



Atelier de photométrie Gemini Pro-Am

Arnaud Leroy – Pierre Le Cam

Historique

Mi 2022 – Annonce d'Eric Frappa de l'arrêt d'Euraster

Septembre 2022 - développement de la structure de la base – IOTA ES – Erik Tunsch

Fin Novembre 2022 – premiers tests

Fin Décembre 2022 - Euraster cohabite avec SODIS

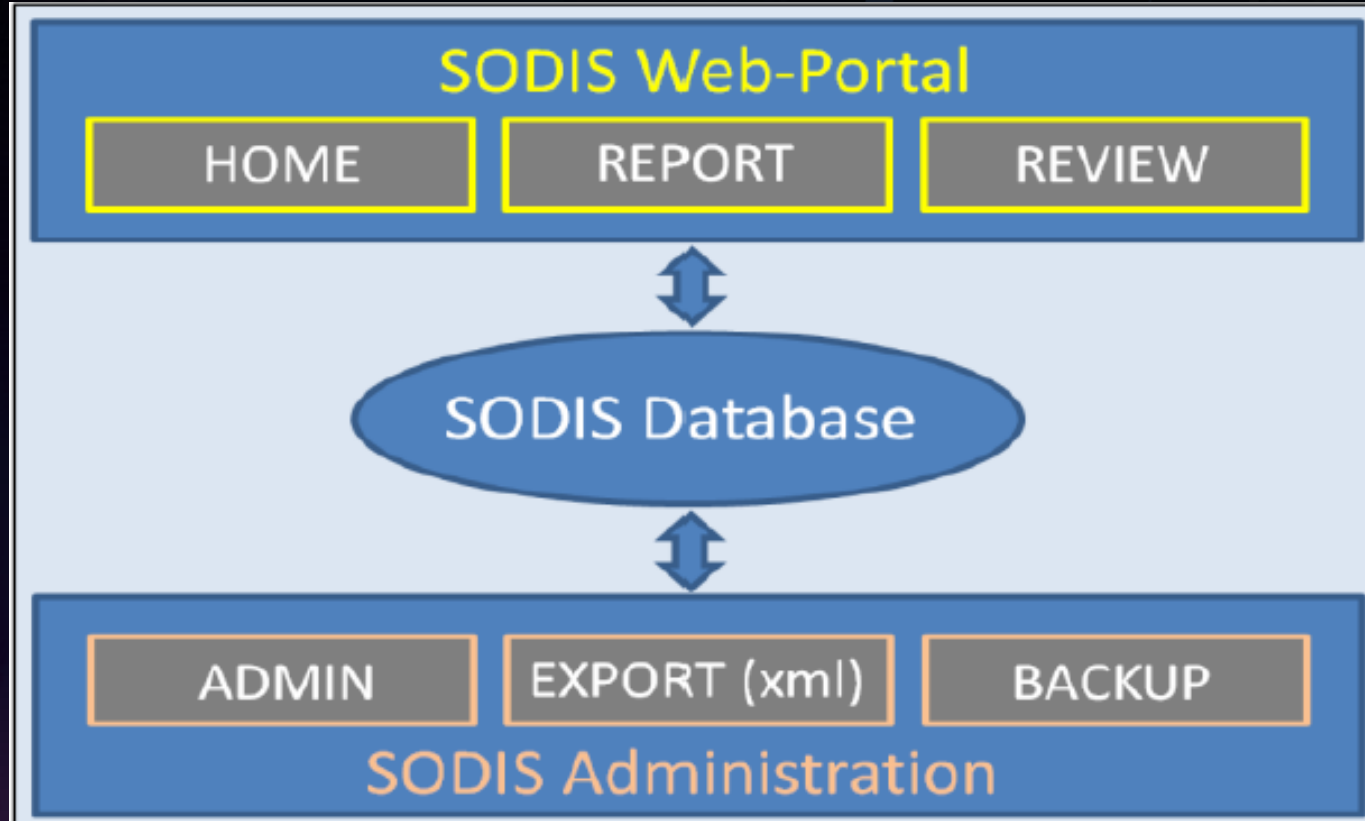
SODIS (Stellar Occultation Data Input System)

But : Collecter les données des observations d'occultations stellaires au niveau Européen

