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38th European Symposium on Occultation Projects (ESOP)



ESOP Closing

**ESOPXXXVIII participant
contributions for coming years
Thierry Midavaine**

1st of september 2019





ESOP XXXVIII budget



- 1. Meeting**
- 2. Optional tour**

Club Eclipse, 30 aug. - 3 sept. 2019

Meeting outgoing

Category	Amount
Catering (lunches, coffee breaks)	~ 4 000 €
Intendant (DSO organization for Paris Observatory)	2 627 €
Social dinner (Restaurant La Baraka)	2 282 €
Welcome drink (café Oz)	682 €
Paris Observatory cleaning, security	432 €
Bank and postal charges (Club Eclipse)	44 €
Travelling funding for IOTA/ES (to be discussed)	920 €
Total outgoing	10 987 €



Meeting incoming

Category	Amount
Registration fees	4 190 €
Sponsorship Lucky Star	~ 4 000 €
Sponsorship QHYCCD	2 000 €
Sponsorship RAPTOR Photonics	500 €
Sponsorship UNISTELLAR	500 €
Total outgoing	11 190 €

Meeting positive balance : 203 €



Optional program outgoing

Category	Amount
Coach : 2 days (Autocars Majesti)	1565 €
Buthiers Observatory : dinner & accomodations (Planète Sciences)	1005 €
Fontainebleau Castle : tickets, conference	662 €
Lunch (restaurant on Tuesday)	518 €
Camille Flammarion Observatory daily visit (SAF)	free of charge
Picnic on Monday	150 €
Train tickets on Monday (10 people)	45 €
Total outgoing	3945 €

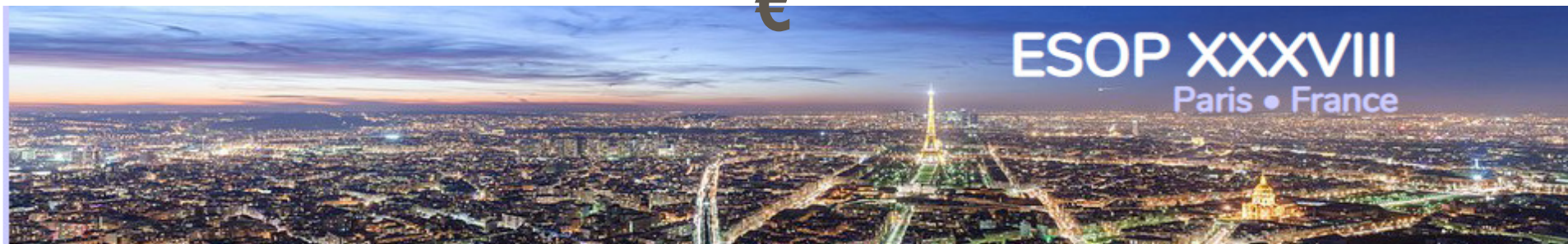


Optional program incoming

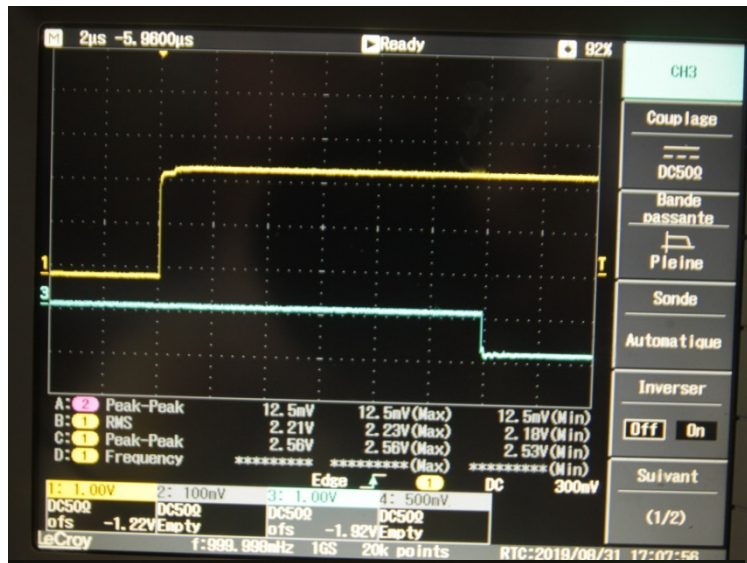
Category	Amount
Registration fees (based on initial estimations)	3742 €
Total outgoing	3742 €

