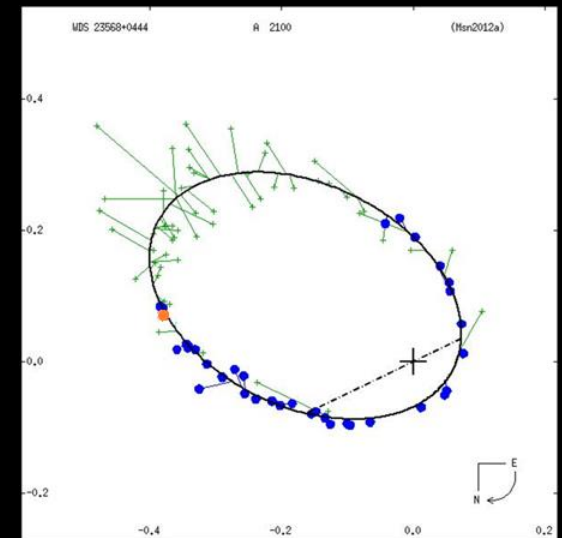
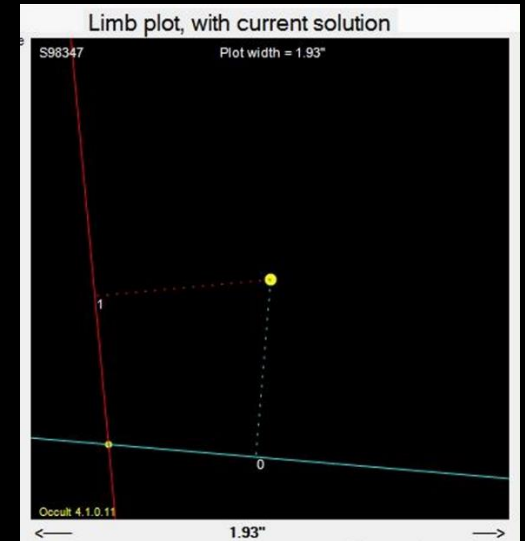
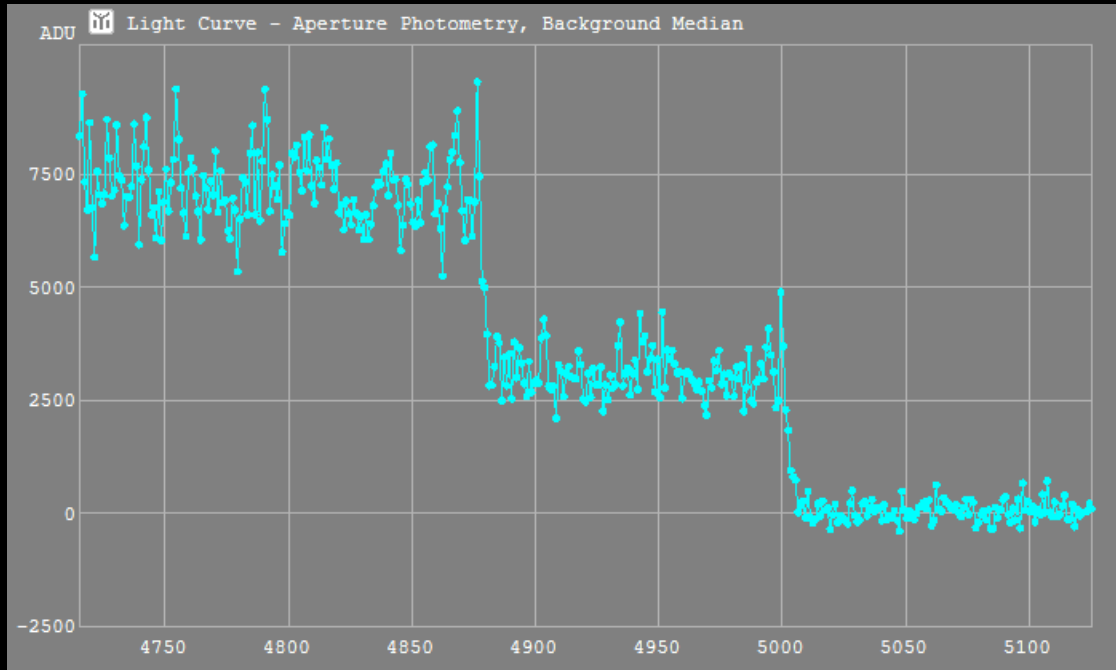
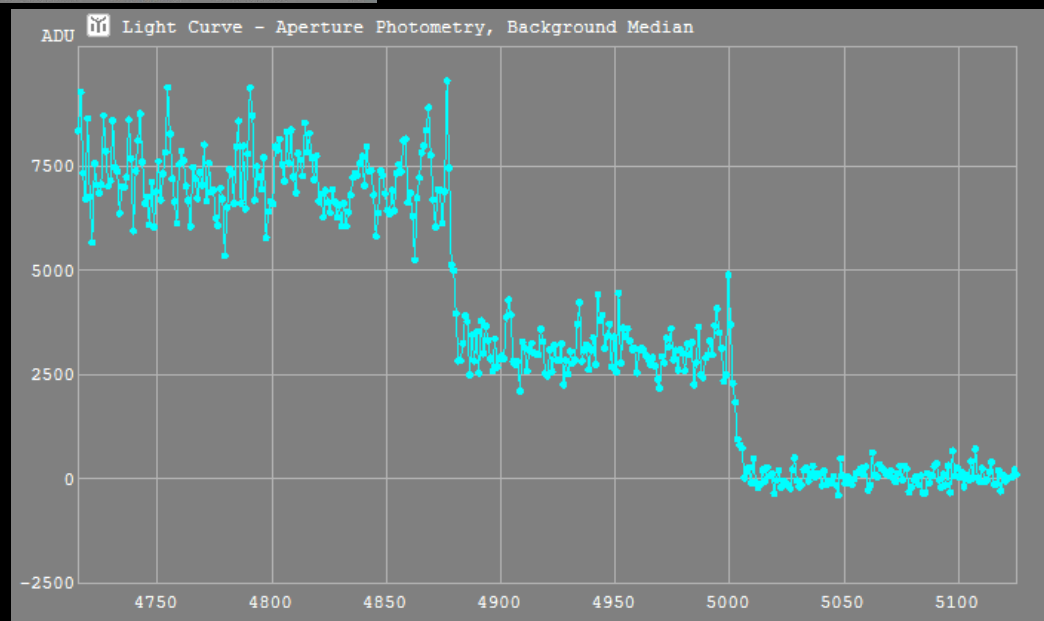


Lunar Occultations of Double Stars





(Brian Mills – 25 fps)



(Michael O'Connell – 100 fps)

Double star? / single star?
Magnitudes of the component stars
Duration / Separation
Position Angle

with Prediction ... ☐ Set Output filter ☒ Mag limit adjustment... ☒ show Recording Timer ☒ Weather forecasts... ☒ Help ☒ Exit