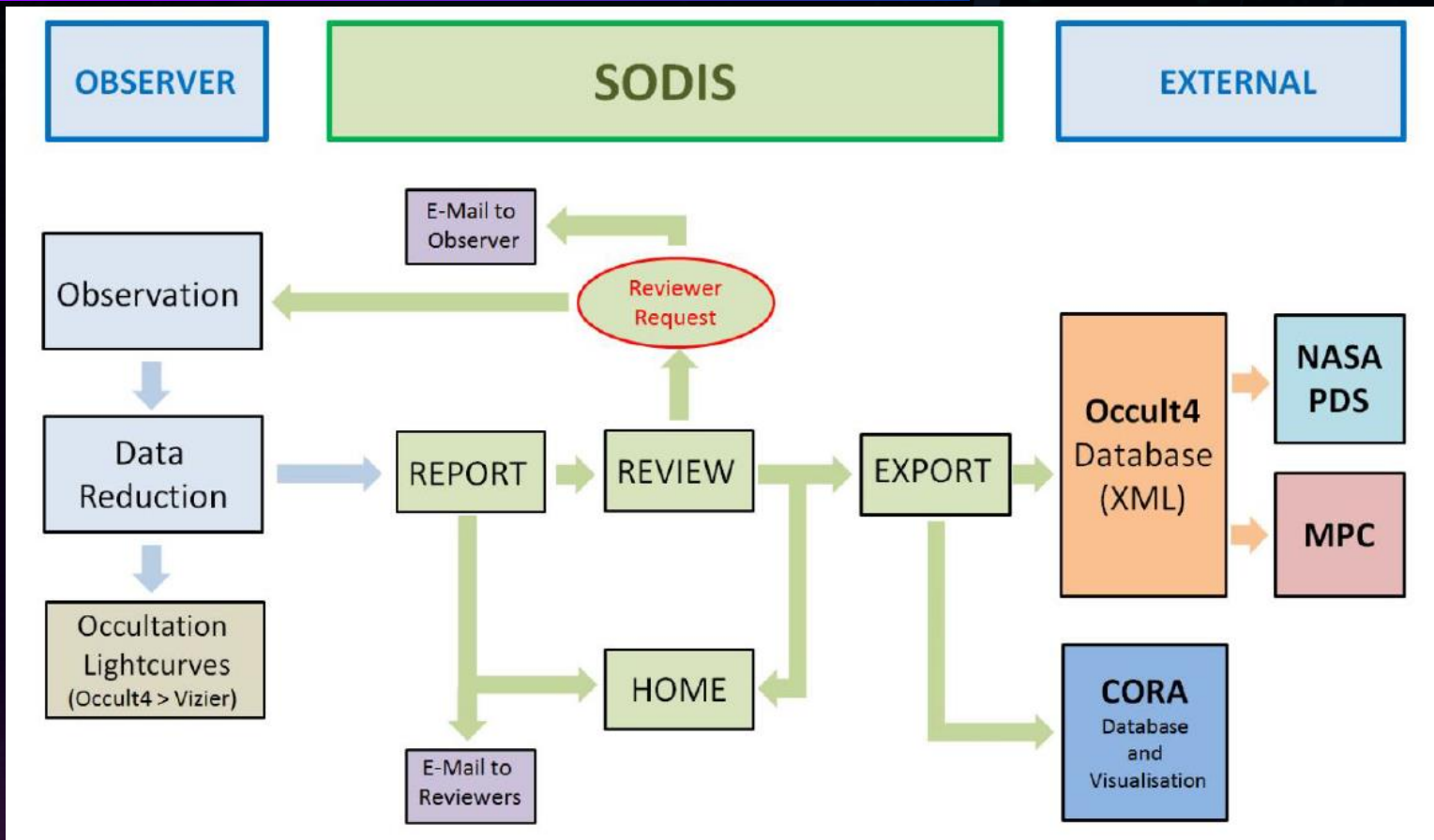
Au niveau international , IOTA est divisé en plusieurs sections :

- **European Section (IOTA/ES)**
- **Australia & New Zealand (RASNZ – Occultation Section)**
- **IOTA India Section (IOTA/India)**
- **Middle East Section (IOTA/ME)**
- **South America (with LIADA)**

