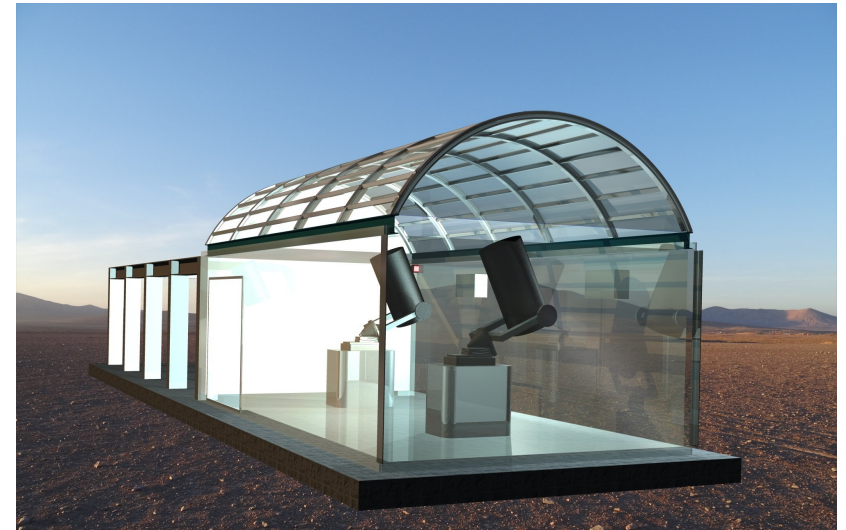


The first public, professional Chilean observatory in the Región de Antofagasta



Overview

- Currently (Feb 2015) being built 90 km from Antofagasta in a place called “Estación Yungay”, a scientific land concession managed by Universidad de Antofagasta (UA). PI: Eduardo Unda-Sanzana.
- First astronomical observatory directly supported by the Chilean government; it's the only professional Chilean observatory under the desert skies.
- Aiming to support research on planetary science (Solar System and exoplanets), carried out by an international collaboration.
- Supported by the funds QUIMAL-CONICYT, FIC-R, FNDR and private contributions.
- Nicknamed “The eye of the desert”, “QUIMAL observatory” or “Yungay observatory”. Official name will be released during 2015.
- **It is meant to be remotely controlled.**



Main features

- Roll-on roof, control systems designed at UA.
- 24-inch telescope for research purposes (Planewave CDK24 telescope, FLI Proline 16801 CCD camera, Sloan filters).
- 14-inch telescope for education and training.
- Electricity provided by UA's solar plant. Water, safety provided by UA.
- **First light: April 2015.**
- Offices and auditorium funded by a third party, to be opened in the second term of 2015.

The science of the eye of the desert

- International collaboration: David Kipping (U. of Harvard), Steve Fossey (U. College London) and U. de Antofagasta.
- Main focus is the intensive acquisition of followup data from exoplanetary transits, aiming to detect transit timing variations that may lead to discovery of multiplanetary systems or the first exomoon. This study will keep in mind the future opening of facilities such as E-ELT for the detailed study of these bodies.
- Complementary science: characterization of minor bodies of the Solar System, in particular TNOs and NEAs.

Network requirements

- Our camera acquires 40 Mb images. Based on previous experience, we may need to acquire 1 image every ~ 10 s for some targets. This requires ~ 4 -5 Mbps.
- ~ 2 Mbps for guide camera. ~ 1 Mbps for weather camera and sensors. ~ 1 Mbps for quick remote control. Finally, we need another ~ 1 Mbps for security.
- A domestic broadband ~ 10 Mbps would in principle do. However, at the moment we can only use a mobile broadband of ~ 1 Mbps, which seriously constrains our mode of operation.