1. Select site for predictions

-3.6 to 0.4, 51.8 to 55.8

☐ Filter search to sites in file

2. Star cat.

☐ XZ

☒ XZ < mag 9

☐ XZ < mag 7

☐ XZ < mag 4

☐ ZC

3. Objects

☒ Stars

☐ Planets

☐ Asteroids

☐ Grazes only

☒ Doubles only

4. Set UT dates

Start Year Month Day Starting at

2025 Apr 21 -6 hrs ☐

End 2025 Apr 30 0 hrs ☒

+6 hrs ☐

+12hrs ☐

Year Month Day Today

5. Events for Site

☒ Short Output

☐ Apply Filter

Right-click on prediction for further options

Occultation prediction for Leeds

E. Longitude - 1 3 [redacted] Latitude 5 [redacted] Alt. 114m; Telescope dia 30cm; dMag 0.0

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA
y	m	d	h	m	s	No	D	v	r	V	ill	Alt	Alt	Az
25	Apr	29	6	44	45.3	d		560SB8	3.6	3.7s	4+	22	18	13
R560 = Atlas = 27 Tauri														
560 is multiple: Aa1,2 3.8 5.5 0.010" 325.9, dT = +0.01sec : Aa,Ab 3.8 6.8 0.22" 335.8, dT = +0.25sec : AC 3.6 15.0 50"														
560 is a close double. Observations are highly desired														
560 = NSV 1345, 3.63, range 0.00, 9Kp, Type SPB, Period 2.4266 days														
25	Apr	29	7	22	55.1	r		560SB8	3.6	3.7s	4+	22	23	19
R560 = Atlas = 27 Tauri														
560 is multiple: Aa1,2 3.8 5.5 0.010" 325.9, dT = -0.02sec : Aa,Ab 3.8 6.8 0.22" 335.8, dT = -0.31sec : AC 3.6 15.0 50"														
560 is a close double. Observations are highly desired														
560 = NSV 1345, 3.63, range 0.00, 9Kp, Type SPB, Period 2.4266 days														
25	Apr	29	21	44	36.5	D		655PF5	7.9	7.6	6+	29	7	305
655 is double: AB 7.9 15.4 43" 271.0, dT = -65sec														
25	Apr	30	20	25	5.8	D		812SF8	8.0		13+	42	-7	27
812 is triple: AB 8.71 8.61 0.60" 276.4, dT = -1sec : AB,C 7.9 13.2 27.0" 277.8, dT = -47sec														
812 is a close double. Observations are highly desired														
25	Apr	30	21	59	18.7	D		77224cF8	7.4	7.1	14+	43	14	298
77224 is double: ** 8.3 8.3 0.10" 90.0, dT = +0.16sec														
77224 has been reported as non-instantaneous (OCc 194). Observations are highly desired														
25	Apr	30	23	25	43	m		77267cK2	8.3	7.6	14+	44	4	313
77267 is double: ** 8.9 8.9 0.10" 311.0														
77267 has been reported as non-instantaneous (OCc 711). Observations are highly desired														
25	Apr	30	23	28	17.6	D		840cK0	6.3	5.5	14+	44	4	313
840 is double: ** 7.3 7.3 0.050"														
840 has been reported as non-instantaneous (OCc1267). Observations are highly desired														

Lunar occultation predictions – double stars - *Occult*

with Prediction ...  Set Output

1. Sele

Use ho

Set ho

Use sir

Right-click on prediction for further

Occultation prediction for
E. Longitude - 1 36 28.0,

day	Time	P	S
y m d h m s			
25 Apr 29 6 44 45.3	d		
R560 = Atlas = 27 Tauri			
560 is multiple: Aa			
560 is a close doub			
560 = NSV 1345, 3.6			
25 Apr 29 7 22 55.1	r		
R560 = Atlas = 27 Tauri			
560 is multiple: Aa			
560 is a close doub			
560 = NSV 1345, 3.6			
25 Apr 29 21 44 36.5	D		
655 is double: AB 7			

25 Ap  Copy single line {ever

25 Ap  Moon map

25 Ap  Place event into Reco

25 Ap  Place next 10 events i

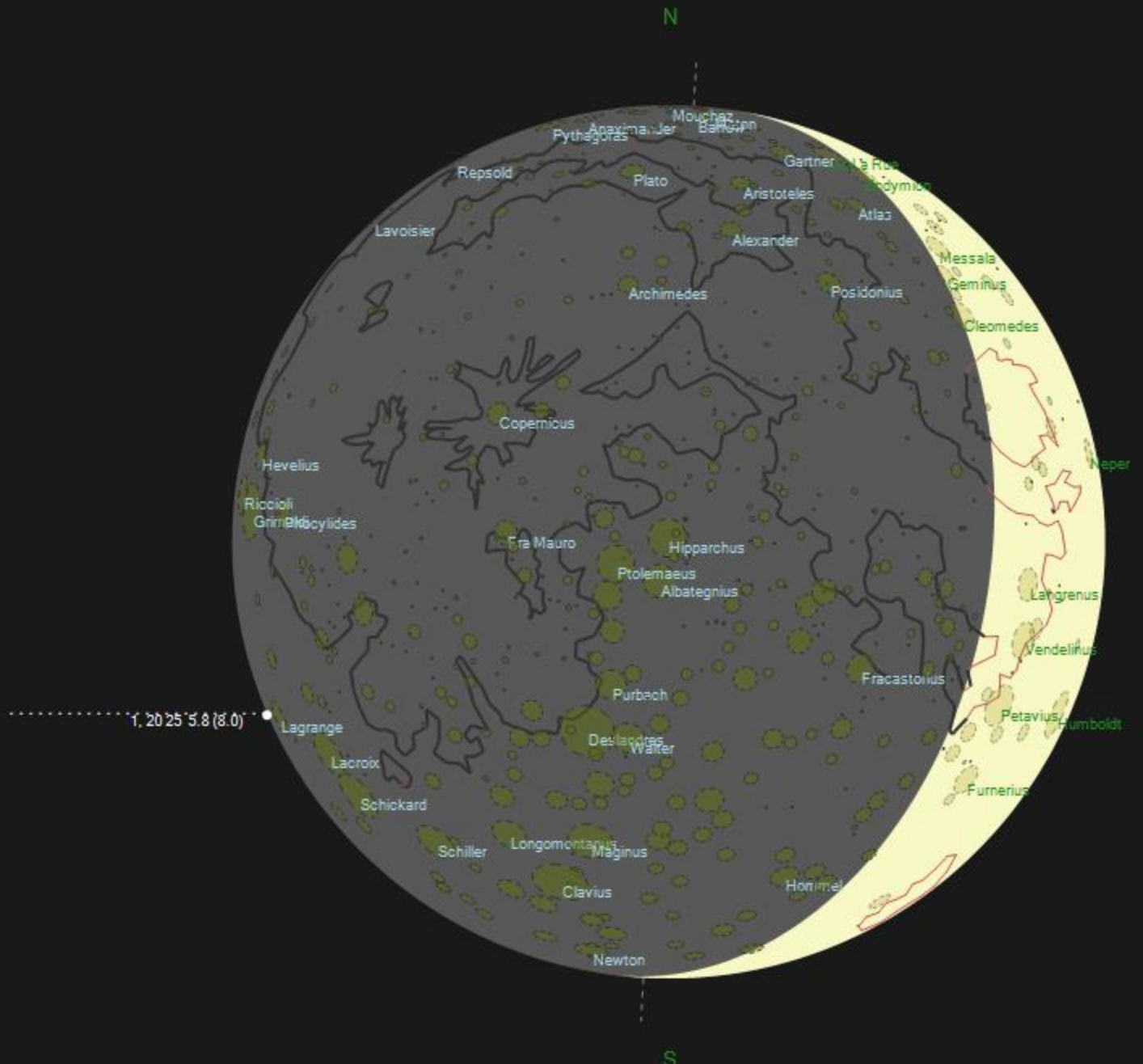
25 Ap  Select time offsets for

25 Ap  Star details

25 Ap  Double and Variable c

25 Ap  Observed light curves

25 Ap  Compute predictions



Double star predictions - Occult

with Details... ? Help X Exit

Star

812

Display details

Lunar Asteroidal Other catalogs
☒ ZC ☐ Hipparcos ☐ PPMXL
☐ SAO ☐ Tycho-2 ☐ NOMAD
☐ XZ ☐ UCAC4 ☐ USNO-B1