Structure



Fonctionnement



Organisation

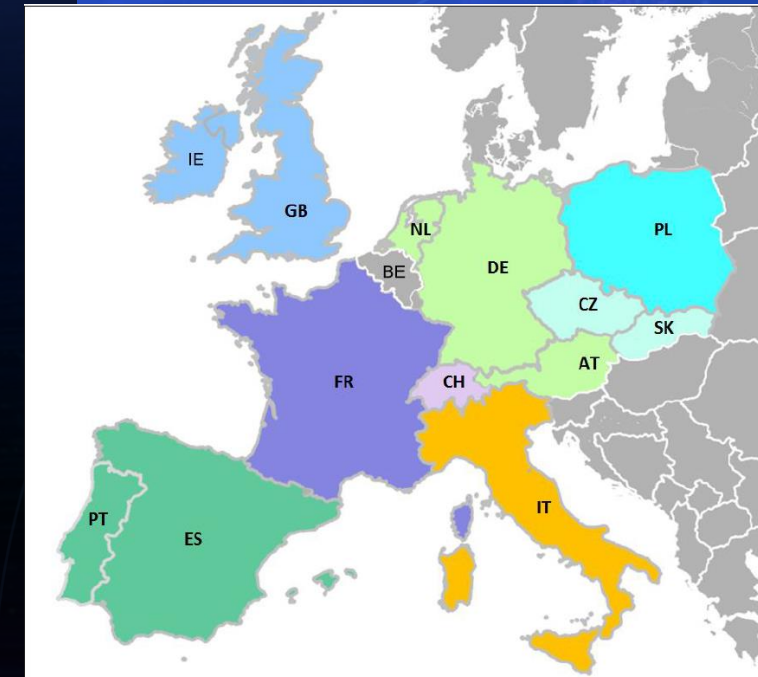
3 types de comptes

- Observateurs
- Reviewers
- Administrateurs

A ce jour : observateurs 152, reviewers 26, admins 4

Organisation

Les équipes de « review »



Team	Chief reviewer	Deputy reviewer	Reviewer
BE			Olivier Schreurs (BE), Roland Boninsegna (BE)
CH	Jonas Schenker (CH)	Stefan Meister (CH)	
CZ+SK	Jan Manek (CZ)	Jiri Polak (CZ)	Karel Halir (CZ)
DE+AT+NL	Wolfgang Beisker (DE)	Gregor Krannich (DE)	
ES+PT	Carlos Perello (ES)	Ricard Casas (ES)	Carles Schnabel (ES)
FR	Thierry Midavaine (FR)	Arnoud Leroy (FR)	Pierre le Cam (FR), Matthieu Conjat (FR)
GB+IE	Tim Haymes (GB)	Alex Pratt (GB)	Simon Kidd (GB), William Stewart (GB)
IT	Stefano Sposetti (CH)	Claudio Costa (IT)	
PL	Wojciech Burzynski (PL)	Daniel Blazewicz (PL)	

L'interface web

Page d'accueil : <https://sodis.iota-es.de>

The screenshot displays the SODIS web interface for 'All Occultations'. The interface features a top navigation bar with 'HOME', 'HELP', 'LOGIN', and 'REGISTER' links. Below the header, there are buttons for 'COLLAPSE ALL', 'SHOW ALL', and 'CLEAR ALL'. The main content area is organized into a grid of filter panels, each with a search bar and a list of items with associated counts in purple circles. The filters include:

- Date:** 2022-11-14 (1), 2022-11-27 (3), 2022-11-28 (2), 2022-11-29 (1), 2022-11-30 (2), 2022-12-03 (1), 2022-12-04 (3).
- AstNo:** 1000 (3), 1002 (2), 101 (1), 101891 (1), 1021 (6), 10305 (1).
- AstName:** 1282 T-2 (1), 1958 TL1 (1), 1964 VZ2 (1), 1981 EJ6 (1), 1981 QT3 (1), 1985 RJ (1), 1986 EP5 (1).
- Occ:** O+ (128), O- (172).
- CC:** BE (28), CH (144), CY (2), CZ (113), DE (65), ES (212), FR (74).
- Observer:** Alberto Ossola (13), Alex Pratt (31), Alexandros Siakas (1), Alexandros Siakas, I. Gkolias (1), Alexandros Siakas, I. Gkolias et al. (4), Alexandros Siakas, S. Tsavdaridis et al. (8), Andrea Manna (8).
- ObsMeth:** Analogue & digital video (327), Drift scan (1), Sequential images (170), unspecified (1), Visual (1).
- Review Status:** Finished (1078), Waiting for review (22).
- No data:** 22 (VIEW button, 1878).