Optional program negative balance : -203 €

=> ESOP XXXVIII budget balance : 0
€



ESOP Results with Syrte



Yellow curve UTC OP

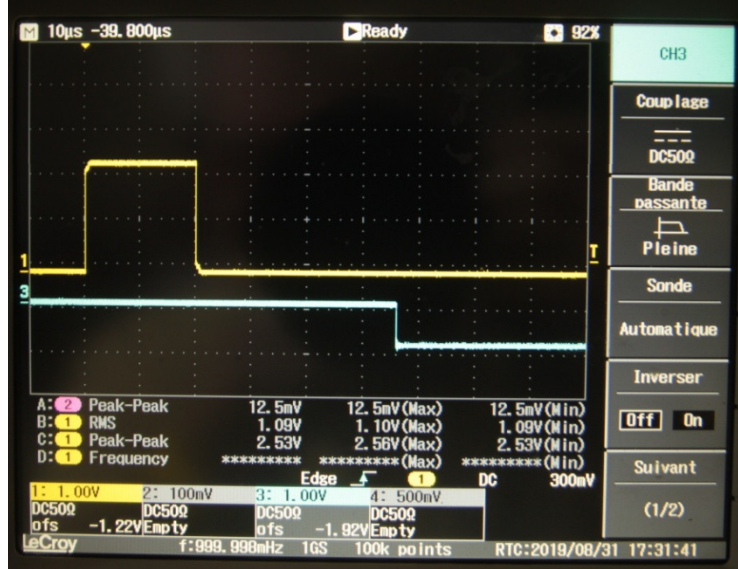
Blue curve PPS from GPS Garmin 18 LVC

Garmin GPS LVC 18 X measured 12µs up to 55µs behind UTC OP during 1 hour

Or 10^{-8} long term accuracy

Jitter from 1 pulse to the follower ~100ns

or 10^{-7} short term accuracy



Your Mission beyond ESOP

- Give the PDF of your presentation to Josselin to allow downloads (<20MB) on the ESOP web site
- Send your pictures for an ESOP Galeria
- Publish a calendar of coming events
- Prepare a task list to be shared
- Prepare your list of action back in your country...
- Write a 2 pages report on ESOP to be published in each country in the 2 coming weeks

- Up date a presentation : how to get started and to deliver occultation reports in your country

- Could we improve the report form and archiving process ?



Resolutions

- IOTA ES network
 - At least one Association in each European country as a focal point ?

- Plannocult list

- A meeting with Eric Frappa on Euraster
 - Improve te Report Form ?
 - Introduce a web site to down load reports
 - Archiving reports including negative one's



French side tasks

- Planète Sciences and TJMS : referent observing spot for young observers
- SAF : publish in l'Astronomie and Observation et Travaux and web site
- French clubs and observers network
- Technical meeting : a new WETO with Club Eclipse in 2020 ?
 - Either in Paris Observatory, or in Buthiers or in Touraine
- Timebox mass production ?
- LESIA, IMCCE Rio group : Predictions and Ephemerids



Tasks related to technologies and new setup

- Up date a preferred low cost setup
- Test new cameras
- Sensitivity Enhancement : <1 e- rms noise*
- Qualify latency (vs lines) of Rolling Shutter CMOS arrays recording and processing protocol
- Small pixel pitch CMOS arrays fitting to very high aperture optics : F#2, Short focal lens optics, focal reducers, prime focus, Fastar, RASA...
- Reliable datation process 1ms accy and beyond for 1kHz fps CMOS camera and bright star events
- Frame adaptive PSF imaging processing for low SNR events



SEXTA

- Dave Gault proposition :
- He leaves to Club Eclipse the SEXTA device he brought for ESOP 38. It will be available for any European meetings to allow to test setup.
- Cesar Valencia is going to manage the scheduling of the availability.



IOTA ES proposal

- Konrad Guhl proposed a deal to Qyu from QHYCCD to purchase in quantity QHY174M-GPS with a ESOP discount.
- If you are interested thanks to enter your name in the IOTA/ES list.



