

« Centre Pédagogique Planète Univers »




<https://c2pu.oca.eu>

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web

C2PU, in a nutshell

- **C2PU**: a project funded by Observatoire de la Côte Azur 
- A facility at the **Calern** observing site of **OCA** (IAU code: 010), dedicated to **research**, **teaching** and **outreach** in **astrophysics**.
- Based on the refurbishing of **two 1-meter telescopes** constructed in the seventies for infrared interferometry: **new Zerodur™ mirrors** polished by **David Vernet**.
- A collaborative approach of Science teaching at the university level (students involved in real astrophysical observation programs).
- One telescope is **remotely accessible** via Internet:
 - higher science throughput (short time scale follow-up possible)
 - easier access to foreign universities and to pre-university classes.
- **Educosmos** (Olga Suarez): organization of remote observing sessions in classrooms

C2PU: a teamwork...

The C2PU team:

- Lyu ABE (OCA, Lagrange)
- Philippe BENDJOYA (OCA, Lagrange)
- Cécile DIMUR (OCA, Lagrange)
- Jean-Pierre RIVET (OCA, Lagrange)
- Olga Suarez (OCA)
- David VERNET (OCA)

With the collaboration of:

- Maxime DEVOGELE (PhD student Univ. of Liège / OCA-Lagrange)

C2PU partners

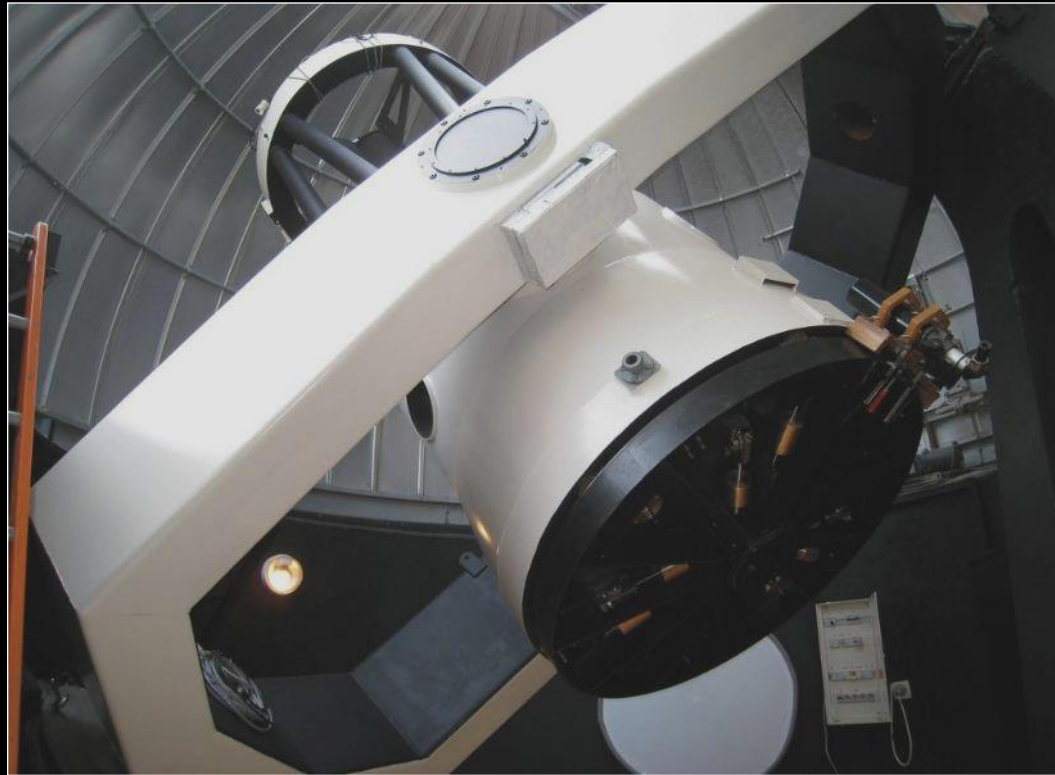
Menu

- University of Nice Sophia-Antipolis
- Marco Scardia (Obs Brera, Merate, Italy)
- René Gili (volunteer contributor, OCA)
- *Airbus Defense and Space (ex-Astrium)*
- District Council of *Alpes Maritimes*
- Region Council of *Provence Alpes Côte d'Azur* (for the EduCosmos program)