Envoyer un rapport

Un fichier « template » est mis à disposition pour pré remplir les informations

- <https://forum.iota-es.de/attachment.php?aid=45> (occultation positive)
- <https://forum.iota-es.de/attachment.php?aid=44> (occultation négative)

```
#IOTA-ES ASTEROIDAL OCCULTATION - REPORT FORM 2.03
#Event
#Occultation: POSITIVE
#DATE: 25 August 2022
#PREDICTTIME: 25 Aug; 2022 20:03:31 UT
#STAR: UCAC4 350-187717
#ASTEROID: Hildrun
#Nr: 928
#OBSERVER
#Observer1: Wilhelm Herschel
#Observer2:
#moreObs:
#E-mail: myemail@myprovider.de
#Address: mystreet 5, 12345 MyCity
#OBSERVING_STATION
#NearestCity: Berlin
#Countrycode: DE
#Coordinates LAT +/-DD MM SS.S LON +/-DDD MM SS.S
#Latitude: +52 58 48.5
#Longitude: +013 22 13.7
#Altitude: 37.4
#Datum _blank=WGS84 N=WAD1927 E=ED1950 T=Tokyo G=G81936 *=unspecified, or other
#Datum:
#Teleskop _=unstated 1=Refractor 2=Newtonian 3=SCT 4=Dobsonian 5=Binoculars 6=Other 7=lone 8=scope
#Telescope: 3
#Aperture in cm
#Aperture: 36
#FocalLength in cm
#FocalLength: 277
#ObservingMethod _=unspecified a=Analogue & digital video b=Digital SLR-camera video c=Photometer d=Sequential images e=Drift scan f=Visual g=Other
#ObservingMethod: a
#Observation
#StartObs: 20:01:34.99
#D D=Main Star d=second Star G=satellite main star g=satellite 2nd star N=ring N=non detection +time hh:mm:ss.s
#D: D20:02:30.0
#Acc_D: 0.5
#R R=Main Star r=second Star B=satellite main star b=satellite 2nd star N=ring N=non detection +time hh:mm:ss.s
#R: R20:02:34.0
#Acc_R: 0.5
#EndObs: 20:03:34.01
#Duration: 4.0
#Exp_Time: 1.0
#Timesource _=unspecified a=GPS b=NTP c=Telephone (fixed or mobile) d=Radio time signal e=Internal clock of recorder f=Stopwatch g=Other
#Timesource: a
#Camera: QHY174M GPS
#Signal/Noise:
#Weatherconditions:
#Wind: 0
#Temperature: 22
#Transparency 1=Clear 2=Fog 3=Thin cloud <2 [mag loss <2 mag.] 4=Thick cloud >2 [mag loss >2 mag, 5=broken opaque cloud [that is, observed thru gaps in the cloud] 6=Star faint 7=By averted vision
#Transparency: 1
#Stability _=unstated 1=Steady 2=Slight flickering 3=Strong flickering
#Stability: 1
#Comments: here only really important remarks
```

Envoyer un rapport

All times are entered in UTC.

Read Form Aucun fichier sélectionné.

Occultation Date Predictdate Predicttime

Observer 2

More Obs

Star Asteroid No

Located near Country Code

Latitude Longitude

Altitude m Datum Type

Telescope Aperture cm Focal Length cm

Obs Method Exp Time s.ss

Start Obs End Obs

D D Time Acc_D s.ss

Duration s

R R Time Acc_R s.ss

Time Source Camera Signal/Noise

Wind Bft. Temp °C Transparency Seeing

Drag & Drop your files or

Powered by PQ104

Comment

Une occultation positive

SODIS – Entries for a positive report (v.01)

Read Form No file chosen **Read in an event file created by OccultWatcher here (recommended, see User Guide)**

Occultation: **Positive** Date: **08/02/2023** **Fill in (Date of recording)** Predictdate: **08/02/2023** **Optional** Predicttime: **22:08:51** **Optional**
Predicted date and time of the event (Not the time when the prediction was made)

Observer 2: **Paul Miller** **Optional** (The name of the first observer is automatically filled in) More Obs. **Optional** (Check if three and more observers, these can not be named)

Star: **UCAC4 641-041764, TYC 1843-01187-1** **Fill in** Asteroid: **1999 VZ52** **Fill in** No: **24127** **Fill in**

Nearest City: **Xtown** **Fill in** Country Code: **GB** **AD**

Latitude: **-02 30 58.0** **Fill in (exactly written; spaces!, no units)** Longitude: **10 22 58.7** **Fill in (exactly written; spaces!, no units)** Altitude: **53** **Fill in** m Datum Type: **WGS84** **WGS84**

Telescope: **Newtonian** **Unstated** Aperture: **20.3** **Fill in** cm Focal Length: **89** **Optional** cm

Obs Method: **Analogue & digital video** **unspecified** Exp Time: **0.32** **Optional (no unit)** s.ss

Start Obs: **22 05 30** **Fill in (Start of recording)** **234** End Obs: **22 10 32** **Fill in (End of recording)** **563**

