


Providing on-line access
to the ' π of the Sky' data

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' π of the Sky' database

- ' π of the Sky' cameras continuously monitor the sky by taking short (10s) exposures → data collected each night is stored in database
- database in LCO – almost 200 GB (not possible to download all measurements via internet)
- only once a year a removable hard disks with the database is replaced and taken to Warsaw
 - idea → on-line access to only selected stars (download measurements via internet)



Dedicated interface for each experiment

Different marks in database for each group of objects → dynamic interface connected with database.

- The Global Telescope Network (GTN)
- The Whole Earth Blazar Telescope (WEBT)
- W. Ogloza (Cracow Pedagogical University) list of Interesting Objects
- Internal lists of Interesting Object (additionally)



[Pi of the Sky home page](#)

.: Pi of the Sky - WEBT interface .:

List of WEBT interesting objects

Add new interesting object

Get data from LCO

DATABASE: scan aver [change db](#)

NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
0235+164	02:38:38.93	16:36:59.00	12.1	59	20070116	BL Lac
0735+178	07:38:7.39	17:42:18.00	9.3	1	20070201	Quasar
0851+202	08:54:48.87	20:06:30.00	10.9	1	20070401	Quasar
1156+295	11:59:31.83	29:14:43.00	13.1	1	20070121	Quasar
1219+285	12:21:31.69	28:13:58.00	12.1	60	20070416	BL Lac
1226+023	12:29:6.70	02:03:8.00	12.9	60	20070422	Quasar
1510-089	15:12:50.53	-9:05:59.80	11.6	132	20070422	Quasar
2251+158	22:53:57.75	16:08:53.00	13.1	1	20061009	Quasar



[Pi of the Sky home page](#)

.: Pi of the Sky - GTN interface .:

List of GTN interesting objects

Add new interesting object

Get data from LCO

DATABASE: scan aver [change db](#)

NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
J0210-5055	02:10:46.20	-51:01:1.00	13.0	1	20061111	
AO 0235+164	02:38:38.90	16:36:59.00	12.1	59	20070116	Blazar
EF Eri	03:14:13.03	-22:35:41.00	11.6	1	20070215	Nova-like Star
J0458-4635	04:55:50.80	-46:15:58.00	12.5	1	20060909	
PKS 0537-441	05:38:50.30	-44:05:8.00	12.7	2	20070320	Quasar
OI 158	07:38:7.40	17:42:19.00	9.3	1	20070201	Quasar
SU Mon	07:42:17.00	-10:52:47.00	7.4	170	20070417	SRB object
VV Pup	08:15:6.73	-19:03:16.00	13.2	4	20070312	Cataclysmic Var. AM Her type
OJ 049	08:31:48.90	04:29:39.00	13.8	1	20070320	Blazar
OJ 287	08:54:48.80	20:06:30.00	10.9	1	20070401	Quasar
TZ Cnc	09:04:1.00	20:56:55.00	9.1	66	20070407	SRA object
R Sex	09:42:42.00	-8:05:60.00	8.7	144	20070422	LB: object
RY Leo	10:04:15.00	13:58:58.00	10.0	70	20070422	SRB object
YY Leo	10:08:20.00	20:00:13.00	9.5	47	20070417	SRB object
4C 29.45	11:59:31.80	29:14:44.00	13.1	1	20070121	Quasar
W Com	12:21:31.70	28:13:58.00	12.1	60	20070416	Blazar
3C 273	12:29:6.60	02:03:8.00	12.4	60	20070422	Quasar

.: Pi of the Sky - W.Ogloza interface .:

List of W.Ogloza Objects

Add new interesting object

Get data from LCO

DATABASE: scan aver [change db](#)

NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
DM Peg	00:00:7.59	18:43:54.01	11.2	48	20061108	2452502.0576,2.5889830
SW Phe	00:00:28.89	-39:37:23.96	11.0	64	20070110	Ephem0,Ephem0
RU Scl	00:02:48.10	-24:56:43.00	10.8	18	20070127	740013
UU Cet	00:04:5.10	-16:59:52.00	12.0	3	20070127	210034
BH Phe	00:05:28.00	-42:53:15.00	7.0	36	20070202	640086
BI Phe	00:06:0.00	-48:40:44.00	9.3	38	20070202	640087
XY Scl	00:06:35.80	-32:35:35.00	7.9	16	20070101	740050
XZ Scl	00:06:35.90	-37:46:37.00	8.7	16	20070101	740051
AP Psc	00:08:12.01	-2:26:52.40	6.2	794	20061126	Ephem0,Ephem0
YY Scl	00:08:29.10	-25:58:42.00	8.2	6	20070127	740052
CF Cet	00:08:33.50	-17:34:41.00	5.9	5	20070127	210107
CG Cet	00:08:53.60	-22:10:46.00	6.8	6	20070127	210108
AC Cet	00:10:57.90	-18:34:23.00	7.7	6	20070127	210057
CH Cet	00:12:53.40	-22:15:51.00	8.3	6	20070127	210109
AE Cet	00:14:38.40	-18:55:58.00	4.6	6	20070127	210059
UU Psc	00:14:58.41	08:49:16.25	6.0	730	20061113	Ephem0,Ephem0
AU Scl	00:15:8.00	-29:00:23.00	9.3	6	20070127	740074



