FOLLOW-UP DATA

<http://gsaweb.ast.cam.ac.uk/followup/uploader>

Follow-up Data Uploading Form

Event ID:

MJD OBS:

Exposure time (sec):

Comment(optional):

SExtractor catalog (ASCII, FITS, FITS-LDAC): No file chosen

Matching radius:

1 arcsec
✓ 2 arcsec
4 arcsec
6 arcsec

Force filter:

Dry Run (no data will be stored in the database): ☐

for SDSS there are also standard filters available (B,V,I,R) (conversion following Jordi et al. 2006)

any, i.e. whichever is available and matches best

✓ No (automatic determination)
SDSS/B
SDSS/g
SDSS/i
SDSS/I
SDSS/r
SDSS/u
SDSS/V
SDSS/P
SDSS/z
APASS/i
APASS/r
APASS/B
APASS/g
APASS/V
VSTATLAS/i
VSTATLAS/r
VSTATLAS/u
VSTATLAS/z
VSTATLAS/g
OGLE3/i
OGLE3/V
USNO/R1pg
USNO/R2pg
USNO/B1pg
USNO/lpg
USNO/B2pg
PS1/i
PS1/r
PS1/g
2MASS/H
2MASS/K
2MASS/J
any/B
any/V
any/R
any/u
any/g
any/r
any/i
any/z

REQUIRED SEXTRACTOR FIELDS:

ALPHA_J2000 Right ascension of barycenter (J2000) [deg]
DELTA_J2000 Declination of barycenter (J2000) [deg]
then, either:
MAG_APER Fixed aperture magnitude vector [mag]
MAGERR_APER RMS error vector for fixed aperture mag. [mag]
or:
MAG_AUTO Automatic aperture magnitude [mag]
MAGERR_AUTO RMS error for automatic aperture mag. [mag]

Maximum distance allowed for cross-matching your objects with the db (reflects the astrometric accuracy)

Output filter:
select the best matching filter to your filter or select "No" to find the best matching

Selecting "Dry Run" prevents data from being stored in the database. It allows for submitting the same data many times (e.g. for filter testing)
Don't forget to submit the data after the tests!

RESULT OF CALIBRATIONS

Hi AnonymousFollowUpAccount!

Upload done from IP 131.111.70.231

Filename: 110610_B.cat

EventId : ivo://nvo.caltech/voeventnet/catot#1201131150224104750

Ra : 62.09121

Dec : 14.25436

Filter: SDSS / B

Magnitude: 19.9669992403 +/- -1 mag

ZP: -29.43 mag

Scatter: 0.05 mag

Number of datapoints used for calibration: 37

Outlier fraction: 0.11

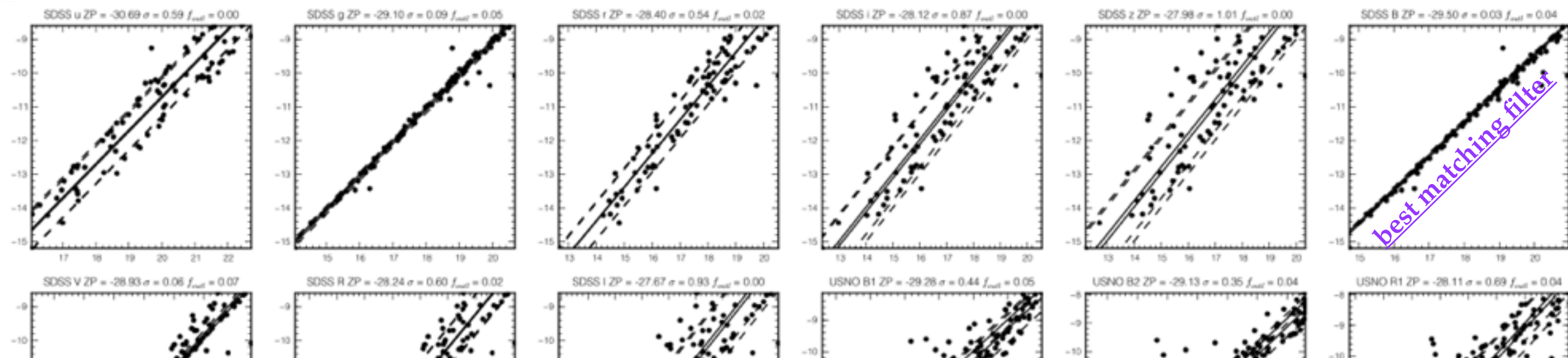
Matching radius[arcsec]: 2.0

Dry run: True

← best matching filter (data will be stored as in this filter)

