

NTT in the third quarter of 1997 (for specifications see Beletic, *The Messenger*, 83, 4, 1996). FIERA will deliver an order-of-magnitude improvement over ACE in readout speed and depending on the detectors used, possibly a further improvement over the already low noise figures. In the last quarter of 1997, the NTT will get two new instruments. SOFI (Son OF ISAAC), a derivative of the first instrument to be installed on UT1 of the VLT, is an infrared camera/spectrograph delivering both narrow- and wide-field imaging and intermediate-resolution spectroscopy. At the same time, SUSI II, or as

she is affectionately known within the NTT team, SUSANA (SUperb Seeing At Nasmyth A), equipped with a 4k CCD mosaic and FIERA, will also be installed replacing SUSI.

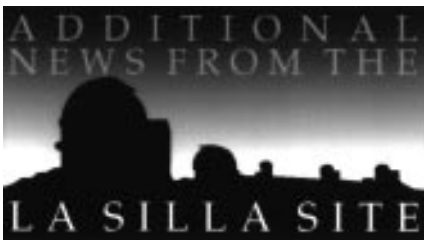
The NTT will thus remain truly the New Technology Telescope it was always envisaged to be, with cutting-edge instrumentation and capabilities. Stay tuned for exciting results. All of these developments are in the spirit of using the NTT as a test bed for the VLT. SOFI uses many common functions with ISAAC, and SUSANA is a derivative of the VLT test camera to be used in the

commissioning and science verification phases of Paranal.

### Staff Movements

The NTT team bids farewell to Roland Gredel who is taking over the duties of 3.6-m+CAT team leader. Many thanks Roland and good luck with your new responsibilities.

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## The La Silla News Page

*The editors of the La Silla News Page would like to welcome readers of the sixth edition of a page devoted to reporting on technical updates and observational achievements at La Silla. We would like this page to inform the astronomical community of changes made to telescopes, instruments, operations, and of instrumental performances that cannot be re-*

*ported conveniently elsewhere. Contributions and inquiries to this page from the community are most welcome (P. Bouchet, R. Gredel, C. Lidman).*

## A New CCD for EFOSC2 at the ESO-MPI 2.2-m

T. AUGUSTEIJN

A new CCD (#40) has recently been installed in EFOSC2 at the ESO-MPI 2.2-m telescope. This thinned CCD has a very high quantum efficiency in the blue and UV through "UV flooding" of the backside. The new CCD for EFOSC2 is a 2048 x 2048 array of 15-micron pixels, which corresponds to 0.262 arcsec on the sky. The field of view with the new CCD is currently limited to a circular area with a 7.7 arcmin diameter. This limitation is caused by the diagonal mirror in the DISCO adapter used to divert light to the guide probe.

The efficiency of the new system was measured by observing several photometric and spectrophotometric standard stars on several nights. In Figure 1 we show the relative increase in efficiency with respect to the old CCD (#19) by plotting the ratio of the observed count rate as a function of wavelength of the new CCD with respect to that of the old. In this figure the triangles connected by a dashed line correspond to measurements made with grism #1. The horizontal lines correspond to measurements made with broad-band filters. The circles are placed at the effective wavelength of each filter and the tick marks give the FWHM of each filter. From this one can see that the new CCD gives a seven-fold increase in sensitivity in the blue, a two-fold increase in the visual, and a three-fold increase in the red with respect to the old CCD!

Also shown in the figure, as squares connected by a dotted line, is the ratio of the quantum efficiencies of the two CCDs (measured in Garching before shipment to Chile). From the figure, it can be seen that the measurements made with the grism and the broad-band filters are reasonably consistent, but that there

is a significant discrepancy in the blue with respect to the increase in efficiency expected on the basis of the quantum efficiencies measured originally. This difference probably reflects a decrease in the efficiency of the old CCD with respect to the original measurements and might explain the observed de-

