

Focale.space

Votre astronomie, **enfin** **mémorisée. Et enrichie.**

Six semaines entre deux nuits claires et vous oubliez votre procédure d'alignement. Vos notes de traitement sont dans trois applis différentes. Vos images n'ont plus de contexte. Les tutos ne manquent pas, mais aucun ne connaît votre matériel ni vos données. **Focale règle tout ça** — pour que vous continuiez d'avancer, sans repartir de zéro.



Déposez n'importe quelle image FITS ou XISF ici.

Focale la lit. Focale s'en souvient.
`.fits` · `.fit` · `.xisf`

Sur cette page, tout se passe dans votre navigateur. Rien n'est envoyé à Focale.

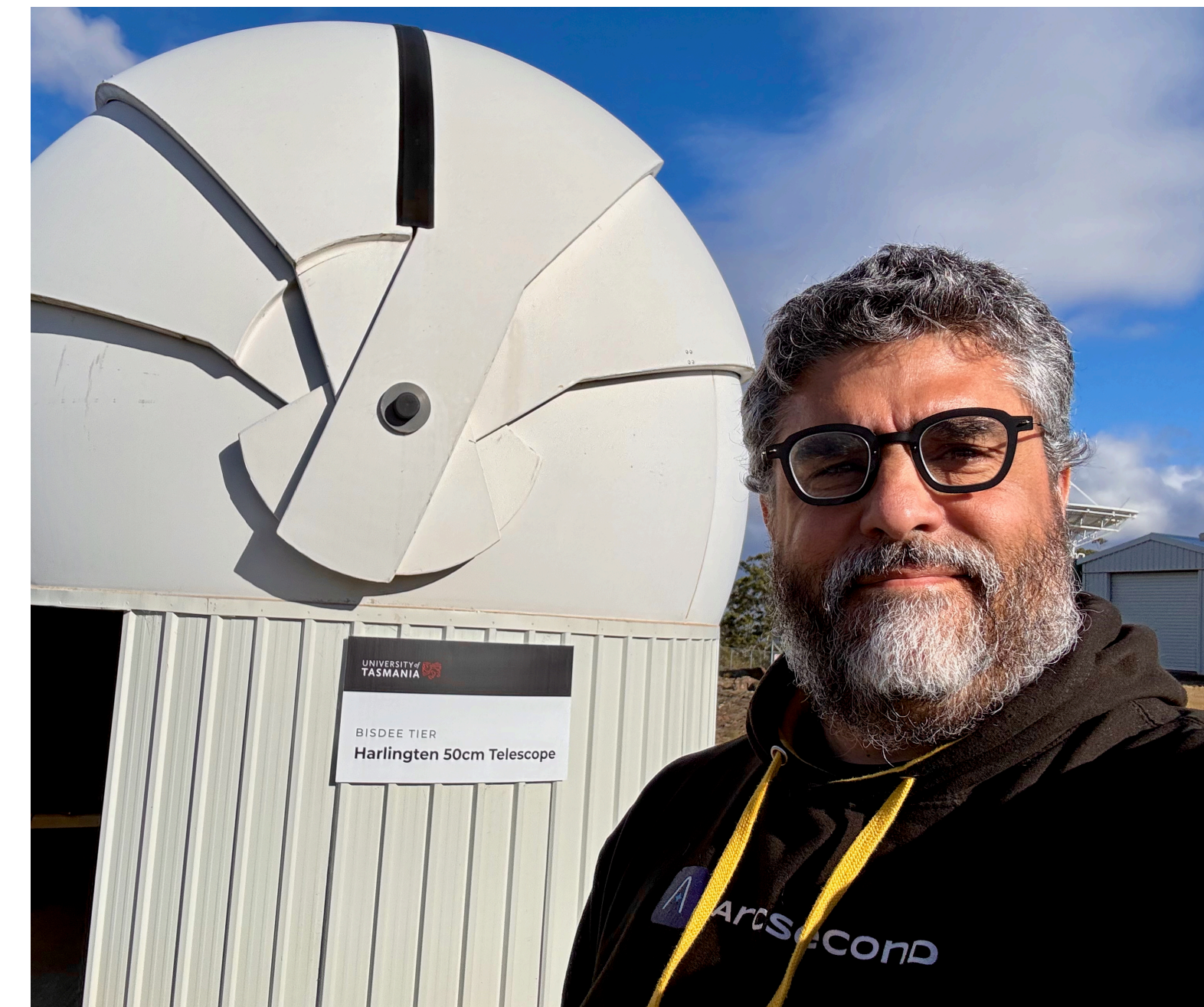
Arcsecond.local


Atelier ProAm - SF2A - Grenoble - 2026-06-26

Cédric Foellmi – 4Pi Technologies
4pi.tech - 2026 - All rights reserved - cedric@arcsecond.io

Cédric Foellmi, Ph.D. - Arcsecond Founder

- Physicist diploma at the Geneva Observatory & ISDC (1998) 🇨🇭
- Ph.D. at the University of Montréal (2003), supervision: Prof. A.F.J. Moffat 🇨🇦
- Post-doc at **ESO** (Chile), 2002-2006 🇨🇱
Total of 1-year of nights (360+) in La Silla Observatory as support astronomer.
- Switch to professional software developer in 2010 (France). 🇫🇷
- Start of Arcsecond codebase on July 2015. 🇫🇷
- Software “tech lead” / CTO since 2016. 🇫🇷
- Software director at Aseta Nano. in 2020-2025, (semi-conductors industry). 🇫🇷
- **Full-time on Arcsecond since April 2025.** 🇫🇷





Arcsecond is the first
off-the-shelf
multi-user & multi-telescope
industry-grade platform
automating astronomical observatories.