← calibrated magnitude

← zero point



plots show calibration results for each available filter / survey

MANUAL

https://www.ast.cam.ac.uk/ioa/wikis/gsawgwiki/index.php/Calibration_Server

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- 1 Authorization
- 2 Preparing your data
- 3 Calibration of your photometric data
 - 3.1 Data format
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 - 3.3 New event
- 4 Automated submission
- 5 Review of the data in the Database
- 6 Source code

AUTOMATED SUBMISSION

https://www.ast.cam.ac.uk/ioa/wikis/gsawgwiki/index.php/Calibration_Server

Automated submission [\[edit\]](#)

You can also do that from the command line using HTTP POST protocol

```
curl -F matchDist=2 -F EventID='ivo://110610' -F sexCat="@path_to_your_sex_catalog_with_filename;filename=test.cat"
-F "hashtag=XXXX" -F "MJD=2" -F expTime=1 -F noPlot=1
-F forceFilter=no -F dryRun=1 -F outputFormat=json "http://gsaweb.ast.cam.ac.uk/followup/cgi/upload"
```

Parameters of the <http://gsaweb.ast.cam.ac.uk/followup/cgi/upload>

- matchDist -- matching radius in arcseconds
- hashtag -- your authorization key
- MJD -- mjd of the observations
- expTime -- exposure time
- comment -- comments
- EventID -- the ivorn of the alert
- dryRun -- the value of 1 allows you to check the results of the calibration without inserting anything into our DB
- forceFilter -- "no" means that the calibration will be fully automated. But You can also specify APASS/V if you want to calibrate using a particular survey/filter
- sexCat -- that's the Sextractor catalog you are trying to submit
- outputFormat -- at the moment the only allowed values are json and html