D: **Main star** **Choose, Main star (or applcbl.)** **22 06 35** **Fill in (D time)** **233** Acc_D: **0.17** **Fill in** s.ss

Duration: **3.051** **Fill in** s

R: **Main star** **Choose, Main star (or applcbl.)** **22 06 38** **Fill in (R time)** **284** Acc_R: **0.34** **Fill in** s.ss

Time Source: **GPS** **unspecified** Camera: **QH174GPS** **Optional** Signal/Noise: **8.5** **Optional (no unit)**

Wind: **2** **Optional (no unit)** Bft. Temp: **-12** **Optional (no unit)** °C Transparency: **Clear** **Clear** Seeing: **Steady** **unstated**

Drag & drop here (or browse) required images and files according to the SODIS User Guide, p. 4, https://iota-es.de/sodis/Sodis_manual_engl.pdf

Drag & Drop your files or Browse

Entry all times in UTC !

Example is fictitious

Legend:
 Blue: Entry examples
 Red: Mandatory entries
 Green: Optional entries (recommended)

Usually, here no comments required/allowed. Do not comment about the prediction or other things. See <https://forum.iota-es.de/showthread.php?tid=106>

Une occultation négative

SODIS – Entries for a negative report (v01)

Read Form No file chosen **Read in an event file created by OccultWatcher here (recommended, see User Guide)**

Occultation **Negative** Date **08/02/2023** Predictdate **08/02/2023** Predicttime **22:08:51** Predicted date and time of the event (Not the time when the prediction was made)

Observer 2 **Paul Miller** Name of a second observer (only, nothing else) (The name of the first observer is automatically filled in) More Obs (Check if three and more observers, these can not be named)

Star **UCAC4 641-041764, TYC 1843-01187-1** Asteroid **1999 VZ52** No

Nearest City **Xtown** Country Code **GB**

Latitude **-02 30 58.0** Longitude **10 22 58.7** Altitude **53** m Datum Type **WGS84**

Telescope **Newtonian** Aperture **20.3** cm Focal Length **89** cm

Obs Method **Analogue & digital video** Exp Time **0.32** s.ss

Start Obs **22 05 30 234** End Obs **22 10 32 563**

D **Non Detection** D Time **HH No entry SS ms** Acc_D **No entry** s.ss

Duration **No entry** s

R **Non Detection** R Time **HH No entry SS ms** Acc_R **No entry** s.ss

Time Source **GPS** Camera **QHY174GPS** Signal/Noise **8.5**

Wind **2** Temp **-12** Transparency **Clear** Seeing **Steady**

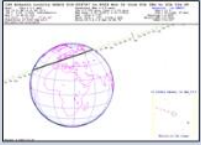
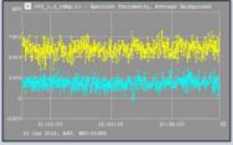
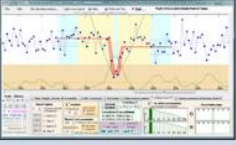

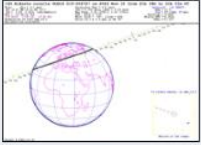
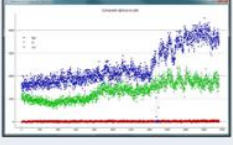
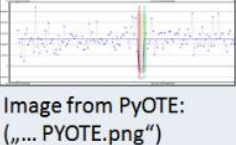
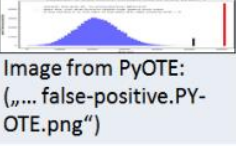

Drag & drop here (or browse) required images and files according to the SODIS User Guide, p. 4, https://iota-es.de/sodis/Sodis_manual_engl.pdf **Entry all times in UTC !**

Comment **Legend:** **Blue: Entry examples** **Red: Mandatory entries** **Green: Optional entries (recommended)**

Usually, here no comments required/allowed. Do not comment about the prediction or other things. See <https://forum.iota-es.de/showthread.php?tid=106>

Envoyer un rapport

Les autres informations à fournir

Pipeline	Event	Overview	Reduction	Log
Tangra, AOTA	 <p>PNG-Image from Occult-Watcher: „Open Event in Occult“</p>	 <p>PNG-Image from Tangra: „Export lc / Save as Image File“</p>	 <p>PNG-Image from AOTA: „tab 5“</p>	 <p>Textfile („... AOTA_Report.txt“) from AOTA „tab 6“: „Save Report“</p>
Py- Movie, PyOTE	 <p>PNG-Image from Occult-Watcher: „Open Event in Occult“</p>	 <p>PNG-Image from PyMovie: „Plot“ („Composite Lightcurve Plot“)</p>	 <p>Image from PyOTE: („... PYOTE.png“)</p>  <p>Image from PyOTE: („... false-positive.PYOTE.png“)</p>	 <p>Textf. („... PYOTE.log“) from PyOTE</p>
Other (SORA, Li- movie, ...)	Please provide similar information as described above.			

