

GTCAO calibration tools and laboratory results

mardi 23 octobre 2018 09:30 (20 minutes)

Summary

The adaptive optics system for the 10-m class Gran Telescopio Canarias consists on a 21 x 21 actuators deformable mirror conjugated to the telescope pupil and a Shack-Hartmann wavefront sensor with 20 x 20 subapertures, using an OCAM2 camera. The expected Strehl ratio @ K-band with bright natural guide stars is 0.65.

The system is now in integration and verification phase at the AIV hall at IAC. The wavefront sensor has been integrated in the optical bench alongside the deformable mirror. A calibration system is also integrated in order to characterise and calibrate the whole system. It simulates the atmospheric turbulence and the telescope, delivering an aberrated wavefront used to debug the RTC.

We will discuss the different calibration tools we have developed to test the system, the advances on the NCPAs calibration, and will present the last results we have obtained in the lab.

Auteur principal: Dr MONTILLA, Iciar (IAC)

Co-auteurs: Dr BASDEN, Alastair (Durham University); M. MARCO, Jose (IAC); M. REYES, Marcos (IAC); Mme PUGA, Marta (IAC); M. NÚÑEZ, Miguel (IAC); M. TUBIO, Oscar (IAC)

Orateur: Dr MONTILLA, Iciar (IAC)

Classification de Session: In the Lab

Classification de thématique: Wavefront sensing techniques