C2PU telescopes

Menu



West "Omicron" telescope



East "Epsilon" telescope

2 telescopes, 3 combinations

- **West « Omicron » telescope:**
 - **F / 3.17 prime focus with Wynne corrector**
 - **Wide field imagery for differential astrometry/photometry** (asteroids light curves and shape determination, NEA search, ground-based follow-up of GAIA probe alerts, exoplanetary transits characterization,...)
 - **Fast imagery with GPS timing** (stellar occultations, artificial satellites astrometry, ...)
 - **F / 12.5 Cassegrain focus**
 - **Polarimetry with the « CAPS » polarimeter^[1]** (asteroids of the family of (234) Barbara, planets, **Jupiter**)
 - **Low resolution spectroscopy**
 - **Planetary imaging in the visible and near infrared** (Mars, **Jupiter**)

2 telescopes, 3 combinations

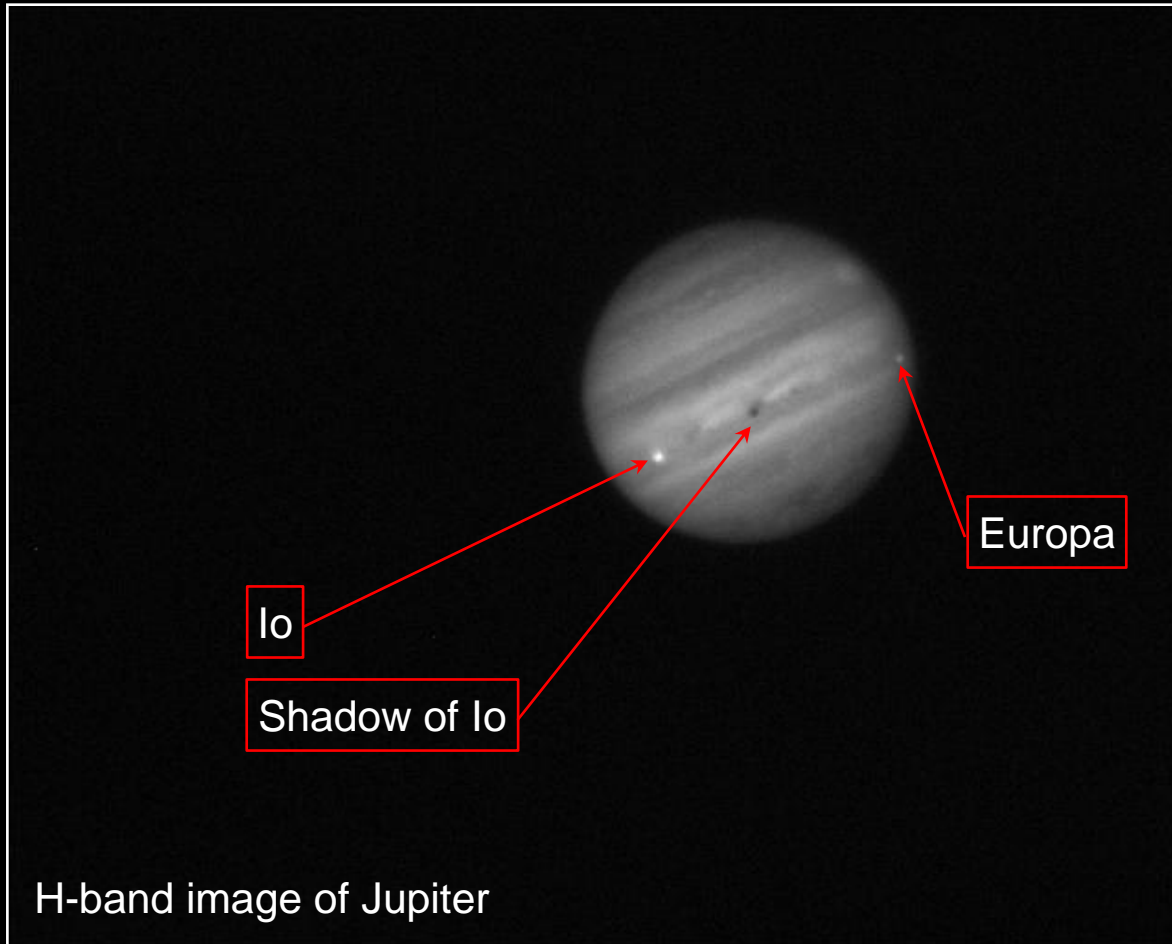
- East « Epsilon » telescope:
 - F / 12.5 Cassegrain focus
 - Speckle interferometry with the “**PISCO**” speckle camera^[1] (binary stars orbit determination)
 - Planetary imaging in the visible and near infrared
 - F / 35 *coudé* focus
 - Planetary seismology with the “**DSI**” instrument^[2] (Jupiter, Saturn ? ...)
 - Adaptive optics (in progress)

