

# Portuguese Minister of Science at Paranal

On Sunday, July 19, 1998, ESO was honoured to receive a visit by the Portuguese Minister of Science and Technology, Professor Mariano Gago, to the Paranal Observatory. The Minister was accompanied by the Ambassador of Portugal to the Republic of Chile, Mr. Rui Félix-Alves and a delegation.

The Minister visited the various VLT installations and, a scientist himself, expressed great interest in this new facility, now being constructed by the European Southern Observatory on behalf of the ESO member states. As foreseen in the 1990 Agreement that associates Portugal and ESO, discussions about future Portuguese membership in ESO have started.



*The Portuguese Minister of Science and Technology, Professor J.M. Gago, with the VLT Project Manager and Director of the Paranal Observatory, Professor Massimo Tarenghi (right), ESO astronomer Dr. Jason Spyromilio (left) and members of the delegation in the VLT Control Room.*

pointing solution have changed? Would the alignment and active optics calibration need to be repeated? The pointing indeed had changed. The stars appeared a full 2 arcseconds away from where they were before the entire operation took place. Such a small change encouraged us that the active optics would not need re-calibration. Indeed there seemed to be no need. The telescope was delivering 0.4 arcsecond images yet again.

Now all we had to do was wait for the 25th of May and keep our rendezvous with the press. Of course we could not resist and took images on the nights leading up to the first-light night. Julio Navarrete was on hand in the ASM hut running the DIMM and the meteorological station and answering the constant call on the radio: "Julio, can we have seeing please?" The night of the 24th was beautiful. Things had been going too well. At the beginning of the night the earthquake detector on the mirror cell went off. Stefano Stanghellini and Marc Sbaihi worked to release the mirror from the safety clamps and a few hours later the telescope was available again. Then at the end of the night when closing the telescope down, a major problem occurred. The mirror cover jammed half way across the mirror. Could it be repaired in time for the night of the 25th? Marc Sbaihi and the ADS crew came to the rescue. Working just above the mirror from early in the morning until after sunset, they managed carefully to open the cover and provide

the beam to the telescope. The final hurdle had been overcome. The telescope was operational again. All this effort – and then the weather worked against us. The first half of the night things went well and some images were taken. Krister Wirestrand operated the telescope while Anders Wallander made sure the test camera took the images. However, in the second half following our little internal celebration, the weather was poor and we shut the telescope down.

## Commissioning of UT1

The commissioning of UT1 officially started immediately after first light. Most activities in commissioning involve tuning of telescope parameters and understanding how UT1 should be used. A number of software modifications are being made based on this better understanding that we have developed.

It took us far too long but eventually we realised that we had been focusing the telescope in the wrong way. We worked it out and on the 1st of June a new procedure was used. Since then the telescope has been in autofocus mode. We have made the guide probe parfocal with the instrument and have let active optics handle the telescope focus. In this mode the telescope focus is maintained continuously throughout an exposure as the active optics runs.

Improvements in the field stabilisation have been taking place. Birger Gustafs-

son has been reducing the delays in the M2 and Philippe Duhoux improved the centroiding algorithm in the CCD software. These changes improve the performance of the telescope under heavy wind load.

A lot of small changes here and there improved the reliability of the system and the operability of the telescope. Marco Chiesa worked on the control algorithm for the enclosure rotation and parking which has made the operation much smoother and faster. Thanh Phan Duc improved the guide-star acquisition procedure significantly.

Marc Sarazin, Stefan Sandrock and Rodrigo Amestica have brought the ASM to fully automatic status. Commissioning UT1 includes working with a cm-class telescope and understanding its problems as well. We are learning what it is to have a fully automatic telescope running.

Paranal is truly a beautiful site. The winter has given us quite a number of nights with poor conditions, sometimes it is cloudy and occasionally the seeing does go above 1 arcsecond. However, the beautiful nights are truly spectacular. On the night of the 26th of June, Anders Wallander and Ivan Muñoz took a series of 30-second exposures with an image quality below 0.35 arcseconds including one at 0.27 arcseconds.

The control and quality of the optics is excellent. Long exposures (900 and 1800 seconds) are taken as a matter of course