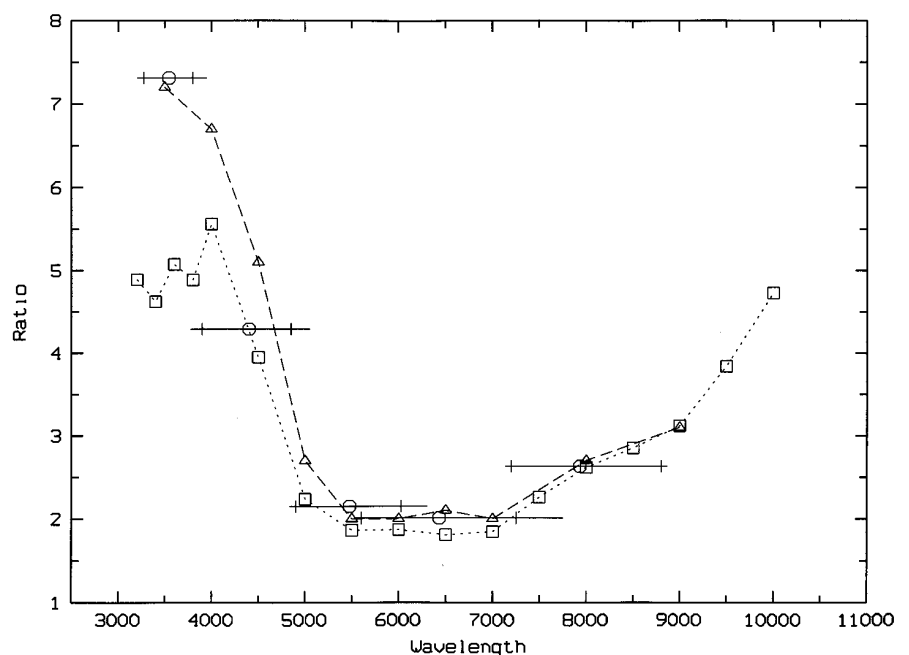


Figure 1: Ratio of observed fluxes of CCD #40 with respect to CCD #19 as a function of wavelength using grism #1 and broad-band filters.

crease in efficiency in the blue reported before. A possible reason for this apparent decrease is the degradation of the UV-coating of CCD #19 with time, a

known phenomenon for this type of CCD. A full report on the commissioning of the new CCD #40 mounted in EFOSC2 at the ESO-MPI 2.2-m telescope can be

found on 2.2-m team WWW pages at the address:  
<http://www.ls.eso.org/lasilla/Telescopes/2p2T/2p2T.html>.

## Overhaul and Attempted Upgrade of DFOSC CCD

J. STORM

The DFOSC CCD and dewar spent the month of July in Garching and Copenhagen where the dewar underwent a major overhaul to improve its vacuum capabilities.

It was also planned to replace the CCD (W11-4) with a new LORAL/LESSER platinum flash-gate device in Copenhagen. Unfortunately the new devices which the Copenhagen CCD group had received all suffered from

manufacturing defects which appeared after a few thermic cycles of the devices. As a result, none of these devices could be used for the DFOSC camera. Instead the surface of the current CCD was chemically cleaned and another attempt at UV-flooding the device was performed. Unfortunately the UV-flooding did not prove stable and it was necessary to remove the UV-flooding all together. Various possibilities of

significantly improving the quantum efficiency of the camera, i.e. acquiring a new CCD, are being investigated. A test report describing the current status of the array is available from the 2p2team web pages:

<http://www.ls.eso.org/lasilla/Telescopes/2p2T/2p2T.html>

News regarding the replacement of the current CCD will also be posted in the 2p2team news section.

## About the Spectroscopic Stability of EFOSC1

S. BENETTI

This report discusses the long-term spectrophotometric stability of EFOSC1. EFOSC1 is a focal reducer attached to the Cassegrain focus of the ESO 3.6-m telescope. It is equipped with CCD #26. An earlier report (see *The Messenger* 83, 12) discusses the photometric stability of EFOSC1.

During thirteen nights covering the period from 1992 to 1996, spectra of several spectrophotometric standards were taken with EFOSC1 and the B300 grism. In order to collect all the light coming from the star, all standards were observed with wide slits (5 or 10 arcsec). The extracted spectra were corrected to unit airmass using the standard atmospheric extinction table for La Silla. From each spectrum, a spectral response curve for the B300 grism was derived. Out of fourteen spectra, twelve were taken under photometric conditions.