☐ Gaia - by coord ID closest star within 2" with mag diff <2.0

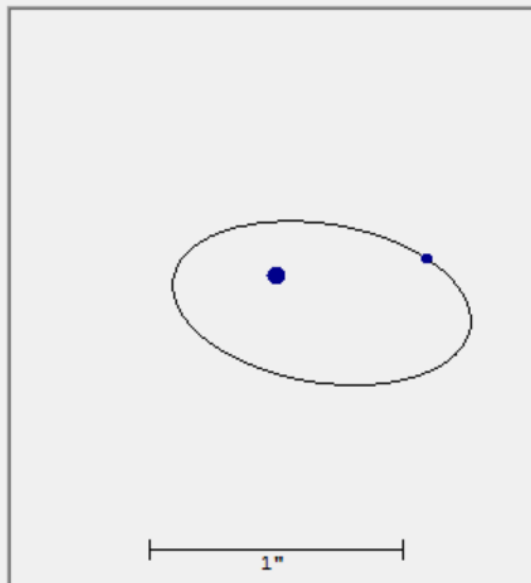
Double star orbit

Year 2025.33

ReDraw

Use today

PA = 276.4° Sep = 0.597"



XZ 6952 = SAO 77177 = ZC 812

RA = 5 27 1.3404 PM = 0.00276s

Dec = 27 36 36.837 PM = -0.0128"

Mv = 7.98, Mb = 0.00, Mr = 0.00 Spectrum F8

Gaia doubles

WDS, IF & AAVSO details

Variable star details

Double star details

Star is the mean position of AB

Name	Cmpt	Yr1	Yr2:	PA1	PA2	:	Sep1	Sep2	:	Mag1	Mag2:	#1	#2	mean
HO 226 AB		1887	2015:	230.0	91.0:		0.500	0.700:		8.71	8.61:	R	812	----- mean ▲
HO 226 AB,C		1906	2001:	274.0	277.0:		23.600	26.300:		7.88	13.20:	R	812	----- ▼

Orbits

Name	Cmpt	Period	a"	i	node	T	e	peri
HO 226 AB		374.00000	0.617000	57.6000	84.4000	2097.00000	0.41000	318.1000

Display observations

WDS Discoverer codes

HO	Hough, G.W. et al
----	-------------------

Orbits : 5 - year ephemeris

Year	PA	Sep	Year	PA	Sep	Year	PA	Sep
2023	275.28	0.61						
2024	275.76	0.60						
2025	276.26	0.60						
2026	276.76	0.59						
2027	277.28	0.59						

Double star details - Occult

Display of WDS and Interferometric Catalog details : Occult v.1.0

with List.... ? Help X Exit GoogleSky

Search for : R

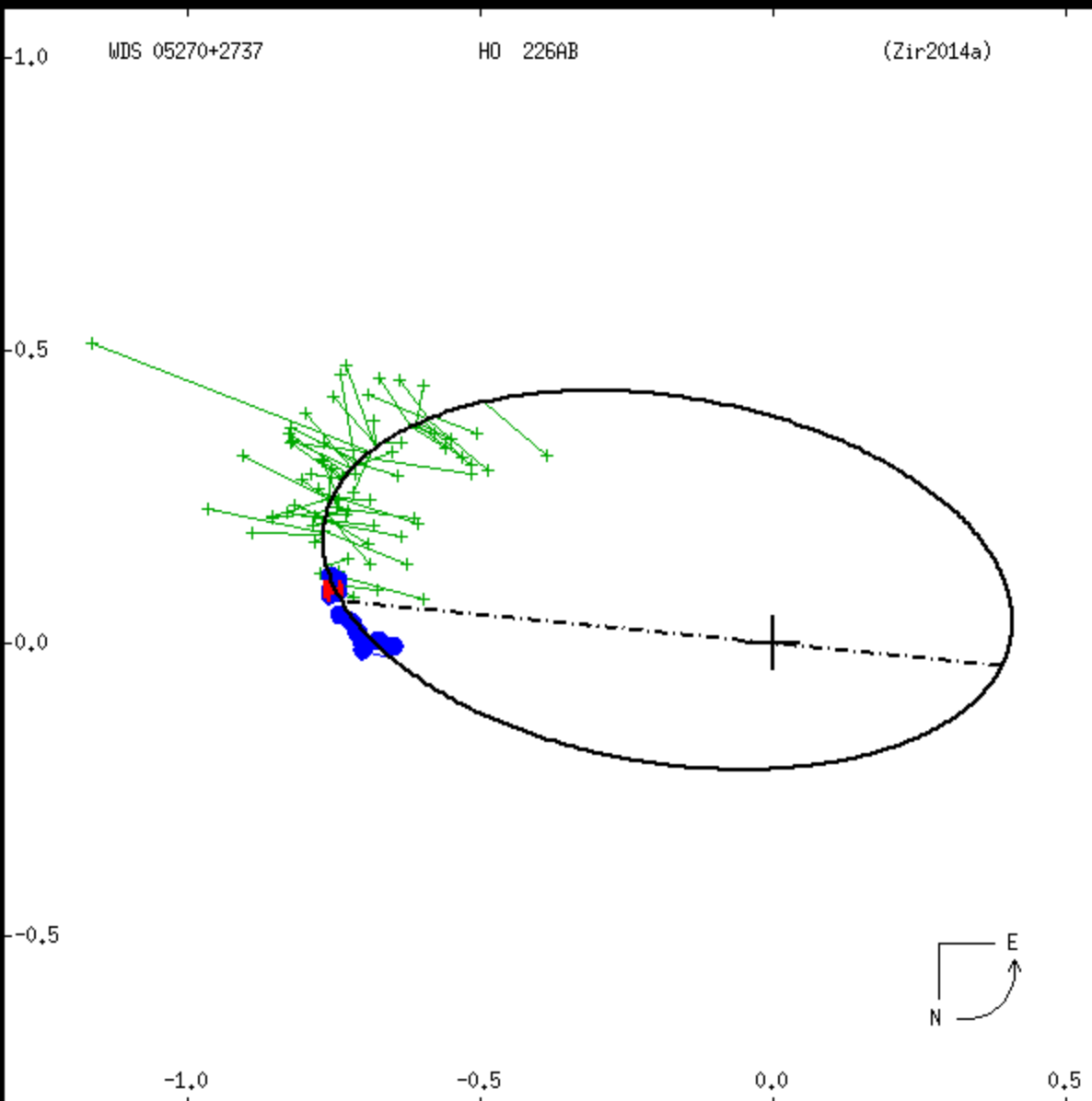
WDS entries

RA	Dec	Name	Y1	Y2	N	PA	PA
05270+2737	HO	226AB	1887	2021	87	230	96
05270+2737	HO	226AB,C	1906	2014	11	274	277