[1] Collab: J.L. Prieur, L. Koechlin, M. Scardia

[2] Collab: F.X. Schmider *et al.*

Jupiter from C2PU

Menu

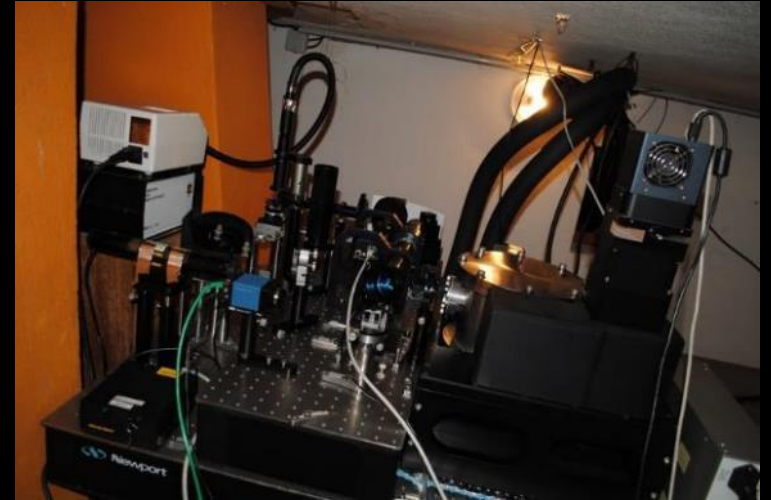
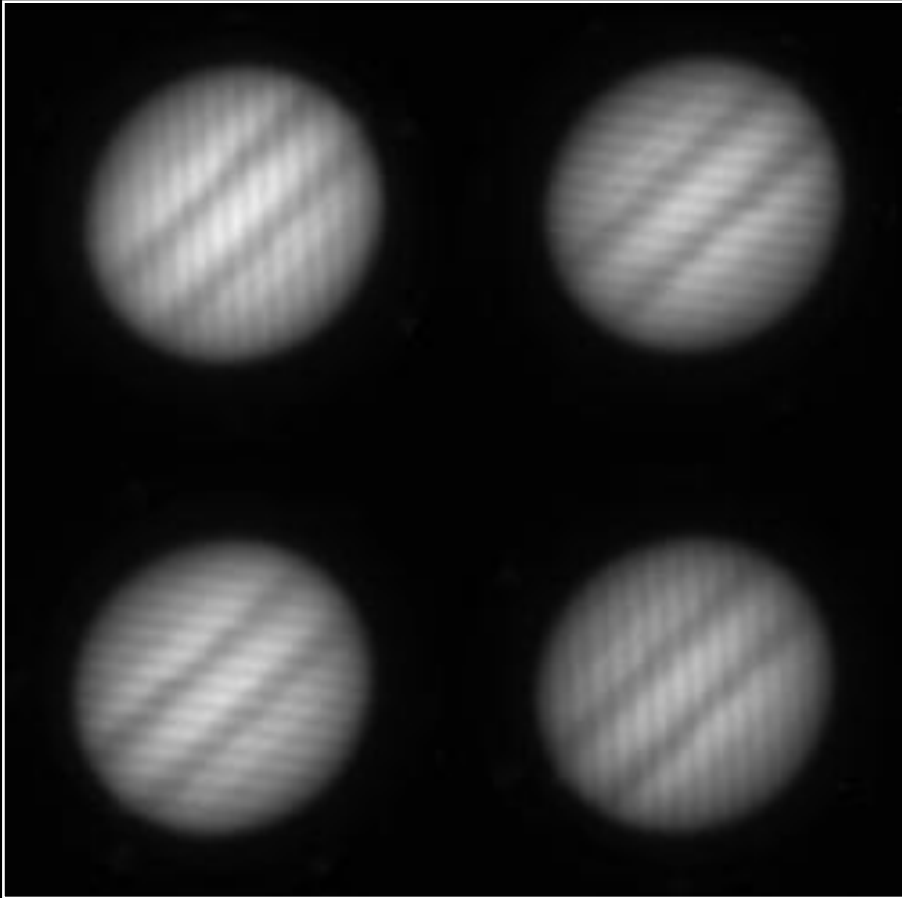