During the period from 1993 to 1996, additional spectra of several spectrophotometric standards were taken under photometric conditions with the R300 grism. Response curves for the R300 grism were likewise derived.

The dispersions around the average (zero point) response curve (using only those observations obtained under photometric conditions) for the B300 and R300 grisms were computed. The dispersion around the B300 zero point curve is small, with variations of 8–9% for wavelengths larger than 3800 Å, and a variation of about 12% around 3800 Å. The dispersion for the R300 grism is also small, with a variation of about 8% up to ~ 8500 Å, increasing to 10% around 9000 Å and to 16% towards the very red end of R300 wavelength range. This increasing variation can be under-

stood in terms of the low signal of the observations and the poor sampling of the standard stars at these wavelengths, and to fitting procedures.

In Figure 1, the mean response curves for B300 and R300 are shown. They are respectively the mean of the fourteen B300 and the seven R300 response curves. Before taking the mean, they were normalised with respect to the zero point response curve. For the B300 curves, the normalisation occurs at 5500 Å; for the R300 curves, the normalisation occurs at 6500 Å. After normalisa-

tion, the variation of the B300 curves with respect to the mean B300 response curve is much smaller (~ 3%). The dispersion around the mean R300 response curve is also ~ 3%, but increases towards the red end.

In summary, the spectroscopic stability of the system (telescope + EFOSC1 + CCD#26) from 1992 to 1996 has been analysed. No temporal trends have been found. These findings reflect the results published in the EFOSC1 photometric study. Once more EFOSC1 proves its reliability.

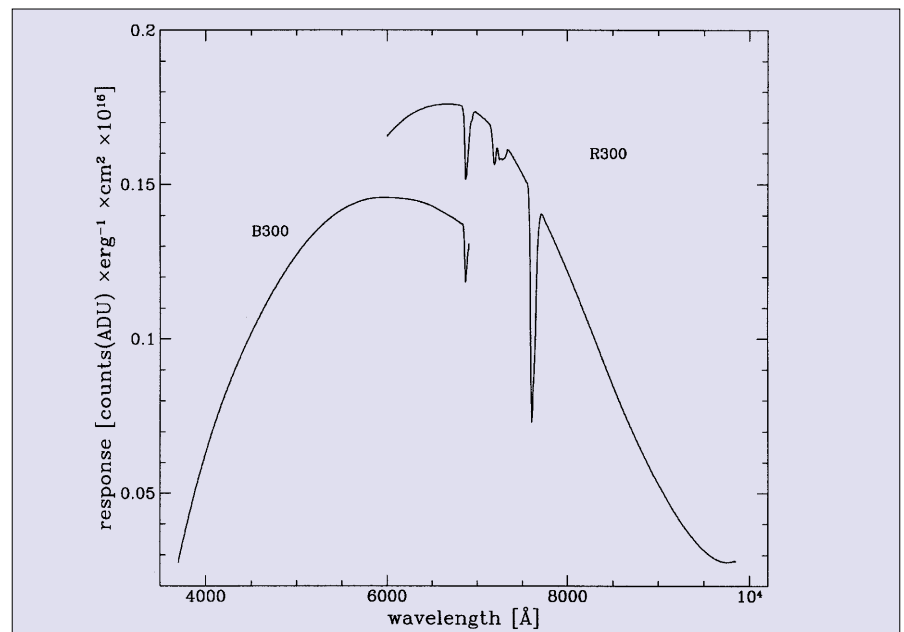


Figure 1: Spectral response curves of 3.6-m telescope + EFOSC1 + CCD#26 for B300 and R300 grisms (the conversion factor for CCD #26 is  $4e^-/ADU$ ). The main atmospheric absorption bands have been tentatively modelled. These curves can be found in the EFOSC1, ESO-La Silla, WWW page (<http://www.ls.eso.org/lasilla/Telescopes/360cat/html/EFOSC1/efosc1.html>) as fits files.