Structure

- interface made in PHP
- connected with scan- and aver- mode database located in Poland
- new measurements of interesting objects - download during each night database synchronization
- dedicated script was created for made fit and jpg format images available for an interface user



Access

Free access to all dedicated interfaces
for example:

- ✓ http://grb.fuw.edu.pl/pi_guest/gtn
- ✓ http://grb.fuw.edu.pl/pi_guest/wo
- ✓ http://grb.fuw.edu.pl/pi_guest/WEBT

<http://grb.fuw.edu.pl>

Light curves and images

[Pi of the Sky home page](#)


.: Pi of the Sky - GTN interface .:

List of GTN interesting objects

Add new interesting object

Get data from LCO

DATABASE: scan aver [change db](#)



NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
J0210-5055	02:10:46.20	-51:01:1.00	13.0	1	20061111	
AO 0235+164	02:38:38.90	16:36:59.00	12.1	59	20070116	Blazar
EF Eri	03:14:13.03	-22:35:41.00	11.6	1	20070215	Nova-like Star
J0458-4635	04:55:50.80	-46:15:58.00	12.5	1	20060909	
PKS 0537-441	05:38:50.30	-44:05:8.00	12.7	2	20070320	Quasar
OI 158	07:38:7.40	17:42:19.00	9.3	1	20070201	Quasar
SU Mon	07:42:17.00	-10:52:47.00	7.4	170	20070417	SRB object
VV Pup	08:15:6.73	-19:03:16.00	13.2	4	20070312	Cataclysmic Var. AM Her type
OJ049	08:31:48.90	04:29:39.00	13.8	1	20070320	Blazar
OJ 287	08:54:48.80	20:06:30.00	10.9	1	20070401	Quasar
TZ Cnc	09:04:1.00	20:56:55.00	9.1	66	20070407	SRA object
R Sex	09:42:42.00	-8:05:60.00	8.7	144	20070422	LB: object
RY Leo	10:04:15.00	13:58:58.00	10.0	70	20070422	SRB object
YY Leo	10:08:20.00	20:00:13.00	9.5	47	20070417	SRB object

Light curves and images

.: SU Mon .:

(scan)

LAST OBSERV : 20070417

LAST FIELD : 0720-20

#POINT : 170

MAGNITUDE : 7.36324

RA : 7.7047222222222

DEC : -10.8797222222222

ON K2A : 1414978

ON K2B : 4079302

LIGHT CURVES : k2a [1414978](#) k2b [4079302](#)

ALL FITS: [k2a camera](#) [k2b camera](#)

- ALL FoV
 Native field (0800-10)
or

- 0720-10 (49)
 0720-20 (44) *edge field*
 0800-10 (37)
 0800-20 (40) *edge field*

[view data](#)

native field - star registered closest to the chip center so far

edge field - star registered less then about 200 pixels from the edge of the CCD. Usually means less accurate photometry.

EDIT:

QUALITY : 0

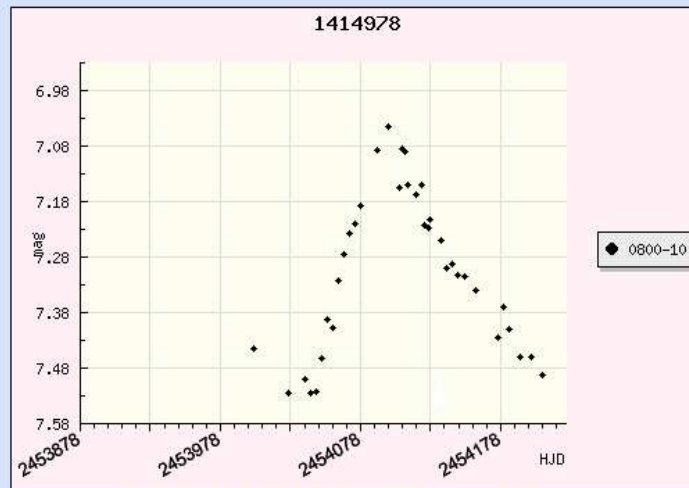
COMMENT : SRB object

PRIORITY:

[save](#)

Light curves

Light Curve [raw data]



[plot's data](#) [detailed plot's data](#) [ROOT macro](#) [reload page](#)

Data Base Id	<input type="text" value="1414978"/>	Period	<input type="text" value="0"/>
HJD Min	<input type="text" value="2453877.71"/>	HJD Max	<input type="text" value="2454224.39"/>
Magnitude Min	<input type="text" value="6.93"/>	Magnitude Max	<input type="text" value="7.58"/>
Merge	<input type="text"/>	Grade	<input type="text"/>
<input type="button" value="Default Field"/> Field	<input type="text" value="0800-10"/>	Skip 'bright star'	<input checked="" type="checkbox"/>
Skip 'open shutter'	<input checked="" type="checkbox"/>	Skip 'hot pixel'	<input checked="" type="checkbox"/>

Data Base Id	1414978
Id	074217-1052.7
Ra	7.7049h 07h:42m:17s
Dec	-10.8738° -10°52'44"
Magnitude [min / av. / max]	7.548 / 7.253 / 6.963
Error [mag]	0.150 ^m
Delta magnitude	0.585 ^m
Experiment	
Number of measurements	170
Period	0.000 days (0.000 h)
Amplitude [mag]	0.000 ^m
t _c	0 HJD
Camera Id	2
Star Id on the other camera	4079302
Star Class	
Other Id	
Other Class Id	
Field	0800-10
External databases search (by coordinates)	Simbad Tycho Gcvs Aass Pi

Light curves and images

.: SU Mon .:

(scan)

LAST OBSERV : 20070417

LAST FIELD : 0720-20

#POINT : 170

MAGNITUDE : 7.36324

RA : 7.7047222222222

DEC : -10.8797222222222

ON K2A : 1414978

ON K2B : 4079302

LIGHT CURVES : k2a [1414978](#) k2b [4079302](#)

ALL FITS: [k2a camera](#) [k2b camera](#)

- ALL FoV
 Native field (0800-10)
or
 0720-10 (49)
 0720-20 (44) *edge field*
 0800-10 (37)
 0800-20 (40) *edge field*

[view data](#)

A

B

native field - star registered closest to the chip center so far

edge field - star registered less than about 200 pixels from the edge of the CCD. Usually means less accurate photometry.

EDIT:

QUALITY : 0

COMMENT : SRB object

PRIORITY :

[save](#)

Light curves and images

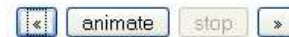
A

Index of /pi_guest/daq/events/io/images/scan/301286/k2a

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
Parent Directory	-	-	-
k2a_060606_015.jpg	05-Apr-2007 16:31	8.7K	
k2a_060606_S0720-10_015.fit	05-Apr-2007 16:39	93K	
k2a_060607_013.jpg	05-Apr-2007 16:31	6.5K	
k2a_060607_S0800-20_013.fit	05-Apr-2007 16:39	70K	
k2a_060609_013.jpg	05-Apr-2007 16:31	7.4K	
k2a_060609_S0720-20_013.fit	05-Apr-2007 16:39	82K	
k2a_060611_014.jpg	05-Apr-2007 16:32	7.6K	
k2a_060611_S0800-20_014.fit	05-Apr-2007 16:39	82K	
k2a_060826_047.jpg	05-Apr-2007 16:32	9.0K	
k2a_060826_S0720-20_047.fit	05-Apr-2007 16:39	93K	
k2a_060903_043.jpg	05-Apr-2007 16:32	8.1K	
k2a_060903_S0720-20_043.fit	05-Apr-2007 16:39	93K	
k2a_060908_049.jpg	05-Apr-2007 16:32	9.0K	
k2a_060908_S0720-10_049.fit	05-Apr-2007 16:39	93K	
k2a_060909_051.jpg	05-Apr-2007 16:32	10K	
k2a_060909_S0800-20_051.fit	05-Apr-2007 16:39	87K	
k2a_060911_052.jpg	05-Apr-2007 16:32	8.6K	
k2a_060911_S0720-20_052.fit	05-Apr-2007 16:39	93K	
k2a_060915_052.jpg	05-Apr-2007 16:32	8.9K	
k2a_060915_S0720-20_052.fit	05-Apr-2007 16:39	93K	
k2a_060916_053.jpg	05-Apr-2007 16:32	8.6K	
k2a_060916_S0720-10_053.fit	05-Apr-2007 16:39	93K	
k2a_060919_052.jpg	05-Apr-2007 16:32	8.3K	
k2a_060919_S0720-20_052.fit	05-Apr-2007 16:39	93K	
k2a_060922_052.jpg	05-Apr-2007 16:32	8.5K	
k2a_060922_S0800-10_052.fit	05-Apr-2007 16:39	96K	

