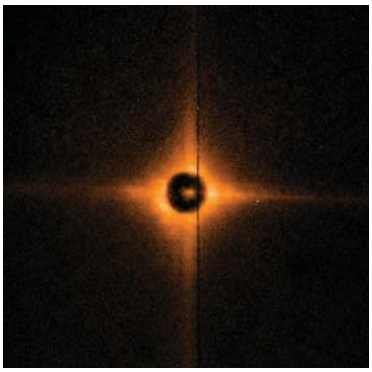

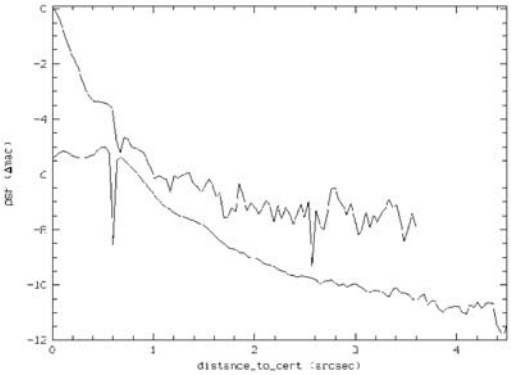

Figure 2 (left). Example of a star behind the 2″ coronographic mask. As the mask is not fully opaque the stars light peak can still be seen and indicates in this case that the star is not perfectly centered behind the mask. Figure 3 (right). Suppression test of OSCA. The upper line indicates a radial cut of a star without OSCA in the NAOMI beam. The relatively low signal to noise of that cut is due to the short integration time of that image. The lower line shows a radial cut through a coronographic image taken with OSCA.

NAOMI webpage:
`http://www.ing.iac.es/Astronomy/`
`/instruments/naomi/index.html`

With OSCA, ING now offers to its users a coronographic device in conjunction with its adaptive optics system NAOMI. At present it can be only used for near infrared imaging using ING's infrared camera INGRID. Observers interested in using OSCA can apply for time in the same way as for other instruments at ING.

With its move to the new temperature controlled Nasmyth station – GRACE – in early 2003 ING's adaptive optics facility NAOMI is expected to perform better and with greater stability in the near future, positively influencing coronographic work.

ING is going to also offer a unique facility to combine AO-fed integral field spectroscopy with coronography. A new instrument for the adaptive optics system will be the integral-field-spectrograph OASIS, installed and commissioned during summer 2003. OASIS will receive an AO corrected input beam from NAOMI. OSCA can then be operated as a NIR imaging coronograph but as well as in the following instrument combination: NAOMI+OSCA+OASIS.

Updated OSCA informations are provided on its webpage:
`http://www.ing.iac.es/Astronomy/`
`/instruments/osca/index.html.`¤

References:

Thompson, S., Doel, P., Bingham, R., et al., 2003, *SPIE Proc*, **4839**, 1085.

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Rayleigh Laser Guide Star Returns to the WHT

Tim Morris (Durham Univ.)

On the nights of November 7th to 10th, a team from the University of Durham Astronomical Instrumentation Group, together with colleagues from MPIA Heidelberg, had a highly successful second run with the prototype laser guide star on the WHT. Representing the completion of Phase B of the Durham experimental Rayleigh Laser Guide Star (LGS) programme, the two teams were able to collect simultaneous natural and laser guide star wavefront data.

3.5W of 523nm laser light was projected onto the sky using a custom-made 30cm launch telescope mounted behind WHT secondary. The laser itself was installed in GRACE and the beam relayed to the launch telescope via enclosed fold mirrors attached to the WHT structure.

A novel, focus-insensitive, wavefront sensor was utilised by the MPIA team to observe the LGS return in GHRIL. Early analysis of the collected data indicates that the focussed spot size at 4.5km was approximately 2×4 arcseconds in seeing of 1 arcsecond, the spot elongation being due to the ellipticity of the laser output itself.

Reduction of the collected data is underway. The laser operated reliably over the 3.5 nights with no technical downtime. This development work

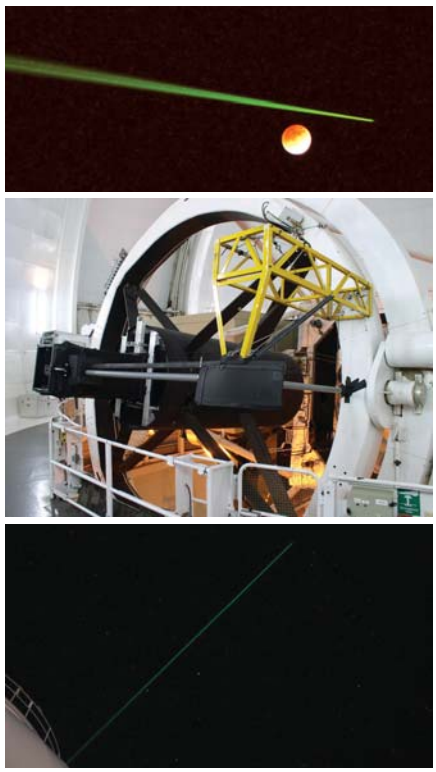

Figure 1 (top). The laser launch coincided with a Lunar eclipse. Figure 2 (middle). Laser launch telescope mounted at the top of the WHT, behind the telescope secondary mirror. Figure 3 (bottom). The laser beam seen projected against the night sky above the WHT.

indicates that the proposed 20W common-user Rayleigh laser guide star system for NAOMI can be implemented with confidence.

The assistance and support provided by ING, without which the trial would not have been possible, is gratefully acknowledged.¤

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