Interferometric catalogue entries [catalog has

052701.32+273636.9 ADS 4032 HO

Date	PA	Sep		
1986.8838	261.3	.	0.763	.
1991.093	263.6	.	0.75	F .
1991.117	264.0	.	0.70	P .
1991.25	263.0	.	0.755	.
1991.25	.	.	.	.
1991.25	.	.	.	.
1991.60	263.4	.	0.75	.
1991.60	.	.	.	.
1991.9050	263.2	.	0.748	.
1994.129	263.2	.	0.74	P .
1994.986	261.7	.	0.73	P .
2000.1427	266.2	.	0.71	.
2002.136	267.0	.	0.69	.
2007.156	270.4	1.4	0.647	0.017
2008.120	269.0	.	0.706	.
2008.8498	90.3	.	0.70	.
2009.153	88.2	.	0.68	.
2012.167	89.5	0.7	0.672	0.008



WDS & IF Catalogue, variable star details and orbit - *Occult*

Add-in

<https://www.occultwatcher.net/OccultWatcher.LunarOccultations.zip>

European feed – (Oliver Klös and Jan Mánek)

<http://www.iota-es.de/OWFeed/EuroDls.txt>

The screenshot shows the Occult Watcher software interface with the 'Add-ins' menu open. The 'Lunar Occultations for OccultWatcher, v.1.2.0.0' dialog box is displayed, showing the configuration for the add-in. The 'Occult4 Path' is set to 'C:\Users\Alex-14\Documents\Occult4'. The 'Site Altitude' is 114 m and the 'Aperture' is 28 cm. The 'Mag Limit Adj.' is 0 m. The 'Feed Url' is 'http://www.iota-es.de/OWFeed/EuroDls.txt'. The 'OK' and 'Cancel' buttons are visible at the bottom of the dialog.

Occult Watcher, ver. 5.4.0.1 - Z92 (UTC +01:00 DST)

Synchronise now Configuration Add-ins Help

Asteroid Name Ev

My Events

- (128898) 2004 TY6
- (3578) Ceresia
- (89735) Tommei
- (290944) 2005 WF156
- (1031) Arctica
- 2006 BF244
- (582) Olympia
- (18959) 2000 QG129
- (64273) 2001 TM207
- (8865) Yakimo
- (77686) 2001 NA4

All Events

- (118666) 2000 KZ34
- (219631) 2001 TX240
- (707) Steina
- (3497) Innanen
- (55555) DNA
- (70740) 1999 DV12

IBERO Events

you center shadow 1-sigma 2 & 3-sigma limits

(42195) 2001 DO17 occults TYC 6301-00382-1

Event time: 23:18:39 UT

Position: In the 1-sigma zone, 2 km outside the shadow path

Error in time: 1 sec

Max duration: 1.7 sec

There are currently no announced stations for this event.

Show online map with stations View details on the web Save Google

Lunar Occultations for OccultWatcher, v.1.2.0.0

Occult4 Path:

C:\Users\Alex-14\Documents\Occult4

IMPORTANT: While the Lunar Occultations for OccultWatcher addin is loaded you will not be able to update Occult. You will need to stop OccultWatcher before updating Occult.

Site Altitude: 114 m Aperture: 28 cm

Mag Limit Adj.: 0 m

Feed Url:

http://www.iota-es.de/OWFeed/EuroDls.txt

OK Cancel

Lunar occultations add-in - OccultWatcher

Add-in

<https://www.occultwatcher.net/OccultWatcher.LunarOccultations.zip>

European feed – (Oliver Klös and Jan Manek)

<http://www.iota-es.de/OWFeed/EuroDls.txt>

Occult Watcher, ver. 5.4.0.1 - Z92 (UTC +01:00 DST)

Synchronise now Configuration

Configuration

General Event filters Other options Prediction feeds Observation planner

Asteroidal occultations predictions

The OccultWatcher experience wouldn't be possible without the people publishing predictions computed with Dave Herald's Occult. Please select from the list below the feeds you want OccultWatcher to monitor for you.

- ☒ Planet Satellites (Global)
- ☒ LinOccult Personal Predictions
- ☒ Personal Predictions
- ☒ **Lunar Occultations of Close Double Stars**
- ☒ NEA (Global)

Lunar Occultations

Total Lunar Occultations of suspected double stars. The filtering is done at the time of the synchronisation so you need to have your correct coordinates set before you synchronise.

Url <http://www.iota-es.de/OWFeed/EuroDls.txt>

OK Cancel

My Events

- (128898) 2004 TY6
- (3578) Carestia
- (89735) Tommei
- (290944) 2005 WF156
- (1031) Arctica
- 2006 BF244
- (582) Olympia
- (18959) 2000 QG129
- (64273) 2001 TM207
- (8865) Yakiimo
- (77686) 2001 NA4

All Events

- (118666) 2000 KZ34
- (219631) 2001 TX240
- (707) Steina
- (3497) Innanen
- (55555) DNA
- (200240) 1999 DV12

L [IBERO Events]

you center shadow

(42195) 2001 DO17 occults TYC 6301

Position: In the 1-sigma zone, 2 km outside the shadow

There are currently no announced stations for this event

	Probability	Shadow Width
	19.5%	10 km
	10.7%	50 km
	6.0%	20 km
	5.6%	13 km
Europe	100.0%	130 km
	9.1%	100 km
	100.0%	44 km
	95.8%	22 km
	0.0%	4 km
Europe	81.4%	18 km
	20.5%	15 km
	6.0%	10 km
	0.6%	6 km
	0.0%	25 km
	0.0%	23 km
	0.0%	6 km
	0.0%	6 km

Horizons (JPL#60)

Moon altitude: 15° @ 72°

Moon distance: 119°

Show online map with stations View details on the web Save 'Google Earth' kml file View station sorts

Lunar Occultations Add-in - OccultWatcher

Occult Watcher, ver. 5.4.0.1 - Z92 (UTC +01:00 DST)

Synchronise now

Configuration

Add-ins

Help

Asteroid Name	Event Date, UT	Magn.	Rank	Travel Dist.	Last Updated	Feed	Probability	Shadow Widt
(378492) 2007 TE235	Fri 15 Aug, 03:27 UT	11.7	6	92 km @307°	04 Aug, 14:35 new	IBEROC	1.8%	7 km
(2100) Ra-Shalom	Fri 15 Aug, 04:10 UT	14.2	48	49 km @189°	06 Aug, 04:10 *	SouthAmerica	0.0%	3 km
2019 SR16	Fri 15 Aug, 04:14 UT	10.9	2	7 km @164°	04 Aug, 14:37 new	IBEROC	0.9%	2 km
(9453) Mallorca	Fri 15 Aug, 20:07 UT	13.4	83	36 km @96°	03 Aug, 10:48 *	IBEROC	0.0%	12 km
(85672) 1998 QS95	Fri 15 Aug, 20:15 UT	13.5	41	6 km @278°	04 Aug, 14:49 new	IBEROC	17.2%	5 km
(118872) 2000 TW13	Fri 15 Aug, 20:39 UT	14.9	5	16 km @349°	04 Aug, 14:55 new	IBEROC	3.1%	12 km
(128215) 2003 SL77	Fri 15 Aug, 21:11 UT	14.9	52	95 km @225°	04 Aug, 14:55 new	IBEROC	0.0%	10 km
(780305) 2012 SZ40	Fri 15 Aug, 21:47 UT	13.7	2	61 km @344°	04 Aug, 15:03 new	IBEROC	0.9%	8 km
(41408) 2000 AV196				15 km @107°	04 Aug, 14:52 new	IBEROC	0.4%	13 km
(11045) 1990 HH1				4 km @277°	04 Aug, 14:53 new	IBEROC	20.2%	5 km
(42195) 2001 DO17				12 km @114°	03 Aug, 16:19 *	IBEROC	30.1%	18 km
(141969) 2002 PO124				93 km @278°	04 Aug, 15:10 new	IBEROC	0.8%	5 km
(276147) 2002 JO75				21 km @134°	04 Aug, 15:06 new	IBEROC	4.3%	4 km
(53777) 2000 EP92				8 km @74°	05 Aug, 09:40 new	IBEROC	0.0%	5 km
(651092) 2012 VZ67				86 km @145°	04 Aug, 15:11 new	IBEROC	0.3%	<1 km
ATLAS (C/2025 K				232 km @358°	03 Aug, 08:52	COMETOCC	0.7%	11 km
(16228) Adhamkassem				26 km @150°	04 Aug, 14:16 new	IBEROC	0.0%	18 km
75764 R				-	28 Jul, 10:56	LunarOcc	100%	-
(124057) 2001 FH162				59 km @141°	04 Aug, 15:06 new	IBEROC	0.0%	7 km