The Raptor "Ninox 640"
InGaAs camera at the F/12.5 Cassegrain
focus of the Omicron@C2PU telescope

(April 2016: preliminary test for
HIPIC-CIAO adaptive optics bench)

Jupiter from C2PU

Menu

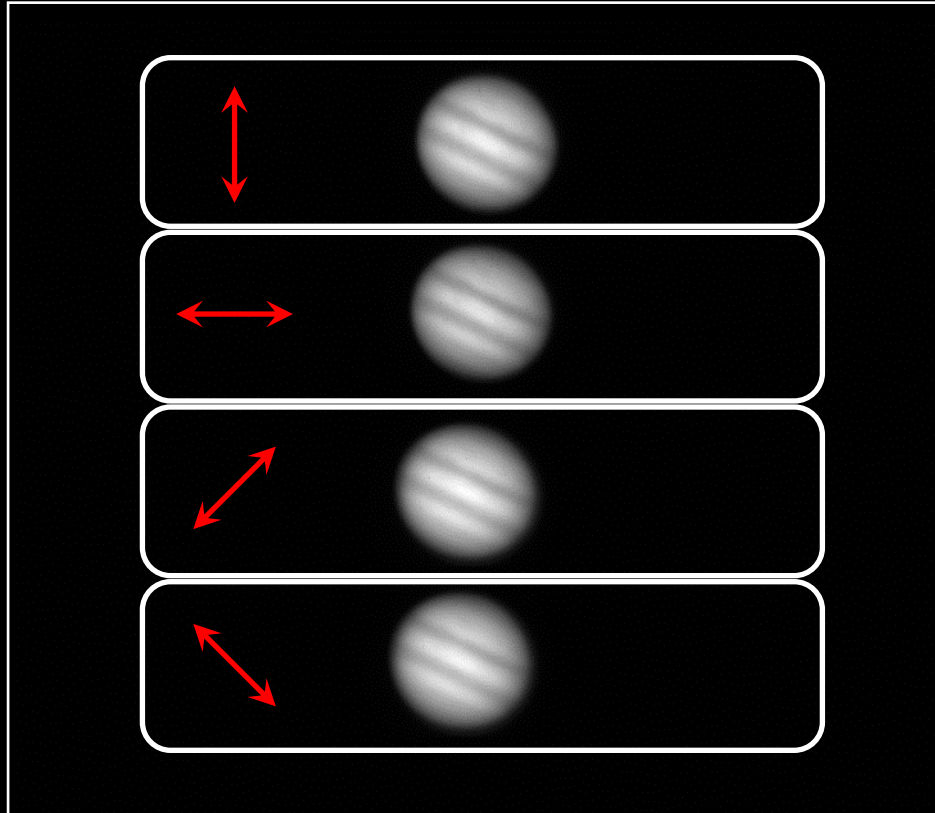


The "DSI" instrument on the F/35 *coudé* focus of the Omicron@C2PU telescope

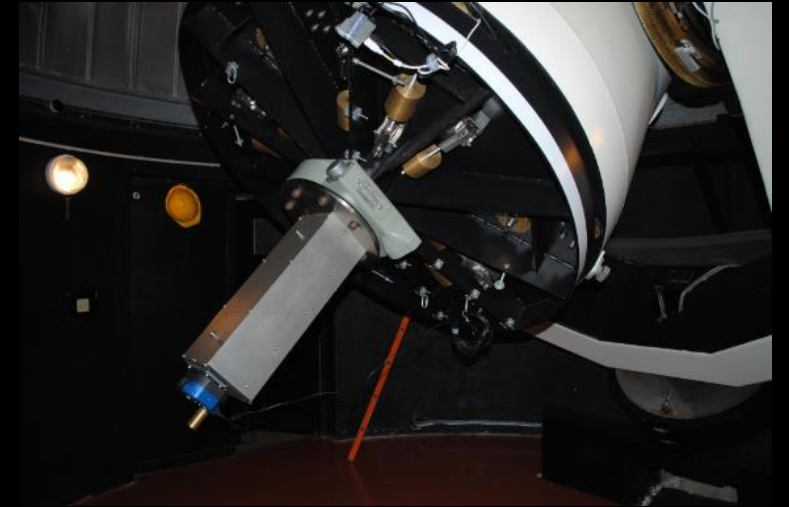
(March 2016 observing campaign)

