LEARN PHOTOMETRY WITH US AT THE OBP!

Photometry courses and practical sessions for amateur astronomers at the Observatory of Baronnies Provençales
THE OBSERVATORY OF BARONNIES PROVENÇALES

Since 2006:

➢ Number of clear nights: between 200 and 240 per year. 244 in 2022, 224 in 2023.

➢ Night sky brightness:
  ▪ Peak $22.02\text{ mag/arcsec}^2$
  ▪ Mean $21.75\text{ mag/arcsec}^2$

AFA: Astronomical French Association
TEAM

➢ 1 director:
   Marc Bretton

➢ 5 professional astronomers (doing outreach and teaching):
   Anaël Wünsche, Sacha Foschino, Anne-Charlotte Perlberg

➢ 2 dome and telescope operators (doing outreach and teaching):
   Stephane Ferratfiat, Cyrille Aumasson

➢ 5 technical and logistical support:
   Hélène Bretton, Motoko Takaï, Henry Bretton
THE ACTIVITIES

➢ Outreach
  ▪ Discovery nights (outside)
  ▪ Dome nights (in the dome)
  ▪ Exoplanets (in the LABSCAN)

➢ Trainings: 1 to 5 levels from the French association (AFA)
  ▪ Stars 1, 2, 3
  ▪ 4th star: Photometry or Spectrometry and soon astrometry
  ▪ 5th star: Astro tourism

➢ Web based Observatory:
  ▪ Roll on roof
  ▪ Remote control of your own telescope

➢ Science!
PHOTOMETRY COURSES

Since 2018

Few tenth of amateur astronomers

Small community rising (linked to other communities)
PROGRAM: (6 DAYS 6 NIGHTS)

- Review on how to handle a telescope and its mount
- All we need to know about CCD and CMOS camera
- The softwares: THESKYX, MaximDL, NINA, SIRIL, ASI STUDIO, SHARPCAP, HOPS, MUNIWIN
- All we need to know about aperture photometry, differential photometry, transiting exoplanets
- Some practical tips for improvement, personalised
- Conferences about other subjects
PHOTOMETRY:
WELCOME TO YOUR LAB

- Dedicated spaces in our laboratory to prepare the night or to learn
- 4 telescopes from the OBP can be used as well:
  - 2 in France, (800mm + CCD FLI, 450mm + CMOS ZWO 6200)
  - 2 remotely controlled in Chile, (500mm + CCD MORAVIAN, 350mm+CMOS ZWO6200)
SOME RESULTS!

- 70%+ for exoplanets
- 50-50 North-South

T500 OBP-South
THE FRENCH COMMUNITY
WITH EXOCLOCK

➢ More than 40 observers from France and French speaking countries have observed for Exoclock
➢ Some tens of participants for the trainings in situ at the OBP have learned about it
  ▪ Some became active participants of Exoclock
➢ A relation inside and outside associations, clubs
  ▪ Anouncements on our discord for our community from OBP - school of astronomy
  ▪ Anouncements for special alerts in ASTRO-FR discord
  ▪ Anouncements for special events and alerts through the french astronomical society (SAF)
  ▪ Events with and through the French association for astronomy (AFA)
  ▪ Our link with ETD

To be continued ...
SOME AMATEUR ASTRONOMERS’ RESULTS!
Jorge Estevez – Geneva, Switzerland

KELT – 16b
Jorge Estevez* (Amateur Astronomer)

2023-07-20

OBT / Telescope: Celestron Nexstar 8SE (8.0°)
Camera: ZWO ASI 2900 MCPro / Filter: Clear / Exp.: 90.0 s

predicted start
predicted end

relative flux (de-trended)

predicted
model

expected model

residuals

STD = 2.888 %

O-C = 1.51 ± 1.58 min

Transit SNR = 15.54

*estej10@hotmail.com

Uploaded: 2023-07-21
SOME AMATEUR ASTRONOMERS’ RESULTS!

Thomas Mollier – Hautes-Alpes, France

Qatar – 1b

Thomas Mollier* (Tomastro observatory (private observatory))

Tomastro / Telescope: Newtonian (12.0")
Camera: ZWO ASI1600MMC / Filter: Clear / Exp.: 120.0 s

O-C = -0.9 ± 0.58 min

Transit SNR = 24.88

*tomastro38@gmail.com

Uploaded: 2021-10-10

TOI – 1298b

Thomas Mollier* (Tomastro observatory (private observatory))

Tomastro / Telescope: Newtonian (12.0")
Camera: ZWO ASI1600MMC / Filter: Clear / Exp.: 60.0 s

O-C = 5.55 ± 3.6 min

Transit SNR = 11.69

*tomastro38@gmail.com

Uploaded: 2022-10-20
SOME AMATEUR ASTRONOMERS’ RESULTS!

Dominique Daniel – Vaucluse, France

**HAT – P – 57b**

- La Montjoie / Telescope: T250 Skyvision (10.0°)
- Camera: Camera CMOS ZWO ASI2600MC pro (color) / Filter: Clear / Exp.: 60.0 s

<table>
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<th>residuals</th>
<th>relative flux (de-trended)</th>
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<tr>
<td>-0.02</td>
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Predicted start: -0.04, predicted end: 0.04

O-C = -2.03 ± 1.37 min

STD = 3.586 %

Transit SNR = 8.04

Uploaded: 2023-06-25

**Qatar – 1b**

- La Montjoie / Telescope: T250 Skyvision (10.0°)
- Camera: Camera CMOS ZWO ASI2600MC pro (color) / Filter: Clear / Exp.: 120.0 s

<table>
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<th>relative flux (de-trended)</th>
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Predicted start: -0.06, predicted end: 0.06

O-C = 0.25 ± 1.07 min

STD = 4.899 %

Transit SNR = 20.67

Uploaded: 2023-09-27
OTHER IMPACTS IN PHOTOMETRY

- Automatization of all our research telescopes with potential simultaneous observations
- Variable star and binary star research with Sacha Foschino (photometry + spectrometry)
- More photometry for small solar system bodies
- More photometry for transient events
COME PRACTICE PHOTOMETRY!