B

1 from 170



toggle frame on

Field of View: S0720-10

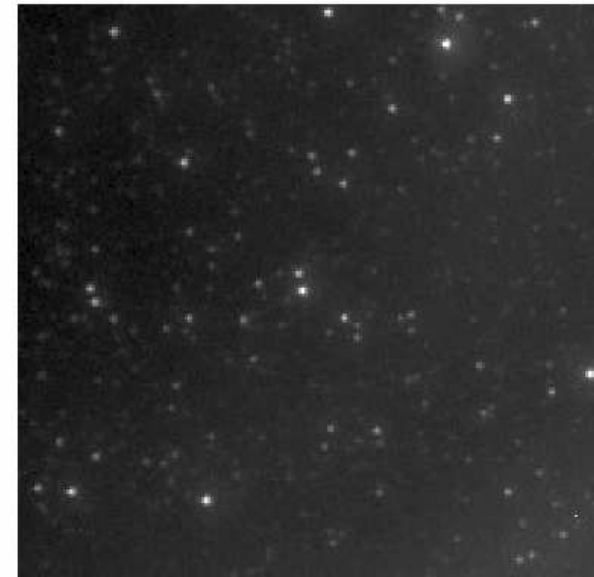
Time UT: 2006.06.06, 23:30:39

Night condition: good night

k2a_060606_015.jpg



k2b_060606_015.jpg



Getting data from LCO database

[Pi of the Sky home page](#)

:: Pi of the Sky - GTN interface ::


List of GTN interesting objects

Add new interesting object

Get data from LCO

DATABASE: scan aver [change db](#)

NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
J0210-5055	02:10:46.20	-51:01:1.00	13.0	1	20061111	
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EF Eri	03:14:13.03	-22:35:41.00	11.6	1	20070215	Nova-like Star
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OI 158	07:38:7.40	17:42:19.00	9.3	1	20070201	Quasar
SU Mon	07:42:17.00	-10:52:47.00	7.4	170	20070417	SRB object
VV Pup	08:15:6.73	-19:03:16.00	13.2	4	20070312	Cataclysmic Var. AM Her type
OJ 049	08:31:48.90	04:29:39.00	13.8	1	20070320	Blazar
OJ 287	08:54:48.80	20:06:30.00	10.9	1	20070401	Quasar
TZ Cnc	09:04:1.00	20:56:55.00	9.1	66	20070407	SRA object
R Sex	09:42:42.00	-8:05:60.00	8.7	144	20070422	LB: object
RY Leo	10:04:15.00	13:58:58.00	10.0	70	20070422	SRB object
YY Leo	10:08:20.00	20:00:13.00	9.5	47	20070417	SRB object



Adding new group/object in interesting objects table

- determined new mark in db (the same in both db)
- adding new objects to *interestingobjects* table
 - by webpage (password required)
 - creating script (SQL)
- matched Pi of the Sky star up to the new interesting object

Adding new interesting objects

[Pi of the Sky home page](#)

:: Pi of the Sky - GTN interface ::

List of GTN interesting objects

Add new interesting object

Get data from LCO

DATABASE: scan aver

NAME	RA	DEC	MAGNITUDE	#POINTS	LAST OBSERV.	COMMENT
J0210-5055	02:10:46.20	-51:01:1.00	13.0	1	20061111	
AO 0235+164	02:38:38.90	16:36:59.00	12.1	59	20070116	Blazar
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RY Leo	10:04:15.00	13:58:58.00	10.0	70	20070422	SRB object
YY Leo	10:08:20.00	20:00:13.00	9.5	47	20070417	SRB object

Adding new interesting objects

[List of GTN interesting objects](#)

:: Adding new objects ::

Name:	<input type="text"/>
RA [HH.Dec or HH MM SS]:	<input type="text"/>
Dec [Dec. Deg or Deg MM SS]:	<input type="text"/>
Magnitudo:	<input type="text"/>
Priority: 0 to 5 (5 - higher):	<input type="text"/>
Comment:	<input type="text"/>
Visibility period:	<input type="text"/>
	<input type="button" value="Add object"/>





Thank you for your attention

<http://grb.fuw.edu.pl>