Etude du rapport

La procédure de review

- Un ou plusieurs reviewers regardent le rapport et vérifient les informations
- Si tout est correct validation
- Si il manque quelque chose ou si la réduction des données est à affiner , demande via Sodis (qui envoie un mail à l'observateur) - Parfois , nous contactons les observateurs directement par mail pour l'envoi de certains fichiers trop lourds pour la base
- Une fois les informations complétées et correctes , validation dans la base
- Note: toutefois , si des doutes subsistent sur la qualité du timing , nous avons la possibilité de donner un poids aux données

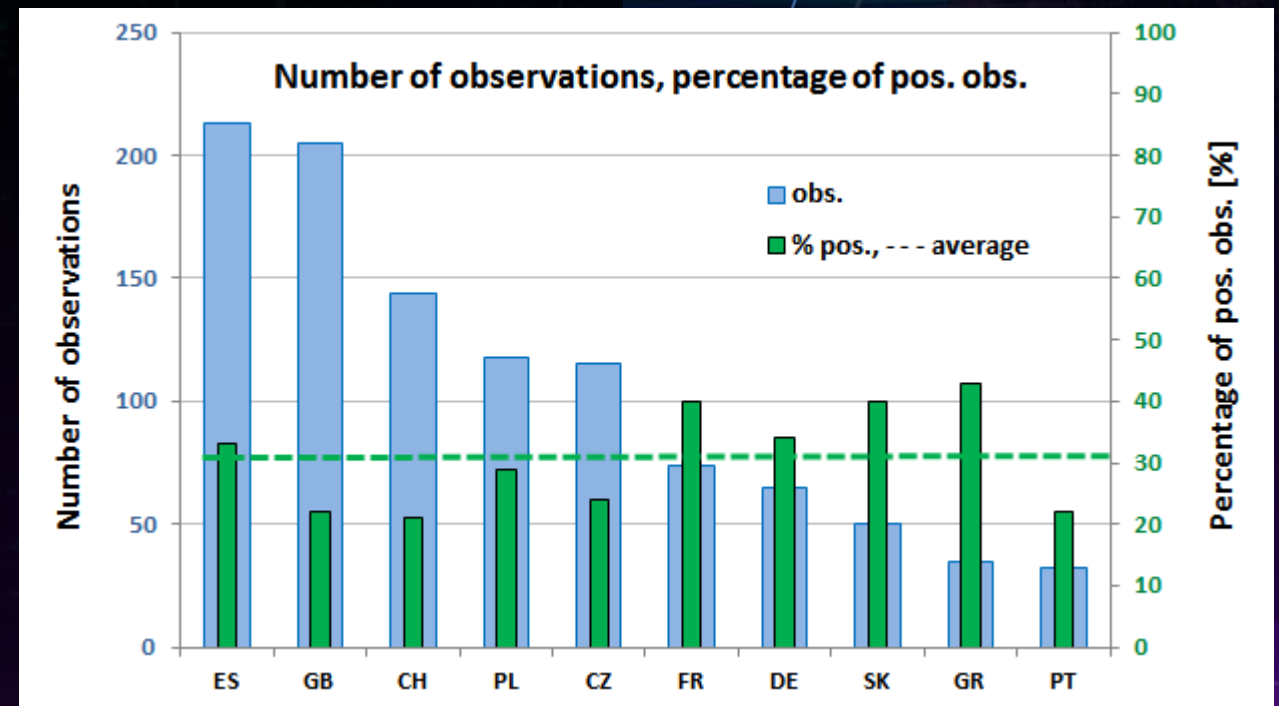
Exportation du rapport

Exportation vers le logiciel Occult

- Les administrateurs s'occupent des exportations de données vers Dave Herald (Occult).
- Si un problème est détecté lors de cette exportation , les reviewers et administrateurs sont contactés pour donner et/ou corriger les informations
- Dave Herald , une fois les observations validées , envoie les observations sur la base du Minor Planet Center

Conclusions

- A ce jour , il y a depuis le 1^{er} janvier 2023, 1315 entrées (au 18 juin 2023)
- Dont 926 négatives et 389 positives
- 84 observations pour la France , 33 positives et 51 négatives
- Il manque par rapport à Euraster , les profils calculés sur les multi-observations .