Occultation calendar

- 2019 Sept 8 : Chiron
- 2019 Oct 15 : Phaeton

Beyond the Oliver Kloes and Josselin Desmars list :

- 2019 Nov 11 : Mercury transit
- 2020 Jul 31 : 2365 Interkosmos (double object) occult a star mag<10
- 2020 Dec 20-22 : Jupiter Saturn 6' conjunction. Do we have events between the satellites ?
- 2021 : 99942 Apophis closed to the Earth : opportunity for a first Earth grazer occultation ?
- 2021 Jan-Nov : Phemu Jupiter Campaign Jean-Eudes Arlot IMCCE (including Amaltée Thebe)
- 2022 : Triton and Pluton Campaign (Bruno Sicardy)
- 2022 sept 25 : Occultation with Echeclus (Trojen)
- 2025 : PheSat Jean-Eudes Arlot IMCCE



Challenges and New targets

- Occultation from comet
- Earth Grazer Occultations



- Lucky star : Far Horizon 2021-2025



Meetings Calendar

- 2019 août 30- sept 1^{er} : ESOP XXXVIII Observatoire de Paris,
- 2019 sept 15-20 : EuroPlanet EPSC-DPS 2019 Geneva Switzerland M. Delcroix
- 2019 Nov WETAL Lyon CALA Pierre Farissier
- 2020 Juin 2-5 : Journées de la SF2A Paris : 3eme atelier des collaborations Am Pro
- 2020 June 2nd photometry school on Occultation ?
- 2020 août ESOP XXXIX Friburg Germany
- 2020 Nov : RCE Paris
- 2020 Dec GAIA DR3
- 2020 Lucky star final meeting ?
- 2021 Far Horizon kick off meeting ?



ESOP Symposium purposes and outputs

- Physical gathering of observers amateur and professionals
- Enlarge the community
- Enrollment of young observers including girls and women
- IOTA ES networking
- Societies international partnerships
- Demultiplies in each country
- Publish proceedings ?
- Publish an Occultation Handbook
- Give a feedback to Euraster Eric Frappa
- Improve Occultation Report Sheet



Next ESOP XXXIX

➤ Friburg

- How to reach 100 ?
- Participant from missing countries in Europe ?
- Tutorial for new comers ?
- Tutorial from Hristo on OW and Tangra
- Other tutorials ?
- Demo workshop ?
- ...



Next ESOP contents ?

- Parallel Sessions
 - How to start occultations
 - Hosting country session
 - Software Tutorials
 - OW
 - Tangra
 - ...
 - Workshops
 - Lab test and demo
- Poster Sessions and Exhibit
- Plenary Session



Monday Tuesday Optional program

Monday

8:45 – 9:00 Coach start from Paris Observatory (North gate)

61 avenue de l'Observatoire

Fontainebleau Castle Visit

Planète Sciences : Buthiers and TJMS Observatory



Tuesday

12:00 Chez Jacqueline Restaurant

43 rue de la Voie Verte 91600 Savigny sur Orge

14:00 SAF Juvisy Camille Flammarion Observatory



«La quête que je raconte ici débute avec Galilée, en 1609 précisément, quand, dans la nuit vénitienne, il pointa sa lunette vers l'immensité céleste et découvrit des images que nul n'avait vues avant lui. Images floues, encore imprécises, sources d'une immense révolution scientifique. Les astronomes n'eurent dès lors de cesse de discerner des détails de plus en plus fins – de lutter contre le flou.

J'ai eu la chance de participer à cette lutte, d'en vivre les succès. Ma vie de chercheur et de professeur fut comblée par le prodigieux développement de l'astrophysique lors du demi-siècle écoulé. Qui aurait alors pu imaginer que nous accéderions à l'environnement tourmenté et mystérieux d'un trou noir ou à ces autres mondes que sont les exoplanètes ? Le *Very Large Telescope* européen, à la conception duquel j'ai été associé, est l'un des héros de cette prodigieuse aventure.

J'ai passé de longues nuits à scruter le ciel, j'ai été témoin de magnifiques découvertes. De l'Europe aux Amériques, j'ai mesuré l'universalité de la science. J'ai vécu la communauté de celles et ceux qui la servent avec curiosité et passion. C'est cette histoire de femmes et d'hommes, de miroirs et d'étoiles que je veux partager...»

Diffusion Humensis-LD
74651805
20 €



Pierre Léna

UNE HISTOIRE DE FLOU



Pierre Léna

UNE HISTOIRE DE FLOU

Miroirs, trous noirs
et autres mondes




Le Pommier