Create C2A Occultation Map

Forward event to DvtiCamControl

Show Event in Guide

Compare Star Catalogue Positions (Occult)

Open Event in Occult

Additional Event Details

Export All Events to Excel

View Target Star in 'Google Sky'

Add to 'My Events'

75764 [R] (Z92)

75764 is quadruple: AB 7.81 9.67 0.80" 98.2, dT = +1.2sec : AB,C 7.6 13.5 48" 44.0, dT = +80sec : AB,D 7.6 15.8 55" 159.0, d1 = -1.9sec

75764 is a close double. Observations are highly desired

Constellation: Aries

Star altitude: 32° @97°

Sun altitude: -21°

Moon altitude: 33° @96°

Moon distance: 0°

View details on the web

Lunar occultations add-in - *OccultWatcher*

Lunar occultation predictions : Occult v.4.2025.8.3

with Prediction ... Set Output filter Mag limit adjustment... show Recording Timer Weather forecasts... Help Exit

1. Specify a single site location
Site name: OW.LunarOcc
Lon: -01 36 28.00
Lat: 53 50 15.00
Apert(cm): 28
Altitude (m): 114
Use Site files

2. Star cat.
☒ XZ
☐ XZ < mag 9
☐ XZ < mag 7
☐ XZ < mag 4
☐ ZC

3. Objects
☒ Stars
☒ Planets
☐ Asteroids
☐ Grazes only
☒ Doubles only

4. Set UT dates
Start: 2025 Aug 15
End: 2025 Aug 15
Year Month Day

5. Events for Site
6. Events anywhere

Right-click on prediction for further options

Occultation prediction for OW.LunarOcc
E. Longitude - 1 36 28.0, Latitude 53 50 15.0, Alt. 114m; Telescope dia 2

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA					
y	m	d	h	m	s	No	D	v	r	V	ill	Alt	Alt	Az	o	o	o	
25	Aug	16	1	22	45.2	R	75764	SF0	7.6	52-	92	33	97	83S	248	287	2	
75764 is quadruple: AB 7.81 9.67 0.80" 98.2, dT = +1.2sec : AB,C 7.6 13.5																		
75764 is a close double. Observations are highly desired																		
25	Aug	16	3	15	10.8	r	75804	cF8	8.6	8.3	51-	91	48	124	79N	266	298	2
75804 is double: ** 9.3 9.3 0.10" 119.0, dT = +0.18sec																		
75804 has been reported as non-instantaneous (OCc 772). Observations are h																		

Moon map : Occult v.4.2025.8.3

with Map... Help Exit right-click to set number of stars pic

Lunar Occultations Add-in – OccultWatcher - Occult

**Analogue camera -
GPS - NTP
25 fps (frames) – 50 fps (fields)**

**IOTA_VideoCapture
OccuRec
???**

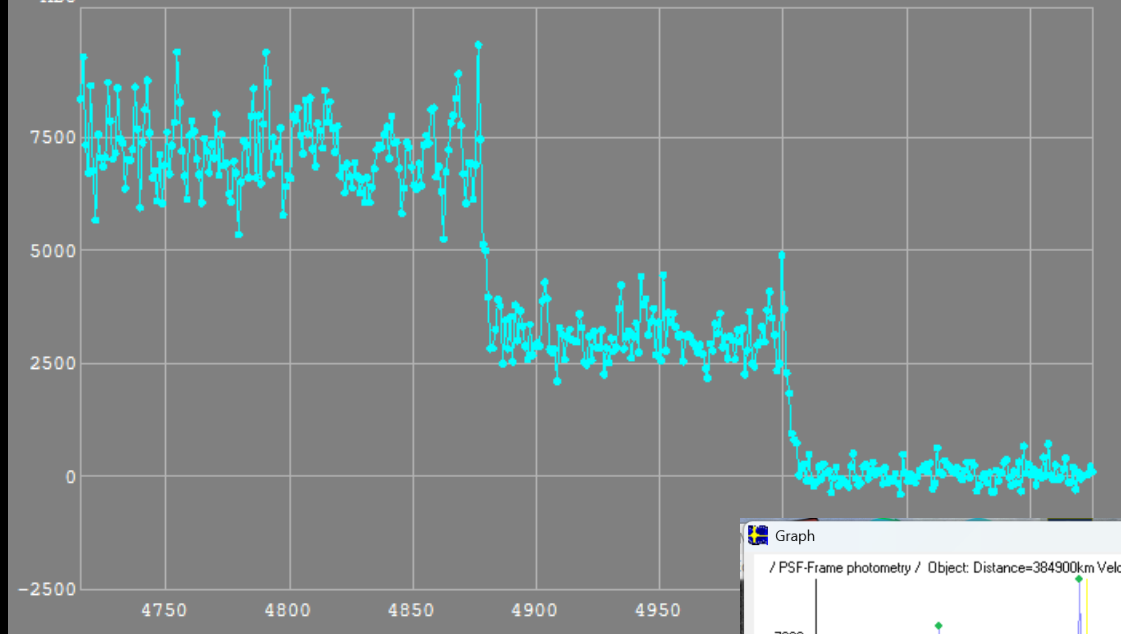
**Digital camera –
GPS - NTP
Up to 1000 fps
(Region of Interest)**