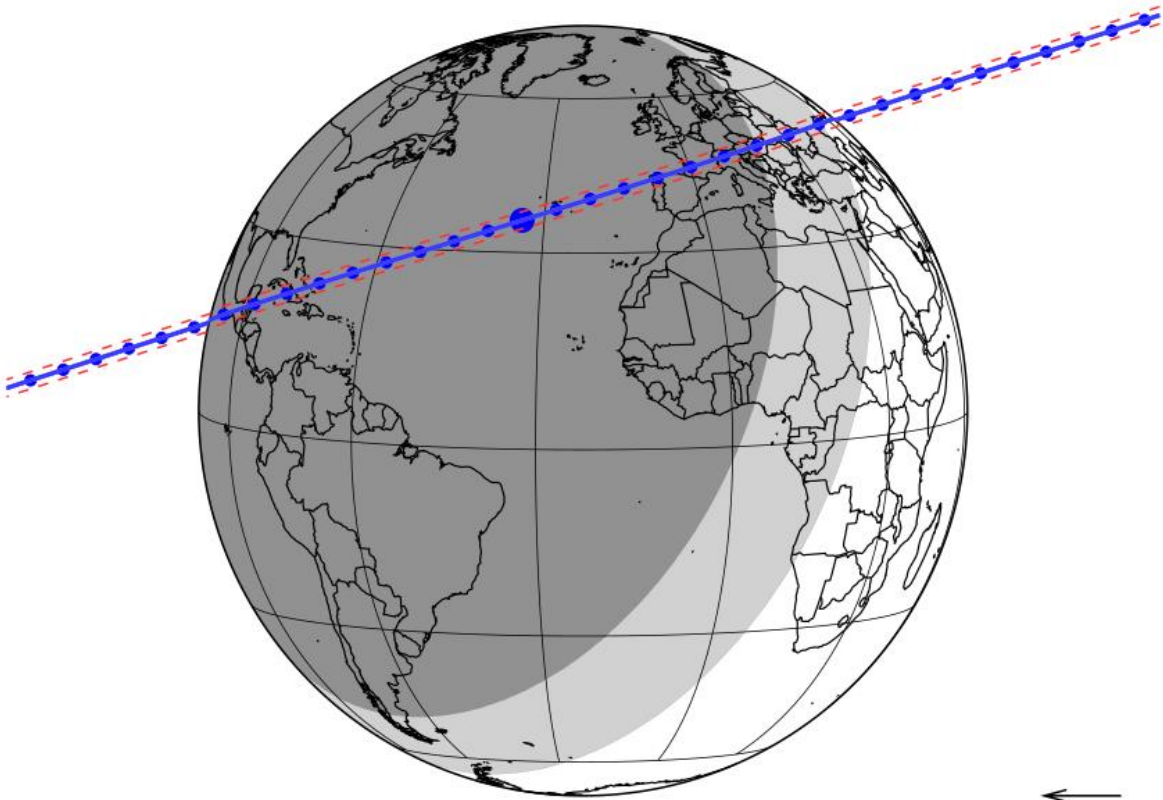
Number of of observations for the countries having more than 14 observations

Pour continuer....