Gaia-FUN-ScienceAlerts

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
	Telescope/obs. name	Location	Longitude (+ for E, - for W)	Latitude (+ for N, - for S)	Altitude [m]	Size [m]	Field-of-view, [deg²]	Limit DEC	Limit HA	Instruments	CCD size [arcsec/pix]	limiting magnitude (R or equivalent)	filters	spectral range	spectral resolution	time available for alerts follow-up	scientific interests of people running the telescope and main users	mean seen [arcsec/nights]	No of clear	Observing mode: robotic/manual	data reduction pipeline, incl. time to process	allocation mode (every N months, long term possible, etc.)	contact person	notes	
2	Wise C28	Israel				0.71 (28inch)														robotic			Dan Maoz	in operation from 2012	
3	Konkoly	Hungary, Piszkestető	19.8953	47.9181	937.6	0.60/0.9	8			CCD			21 BVRi			upon request from the GAIA Alerts WG	Variable stars, asteroids	2.8		manual (remote control possible)			Laszlo Szabados	Schmidt	
4	Wise C18	Israel				0.45 (18inch)														robotic			Dan Maoz		
5	Besancon Obs	France				2				spectropolarim. Coude spectrograph													Mathias Schultheis		
6	Ondrejov	Czech Rep.	14.78	49.92	524	2		-20	no					4000 - 9000 Å	10 000	upon request from the GAIA Alerts WG	variable bright stars	3	120	manual		long term possible	Pavel Koubsky	coudé	
7	Asiago	Padova, Italy	11.57	45.84	1352	1.82	8.7x8.7			AFOSC	0.52" V-21 at S/N=10 (2x2bin) with 10min		UBVRi	370-950	200-5000	7-10 nights per month during the period August to April. upon request from the GAIA Alerts WG pending the internal agreement of 3 participants, Ondrejov, Charles University, Brno University total quota 90 nights per year.	asteroids, variable stars, microlensing			manual			Gisella Clementini	reflector	
8																									
	Danish 154	La Silla, Chile	-70 44 08	-29 15 14	2340	1.54	13.7x13.7 arcmin			DFOSC only camera in use			18	n/a	n/a					300	semi-robotic		long term possible	Pavel Koubsky	available since mid 2012
9																									
	Lolano	Bologna, Italy	11.33	44.26	785	1.5	13'x12.6'	-5 -- +70 optimal		BFOSC	0.58" V-18 in 30min, V-5-6 in 10sec		UBVRi, Gunn	370-850	200-2000, 4200 in echelle mode	2-3 nights/month (August 2011-January2012) , 5 nights/months afterwards	Variable stars, SNe	~2"		manual			Gisella Clementini	Ritchey-Chretien	
10	Maidanak	Uzbekistan				1.5																	M. Ibrahimov		
11	Topo di Castelgrande	Italy				1.5				photometry/LDR													V. Ripepi		
12	Vienna	Austria				1.5																	Joao Alves	Ritchey-Chretien	
13	Belgian Mercator	La Palma, Spain	-17°52'42"	17°52'42"	2333	1.2	6.5'x6.5'			Merope, Hermes, Maia(xoon)	0.19		7 Geneva filters + R + I		85000	From Geneva: upon request and pending acceptance by Geneva group of Stellar Variability.	Variable stars	~1.3" (arXiv: 0910.1190)		manual	Merope: no; Hermes: yes	2-3 observing runs per year	Laurent Eyer		
14																									
	Swiss Euler	La Silla, Chile	-70.73	-29.2567	2347	1.2	10'x10'	~29 deg (z=2)		Coralie (spectrograph), ECAM CCD	0.3" CCD: ~197				65000	tentative: upon request and pending internal (Geneva Stellar Variability Group) acceptance.	Variable stars and Exoplanets, as well as strong gravitational lenses	~1.2" (1987-1995)		manual	ECAM: no pipeline (in development). CORALIE: pipeline available	2 observing runs per semester, long term possible	Laurent Eyer		
15	Besancon Obs	France				1				CCD imaging													Mathias Schultheis		
16	Konkoly	Hungary, Piszkestető	19.8956	47.9178	959.6	1	45'x45'			CCD			UBV(Ri)c , 21.5 uvby			upon request from the GAIA Alerts WG	Variable stars, asteroids	2.5		manual (remote control possible)			Laszlo Szabados	Piszkesteto Mountain Station	
17	Maidanak	Uzbekistan				1																	M. Ibrahimov		
18																									
	Wise	Israel	35	30	800	1	1	-22	no	16kx16k CCD array	0.4		21 BVRi			upon request from GAIA	microlensing, supernovae, planet transits	2.5	250	semi-robotic			Dan Maoz		
19	APT2	Catania, Italy	14.97	37.69	1735	0.8	19'x19'						UBVRi							robotic			Gisella Clementini	Ritchey-Chretien	
20	TNT Teramo	Teramo, Italy				0.72	4'x4'				0.22"		BVRi				Supernovae and Novae	2.2					Gisella Clementini	Ritchey-Chretien	
21																									
	Poznań Spectroscopic Telescope 2	New Mexico, USA	-105	32	2200	0.7	9x9 arcmin -30 deg			echelle spectrograph, EMCCD imaging camera		~12 for spectroscopy	UBVRi	400-900 nm	40000	upon request, up to 10-15% of total observing time	asteroids, pulsating and binary stars	~2 ~200		robotic	automatic		Krzysztof Kamiński	in operation from 2013	
22																									
	Vega	Ljubljana, Slovenia	14.53	46.04	410	0.7	21x21 arcmin -32 deg	0h - 24h		Apogee alta 16E, CCD 4096x4096, 9um, spectrograph in testing phase	0.3"		19 U.B,V,Rc,Ic	520-590 nm	5000	upon request from the GAIA Alerts WG	asteroids, GRB afterglows, microlensing	2 ~70		manual	manual, at least a day	long term possible	Andreja Gomboc	telescope mainly for students	
23																									
	Białków Obs.	Białków	16.66	51.48	120	0.6	12x13 arcmin*2.0 deg		no limit	Andor Tech. iKon DWA32-BV, 22.5 um, 1250 x 1152		~19 with 1-min integration	BV(Ri)c	n/a	n/a	upon request, 50% or even more of total observing time	variable stars, mainly pulsating and binary stars	2.5	120	manual	manual, at least a day	long term possible, flexible	Andrzej Pigulski		
24	Maidanak	Uzbekistan				n/a																	M. Ibrahimov		

www.tinyurl.com/telescopes-for-gaia



OPTICON

<http://www.astro-opticon.org/>



THEME [INFRA-2012-1.1.25.]
[Research Infrastructures for optical/IR astronomy]

- Funding approved for 2013–2016
- WP11 - Time Domain Astronomy
- Coordination between Cambridge, Liverpool and Warsaw
- Support and coordinate follow-up activities of European telescopes
- Support for workshops 2013-2016
- a new proposal for 2017-2021 (H2020) to be submitted with significantly larger Time Domain WP

CPCS-2

- relative photometry?
- colour term calibrations
- difference imaging/psf+background galaxy removal?
- generate output with all stars calibrated
- optional output of all standard stars used