Benefits

- **Drastically reduce the total cost of ownership.**
(the total cost of ownership is divided by a factor of 2 to 10+).
- **Ease human and data flow coordination.**
(no more hundreds of emails for planning observations, manual data ftp transfers...)
- **Obtain operations consistency over the years.**
(no more outdated 'telescope manual' maintained by students or post-docs...)
- **Enable new observational modes and possibilities!** 🎉

Arcsecond covers the full observation cycle. Period.

(“4pi philosophy”)



Night Studio (Ctrl-1)

Preparation of observations, Night Explorer, Target Management, Target Lists etc.



Control Room (Ctrl-2)

Acquisition of new data, Night Scheduler, Queue Mode etc.



Data Grand Central (Ctrl-3)

Data management, preview, organisation, Automatic Target Follow-up



Observatory Headquarters (Ctrl-4)

Managing the operations, shared calendar in sync with observations & data.

Arcsecond as Software Infrastructure

- **APIs** (Application Programming Interfaces – that is, strict technical contracts to interact with the system). By nature, it is available for **integration with existing or new workflows & pipelines**.
- **Open-source libraries**, to complement and ease the integration.
- Open for private plugins (in roadmap).
- *Pedagogical interfaces*.

Open-source projects:

- Astronomical algorithms:

<https://github.com/onekiloparsec/aa-js>

```
npm install aa-js
```

- Python module / command:

<https://github.com/arcsecond-io/cli>

```
pip install arcsecond
```



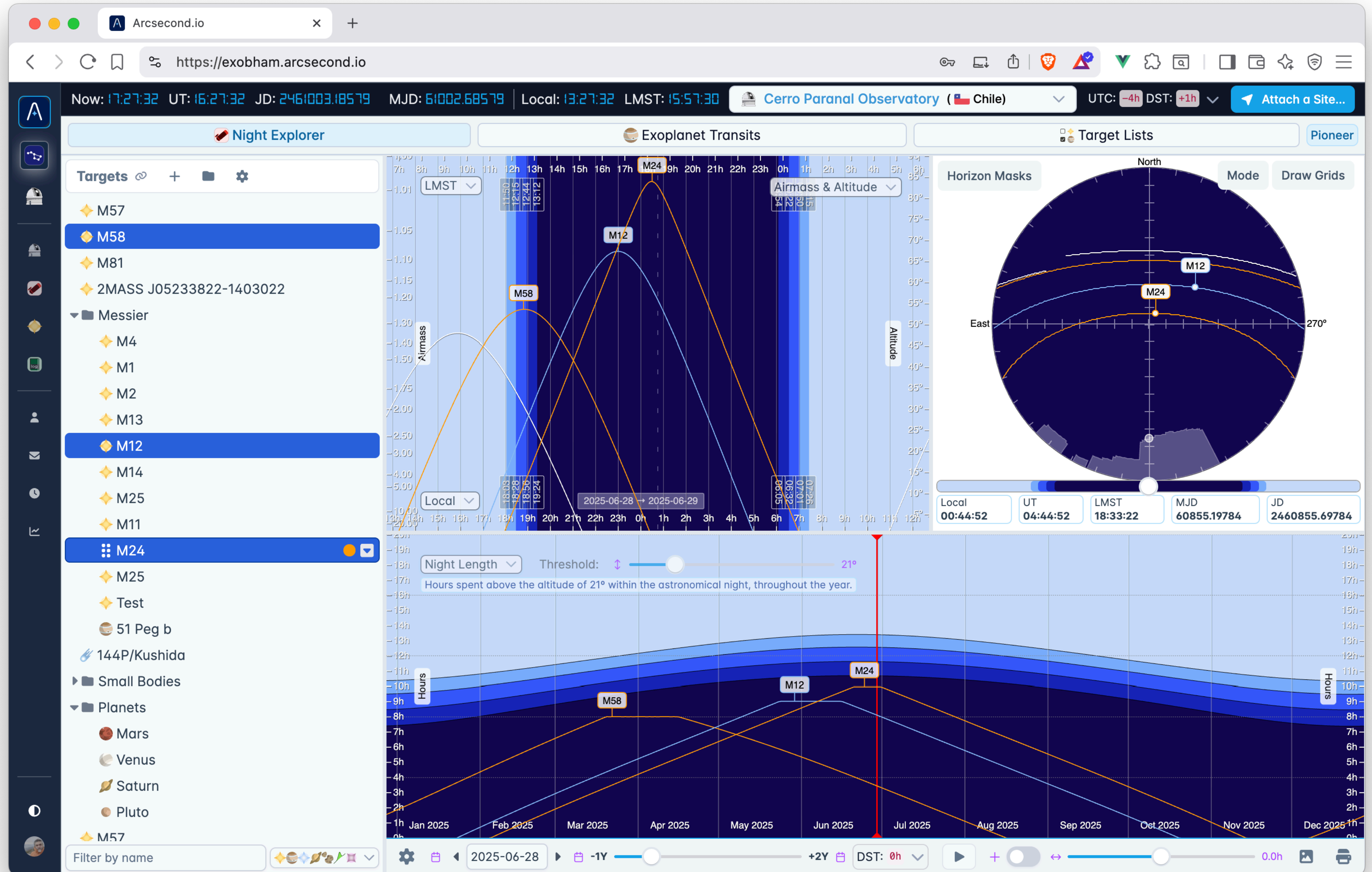
Night Studio

Best-in-class visualisation & tools
to prepare observations

Arcsecond in real conditions: Night Explorer

It is our best decision-making tool to prepare observations.

A long time ago, a more limited version existed as a macOS app called 'iObserve'



Arcsecond in real conditions: Finding Chart Editor

The FOVs of your instruments are automatically available.

The Finding Chart Editor is a powerful tool for simulating how a target field will be observed. Once saved, charts are attached to the target and made available in the Explorer. The field itself can be resized at will by dragging the upper-right corner.

ICRS 21 29 53.54 -01 02 11.0

M2

STG

Custom: 30' x 35', $\theta = 11^\circ$

3.000° x 2.515°

ALADIN

Aladin Survey

DSS colored P/DSS2/color

Colormap: grayscale native

Options

Show Reticule:

Show Coordinates Grid:

Show HEALPix Grid:

Custom Overlay

Show Central FOV Overlay

Mode Single Mosaic

Line Width

Tile Size (') 30 x 35

Angle (°): 11 (clockwise)

Your Instruments

Show Overlay

Line Width

Angle (°): 0 (clockwise)

Select one of your instruments

No profile instrument FoV available.

Official Instruments

Show Overlay

Line Width

Angle (°): 0 (clockwise)

LSST Camera

Vera C. Rubin Observatory / Simonyi Survey Telescope / LSST Camera

Circle D 210' approx.

Source: Rubin Observatory pages (manually)

Target Field

M2

New Target...

Field Center ↔ Target Tolerance Radius (arcseconds)

Maximum offset with target coordinates before field is considered as custom.

10.0"

Current Distance (arcsecond): 0.0"

Custom Field (drag & move)

Field Name

Save Custom Field as new Target

Labels

Show Chart Title

M2

Show Chart Footer

Save / Store


Upon save, custom Finding Charts are attached to the target.

Arcsecond Cloud Storage:

First 10GB Free. Need more? Contact us.

Save Custom Chart

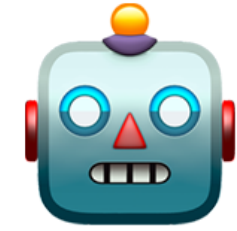
Last Saved Finding Chart

An aerial photograph of the Siding Springs Observatory in Australia. The central feature is a large, white, ribbed dome structure. To its right is a tall, rust-colored water tower. In the foreground, a long, low building with a corrugated metal roof is visible, which is the control room. The observatory is situated on a hillside with lush green trees. The background shows rolling hills under a blue sky with scattered white clouds.

The Arcsecond Control Room

and the future of astronomy automation

Arcsecond supports 3 levels of automation



0 - No automation

Manual Observing

1 - Night Scheduler

Single-night automation

2 - Queue Mode

Multi-nights automatic scheduler

What's included anyway:

- **Calibrations Manager**
Let Arcsecond do these for you, automatically...
- **Complete recorded-monitoring of the observatory every ~5-10 seconds.**
- **Safety Center**
Define all safety limits and associated procedures for the whole observatory (sites, telescopes, cameras, targets, horizon masks...)



Data Grand Central and external storages.

Data Grand Central

A unique multi-storages solution.

- Storage-agnostic
(SFTP, Azure, AWS S3, Cloudfare R2, Dropbox, Local NAS...)
- Possibility to push VO-compliant metadata
- FITS & XISF compliant
- Browser-native FITS/XISF viewer





Arcsecond pour Gemini & et les projets ProAm

Bénéfices et usages spécifiques pour les projets ProAm

Accélération de l'analyse & du "time-to-publication"
(p.ex. en utilisant des "pipelines hooks")

Observation à distance sécurisé
1-observateur + n-spectateurs

Espace de travail cohérence, facilitant les cross-calibrations.

Nouveaux modes d'observation:
Observations multi-telescope coordonnées automatiques



**Ok, c'est bien joli,
mais combien ça coûte?**

Ça dépend...

Ça dépend des options choisies, des projets...

Je suis ouvert à toutes les formes de financements:
récurrents ou pas, qui soit adapté à votre projet ou observatoire.

Discutons!

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