**DVTI Camera Control Tool,
SharpCap
???**

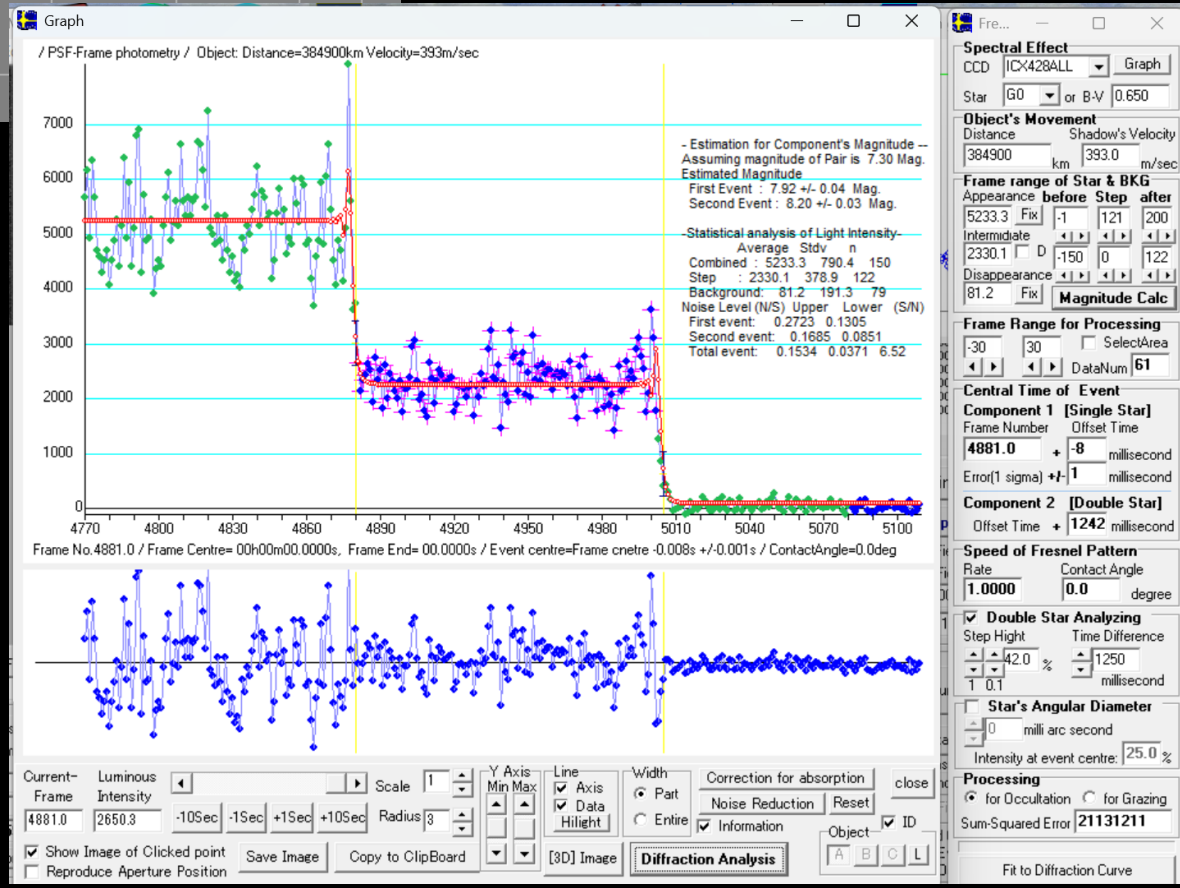
**File format –
AVI, AAV, ADV**

Recording double star occultations

ADV Light Curve - Aperture Photometry, Background Median



Tangra



Limovie – (AVI files)
Fresnel diffraction analysis
Magnitude estimates

ADV to AVI converter
(DVTI+CAM team)

Observations editor : Michael.dat : Occult v.4.2025.8.3

File... Submit report... Double star report... Light curve report... GoogleEarth LiMovie... ? Help

Display in old format ☐ View : ☐ Report ☐ Edit : ☐ Header ☐ Sites & Names ☒ Events Reduce & Plot LRO-LOLA

Events

1. Event time & type

Year Month Day Today
2025 5 4 ☐

Hour Min. Second
20 48 8.85

Event type

☒ Disappear ☐ Reappear
☐ Blink ☐ Flash ☐ Miss
☐ Started ☐ Stopped ☐ Other

Graze event ☐

Limb
☒ Dark limb ☐ Bright limb ☐ Umbra

Arrange events

☒ by Number ☐ by TEL ☐ by Date ☐ by OBS

2. Star

ZC 1392
SAO 98552
XZ 14247

☐ Unidentified star
For unidentified stars only
GSC
format: RRRRNNNNN

or Solar System
Planet
Moon
Asteroid #

star is double

3. Timing methods, Circumstances

Method of Timing & recording (use the left box, or both)
Video (time insert) + frame an.

Time source
GPS (using 1PPS output, NOT screen display)

PE PE application [PE is NOT camera corrections]
PE not relevant to the method of timing [eg Video]

Accuracy Remarkable circumstances
No remarkable circumstances

Stability Transparency Certainty
Good Good Sure that the event occurred

Double stars WDS [AB]
Preceding (west) component A Sep = 0.07 PA = 193.7

S/N ratio Light level Duration (sec) Temperature

Comments [not archived] No accented characters

4. Observer

Station (site)
A : 30.0cm at - 64 21

Observer A : Michael

Limb-corrected residual

Residual	P.A.	Mag.
0.14	61.09	7.3

1	2025	5	42048	8.85	R	1392ADD	EG	G	1	W	11	AA
2	2025	5	42048	10.1	R	1392BDD	S		1	E	11	AA

Lunar observations editor .dat file - Occult

with Report...

Help

Exit

2025 May 4 at 20h 48m

R1392 D D

Star Mag 7.32

P.A. 61.095 A.A. 44.247

C.A. 43N %ill 53%

l 7.327 b -3.471

Scale 0.999 Alt 49

RV 0.2096 CCT 60.58

T (bright) secs 8.85

T (faint) - T (bright) secs 1.25

T (faint) secs = 10.100

- or - No step event ☐Retrieve LiMovie plot
from the Clipboard

Save light curve

Email message

/ DCC Frame photometry /

2025 May 4 at 20h 48m

Star = R1392

Observer = Michael

Telescope = 30.0cm at - 6 53

Double star details from the XZ catalogue

Star is the mean position of the following pair

A 2477 1912 2013: 236.0 3.0: 0.300 0.500: 7.46 9.18: R 1392 ----- mean

Positions from orbit, on event date

PA = 13.70, Separation = 0.427"

Observation details

Star Mag = 7.32

Event = D D

PA = 61.095

AA = 44.247

l = 7.327

b = -3.471

RV = 0.2096

Scale = 0.999

CCT = 60.58

CA = 43N

%Illum = 53%

Alt = 49

T1 = 8.85

T2-T1 = 1.250

* * * * *

Set as default
cc addresses

[a BCC copy will be sent to your Email Inbox]