Jupiter from C2PU

Menu



Data reduction in progress

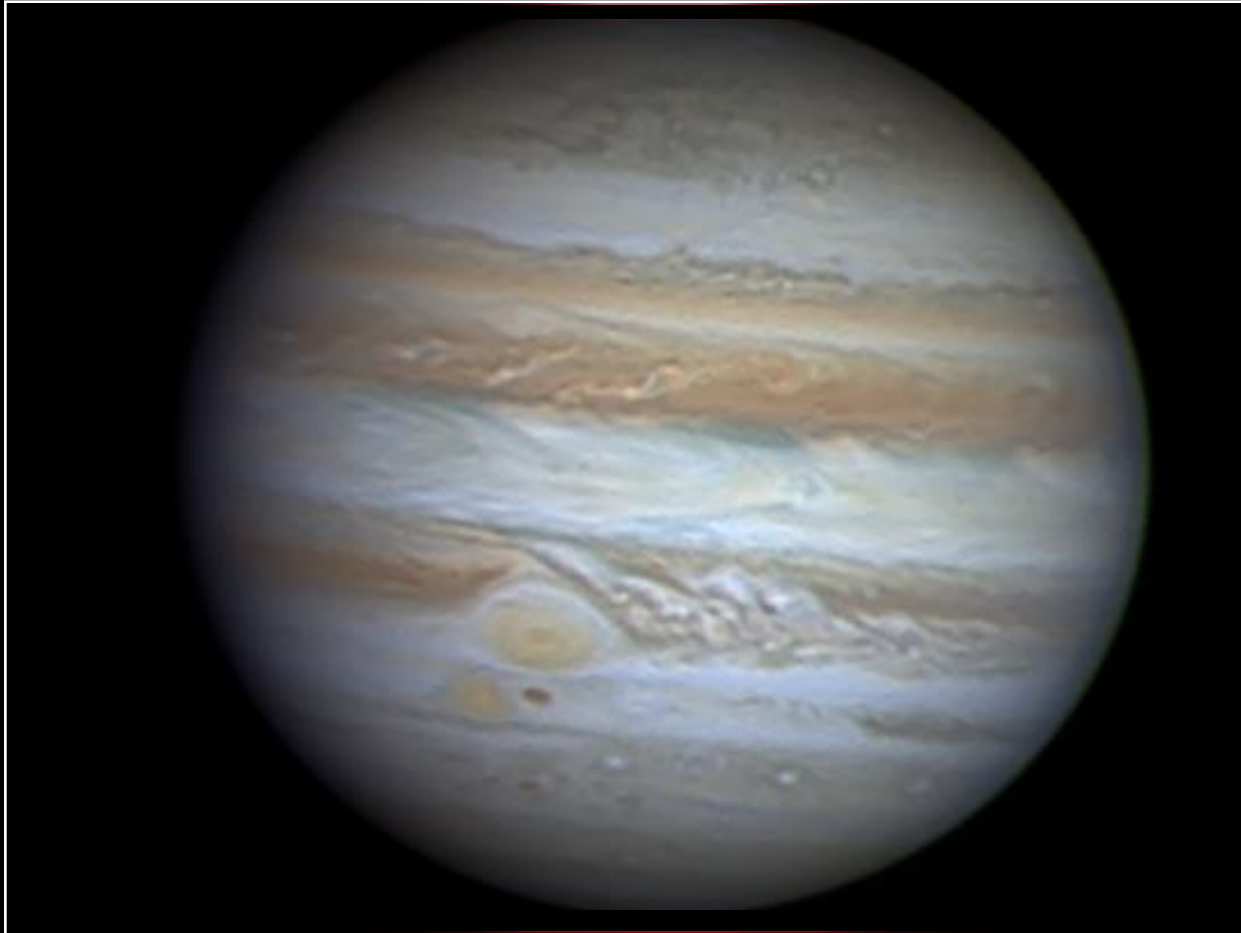


The “CAPS” simultaneous double-Wollaston polarimeter at the F/12.5 Cassegrain focus of the Omicron@C2PU telescope

(February 2016 observing run)

Jupiter from C2PU

Menu



Jupiter from the F/12.5 Cassegrain
focus of the Omicron@C2PU telescope
(**Jean-Pierre PROST**)

(October 2012 observing run)



Thanks for
your attention