Quelques évènements futurs

Leucus, GaiaDR3+pmGaiaDR3, NIMAv4
updated: 2022-09-20 by Lucky Star

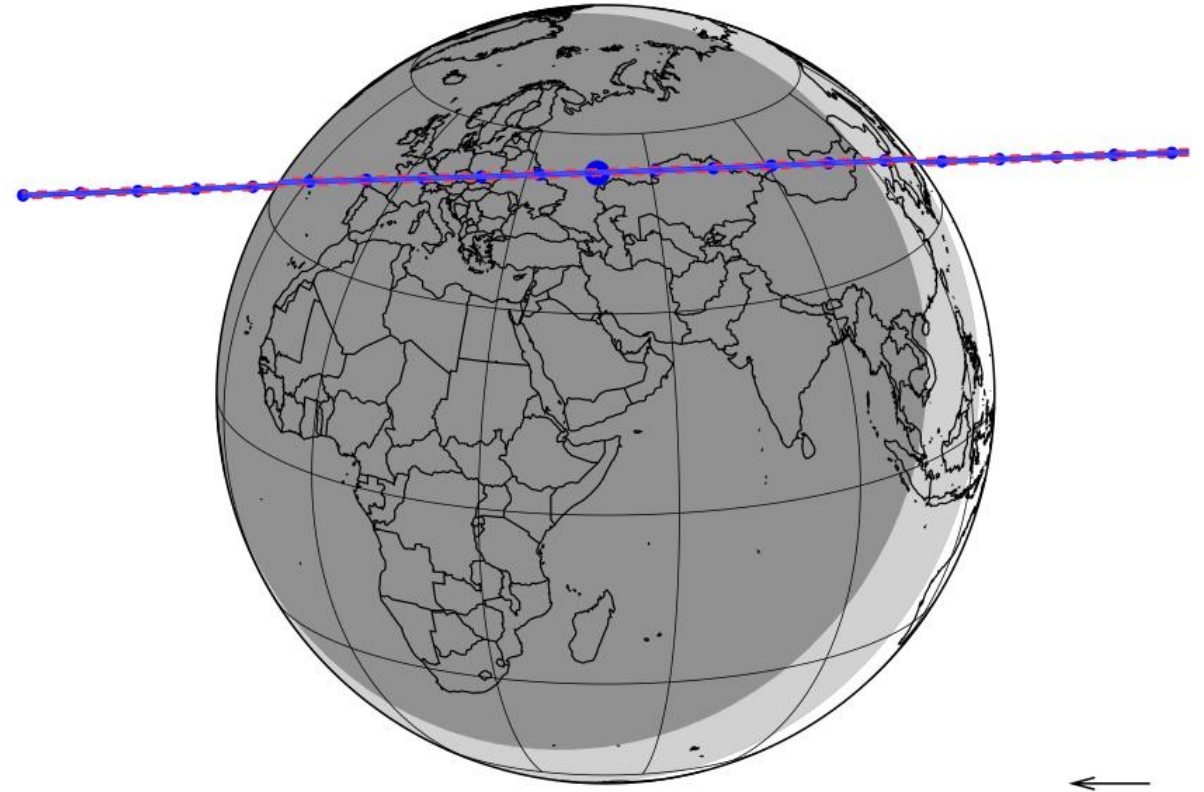
Offset: 0.0mas 0.0mas



yyyy mm dd hh:mm:ss.s	RA_star_J2000	DE_star_J2000	C/A	P/A	vel	Delta	G*	RP*	H*
2023-12-20 04:32:59.6	08 55 26.9750	+05 49 14.413	1.014	342.20	-9.52	4.4801	15.0	14.5	13.5

Orus, GaiaDR3+pmGaiaDR3, NIMAv6
updated: 2022-09-20 by Lucky Star

Offset: 0.0mas 0.0mas



yyyy mm dd hh:mm:ss.s	RA_star_J2000	DE_star_J2000	C/A	P/A	vel	Delta	G*	RP*	H*
2023-12-21 21:51:36.6	07 08 39.6085	+18 06 19.946	1.245	358.03	-15.71	3.9970	14.9	14.2	12.9

• Prochain grand évènement : l'occultation de Bételgeuse par (319) Leona – 12 /12/2023

Object	UT Date	G (mag)	Speed (km/s)	Moon Elon. (°)	Moon Phase	Regions
Patroclus-Menoetius	2023-08-10 03:13	13.2	14.7	109	0.33	South Africa
Patroclus-Menoetius	2023-09-22 13:33	11.7	10.8	50	0.47	Australia
Leucus	2023-11-28 06:46	13.5	6.5	60	0.99	South America
Eurybates	2023-12-02 19:06	13.4	5.3	9	0.72	Australia
Orus	2024-01-09 02:12	13.6	16.8	151	0.08	US
Polymele	2024-02-26 13:07	12.2	15.3	44	0.98	US, Mexico
Eurybates	2024-03-25 10:48	13.7	6.0	54	1.00	US
Leucus	2024-04-27 19:43	12.2	13.8	134	0.86	Europe
Patroclus-Menoetius	2024-08-11 10:48	13.4	5.2	147	0.39	US
Eurybates	2024-10-25 02:46	12.3	33.9	36	0.42	Europe
Leucus	2025-03-15 18:16	10.6	16.5	33	0.98	Australia
Polymele	2025-04-22 09:36	11.2	10.8	149	0.36	Australia
Orus	2026-02-10 02:23	11.9	10.9	58	0.45	Europe
Leucus	2026-04-25 02:07	14.0	15.3	54	0.61	US, South America
Eurybates	2026-05-16 10:09	11.9	11.7	147	0.00	Australia, New Zealand
Leucus	2027-03-15 18:32	12.0	6.6	140	0.51	Japan
Leucus	2027-05-12 10:17	9.9	17.3	89	0.41	Australia