Preview report

Save and Email report

Save report

Lunar observations editor - Double star report .txt file - Occult

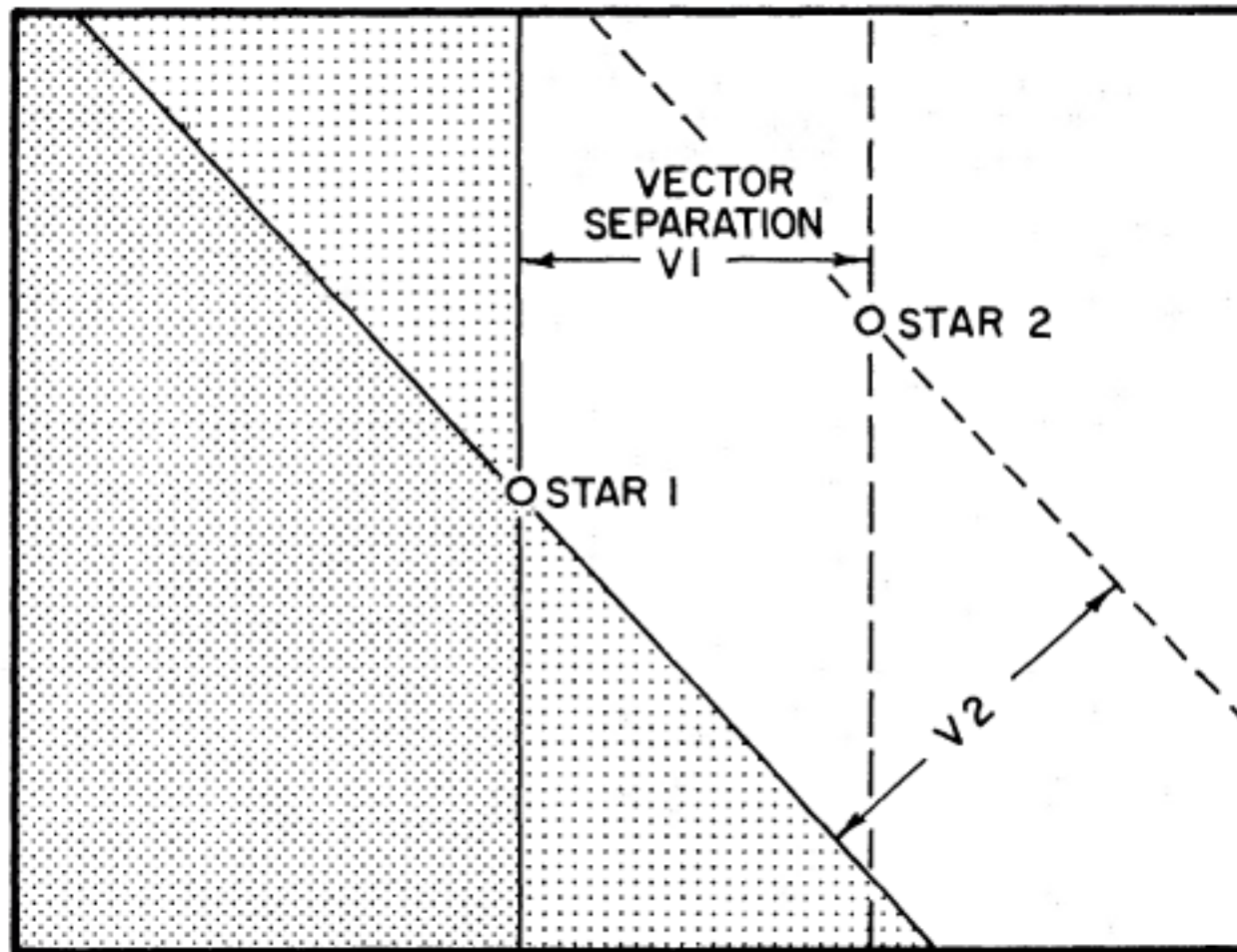


FIG. 5. A single occultation measurement of a double star gives only the vector separation V_1 ; star 2 could be anywhere along the vertical *dashed* line. A second measurement gives V_2 and locates star 2 precisely.

Measuring the position angle (PA) and separation of a double star

Paste an observation

**Solve
& Plot**

Magnify
scale x5

Year	Mth	Day
2025	5	4

Star ID
R1392

Show
WDS & IF

List
Equivalents

T1 (secs) (brighter)	T2 (secs) (fainter)	PA	rv	cct	Scale	limb slope
27.33	31.31	42.601	0.0819	79.31	0.998	0

Swap T1, T2

Year	Mth	Day	Observer
2025	5	4	B Mills

Librations l 7.209 b -3.424 AA 25.741

Circumstances	CA 24N	%Illum	53%	Alt	45
---------------	--------	--------	-----	-----	----

Add

Replace

Delete

Review limb slope

Sep = 0.362"

$$PA = 23.54^\circ$$

- ☐ Plot nominal uncertainties
- ☐ Visual uncert

Mean Date: 2025.34

Checked events are used for the solution

Observations

Legend

— 0, 8.85, Michael
— 1, 27.33, B Mills

R1392
2025.34

Plot width = 1.20"

Occult 4.2025.8.3

1.20"

Solving the PA and separation of R 1392 - *Occult*

Mills – O'Connell

WDS

Durations:

BM 3.98s

MOC 1.25s

PA:

23.54°

Separation:

0.362"

Mags :

BM

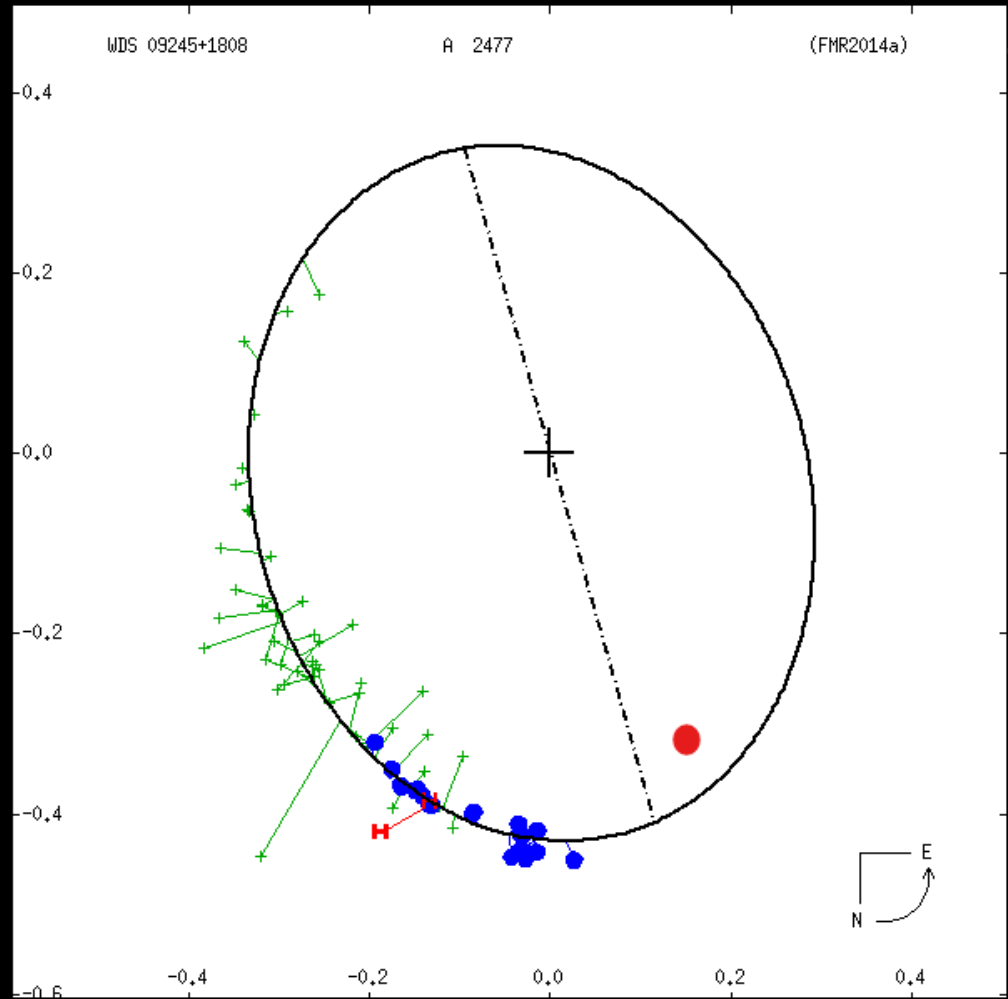
7.85

8.31

MOC

7.92

8.21



Period 250 years

The magnitudes, PA and separation of R 1392 – 2025 May 4

PA and separation of double star XZ 32105

WDS name	XZ	RA Dec	PA	+/-	Sep.	+/-	Mag. diff.	Date	Observers	Note
A 2100	32105	23568+0444	260.67	1.42	0.366	0.010	1±0.3	2011.849 2011.924	AP DB	9

“Lunar Occultation Observations of Double Stars – Report #3” B. Loader *et al*
(Journal of Double Star Observations, Vol 8, No 4, Oct 1, 2012) – University of South Alabama, USA

2008.8875	267.1	.	0.36	.	.	.	.	.	1.0	1	Or12009 S
2011.887	260.67	1.42	0.366	0.010	.	.	1.	0.3	.	2	OCC2012b O
2013.7365	259.5	0.0	0.3888	0.0001	.	.	1.2	.	534 22	4.2	2 Tok2014a S

Washington Double Star catalogue
Interferometric Catalogue
(USNO)

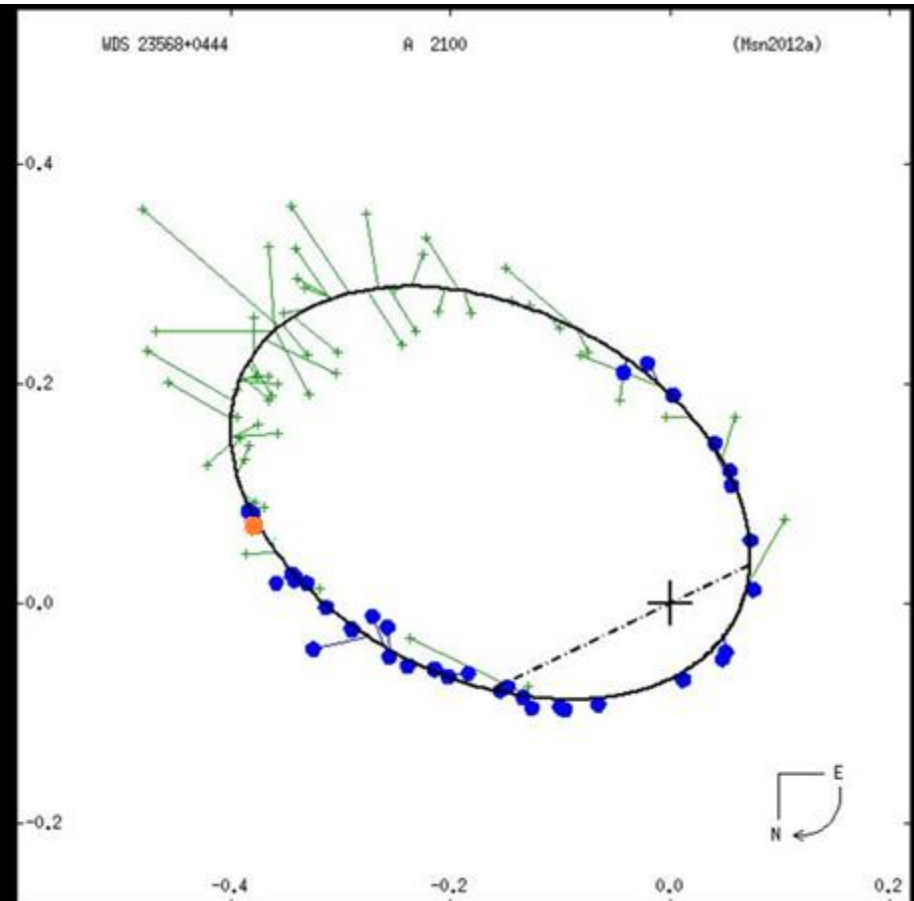
Micrometer

Photography

Interferometer

Occultation

Period 88.95 years

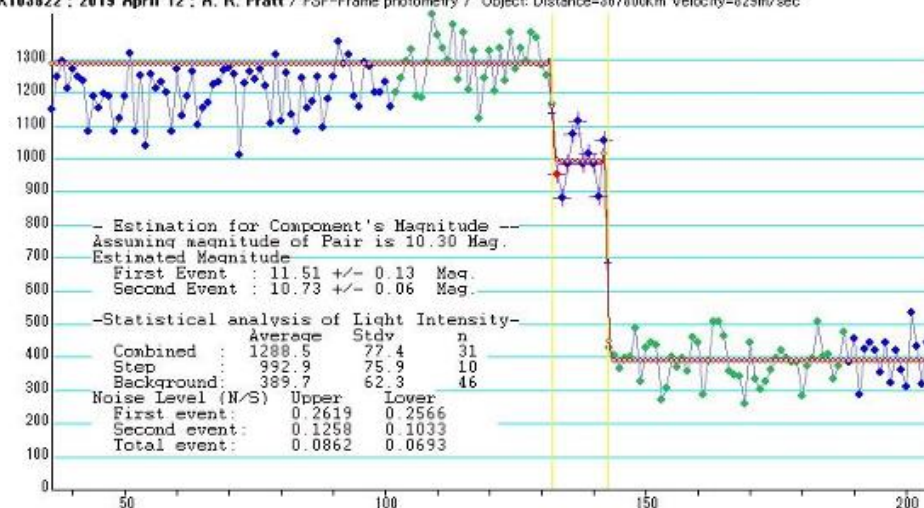


A New Double Star from Lunar Occultation: XZ 103822

Alex Pratt

International Occultation Timing Association / European Section (IOTA/ES)
British Astronomical Association (BAA)
MPC Z92 - Leeds, England
alex.pratt@bcs.org.uk

X103822 : 2019 April 12 : A. R. Pratt / PSF-Frame photometry / Object: Distance=367000km Velocity=829m/sec



Star XZ 103822 = TYC 1373-37-1
= GSC 01373-00037
= 2MASS J07403872+2052502
= Gaia DR2 673152977377071616

Coord. (J2000) 7h 40m 38.72s, 20° 52' 50.11"
Spectral type ?
Derived double data:
Mag A 10.7 ± 0.1 (V)
Mag B 11.5 ± 0.1 (V)
Epoch 2019.28
Separation > 0.2"
PA at epoch between 21 and 201 deg

XZ 103822 – 2019 April 12 – A new double star - JDSO

2025 March – Paris – joint meeting – ‘History of Astronomy’
Société astronomique de France (SAF)
Society for the History of Astronomy (UK)



SOCIÉTÉ ASTRONOMIQUE DE FRANCE
COMMISSION DES ÉTOILES DOUBLES

Philippe Laurent - Patrick Wullaert
Serendipity!

The OLED Project

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DE MADRID



Ocultaciones Lunares de Estrellas Dobles
Occultations Lunaires d'Étoiles Doubles

<https://sites.google.com/aam.org.es/oled/>



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Doubles

Enrique Velasco

With thanks to...

Tim Haymes - Oliver Klös - Jan Mánek – Brian Mills - Michael O’Connell

(22649) Paulineloader = 1998 OD12

Discovery: 1998-07-27 / J. Broughton / Reedy Creek / 428 Pauline Loader (b. 1942, England) is a former Secretary and Treasurer of the Royal Astronomical Society of New Zealand and was once head of the Variable Star Section. Around 2003 she **developed the Beeper Box device for timing visually observed occultations.**

(22650) Brianloader = 1998 OG12

Discovery: 1998-07-29 / J. Broughton / Reedy Creek / 428 Brian Loader (b. 1935, England) is a retired science teacher who worked as a programmer at the USNO Black Birch Station in New Zealand. In 1980 he joined the RASNZ where he set up programs monitoring Jovian satellite events and double stars occulted by the moon. He was a **prolific occultation observer for 50 years** and became a Fellow of the society.