

Figure 2: Interorder separation (in mm) vs. order number for CASPEC + short camera + 31.6 lines/mm echelle and RED cross disperser.

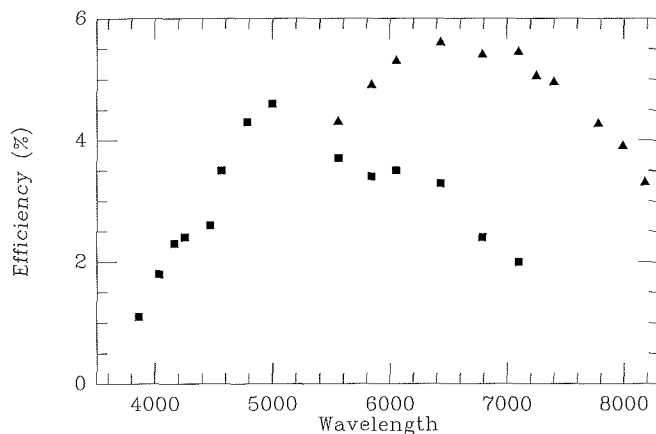


Figure 3: Overall efficiency curve including 3.6-m telescope + CASPEC (short camera and 31.6 lines/mm echelle) + CCD 16; filled triangles: RED cross disperser; filled squares: BLUE cross disperser.

and the results are also given in Figure 3 (filled squares). The dramatic improvement due to the use of the RED cross disperser is easily recognizable.

We note that the efficiency curve of CASPEC and the BLUE cross disperser is higher than that given in Pasquini and Gilliotte (1991); this is due to two factors:

- (1) The CCD was UV flooded.
- (2) The procedure previously used tended to underestimate the efficiency at blue wavelengths.

### 3. Practical Hints

A few comments are necessary regarding the practical use of this new configuration:

- (1) There is no order overlap at wavelengths longer than  $\sim 815$  nm.
- (2) A colour filter (CASPEC colour filter 2 or 1, according to the chosen spectral range) must be used in order to avoid second-order contamination, both in the calibration spectra and in the scientific exposures.

- (3) If requested, the RED cross disperser will be mounted and it can be considered officially offered, but potential users should note that the *change of cross disperser in the course of the night is not allowed*.

### References

Pasquini, L., Gilliotte, A. 1991: *The Messenger*, **65**, 50.

## News About Imaging Filters

A. GILLIOTTE, J. MELNICK and J. MENDEZ, ESO-La Silla

ESO is actually offering different sets of image quality filters which can be used on all imaging instruments at La Silla. Filter sets exist in different copies, of which only one is reserved at one instrument. A basic filter set includes the Bessel (U, B, V, R, I), Gunn (g, r, i, z) and four interferential (H $\alpha$ , H $\alpha$ r, SII, OIII) filters. Other filters are also available with a lower number of copies; they can be used only on one imaging instrument. Filters have now an external diameter of 60 mm and a maximum thickness of 10 mm. They are mounted on a metallic ring for easy manipulation. ESO offers around 200 image quality filters.

Since November 1991, a new image quality filter list is available at La Silla. Access of data can be obtained directly with the help of a new programme developed here under MIDAS.

Filter parameters and curves can be obtained with simple softkey menus. The programme is accessible with Sun stations under MIDAS with the com-

mand SET/CONTEXT FILTERS. Filter list, search, plot, overplot are also possible with laser hardcopy facilities.

All available image quality filters have been measured according to two sets of parameters. The first concerns the spectral performances as central and peak wavelengths, the full width at half maximum bandwidths, the peak transmission and the eventual red-leak. Quality performance is also indicated in terms of eventual image deformations as elongation, blurr effect and the even-

tual presence of ghost images. Ghost images can be disturbing even with a relative intensity difference of  $10^4$  with the main image.

All filters will soon be checked again, especially concerning the red-leak blocking performances with the help of a new powerful spectrophotometer recently purchased.

The image quality filter database will be constantly updated with the new filters or with eventual filter removing after damages.

## MIDAS Memo

ESO Image Processing Group

Most information concerning MIDAS is now published in the *ESO-MIDAS Courier* which was introduced in 1991 as a newsletter for the MIDAS users

community. The MIDAS Memo is therefore no longer required and will be discontinued as a regular column. The Image Processing Group will still announce new major developments in the *Messenger* but it will happen only when called for e.g. at major new releases of MIDAS.

## 1. Application Developments

During a three-month visit at ESO, Luca Fini has made a number of significant improvements of the AGL plotting library. These include both general optimization and new features such as more fonts and support of different coordinate systems.

The first test version of an X11 Graphics User Interface (GUI) for MIDAS was made at La Silla to make it easier to use the spectral package. To gain experience in how to customize such GUI's, a test implementation was also made for the Echelle package being one of the more complex applications. It is expected that these prototypes, tests for remote observing and requirements for the VLT will make it possible to define a consistent GUI for ESO.

## 2. MIDAS Bulletin Board

A bulletin board for MIDAS issues has been created using the USEnet News system. This prototype was installed as a local News group in ESO with the name 'eso.midas'. It can be accessed directly at ESO while external sites would have to use the 'esobb' account on 'bbhost.hq.eso.org' to read it. Sites with an implementation of USEnet News may later be able to get the bulletin board transferred automatically. MIDAS users are welcome to post messages by e-mailing them to the moderator Rein Warmels at 'rwarmels@eso.org'.

## 3. MIDAS Hot-Line Service

The following MIDAS support services can be used to obtain help quickly when problems arise:

- EARN: MIDAS@DGAESO51.bitnet
- SPAN: ESO::MIDAS
- EUNET: midas@eso.uucp
- Internet: midas@eso.org
- FAX: +49-89-3202362, attn.: MIDAS HOT-LINE
- Tlx.: 52828222 eso d, attn.: MIDAS HOT-LINE
- Tel.: +49-89-32006-456

Users are also invited to send us any suggestions or comments. Although we do provide a telephone service, we ask users to use it in urgent cases only. To make it easier for us to process the requests properly we ask you, when possible, to submit requests in written form either through electronic networks, telefax or telex.

More information about MIDAS can be found in the *ESO-MIDAS Courier* which is the biannual newsletter on MIDAS related matters issued by the Image Processing Group and edited by Rein Warmels.

## Things that Pass in the Sky

*This issue of the Messenger contains three contributions about things seen in the sky by astronomers – they represent three different experiences of different origin and impact.*

*During the past decades, many observers and in particular those who work at wide-field instruments have become aware of an increasing "pollution" of the skies by artificial satellites. More and more objects fly around the Earth in high and low orbits and it is getting more and more difficult to obtain "clean" astronomical images. Even CCD observers begin to feel the problem; I myself have had at least one satellite trail in a CCD frame during each of my recent missions to La Silla, cf. the picture below.*

*The following article is based on a project by students at the European School in Munich (the first author is the daughter of one of the astronomers at the ESO Headquarters) and quantifies the increasing threat to observational astronomy. It should serve as a warn-*

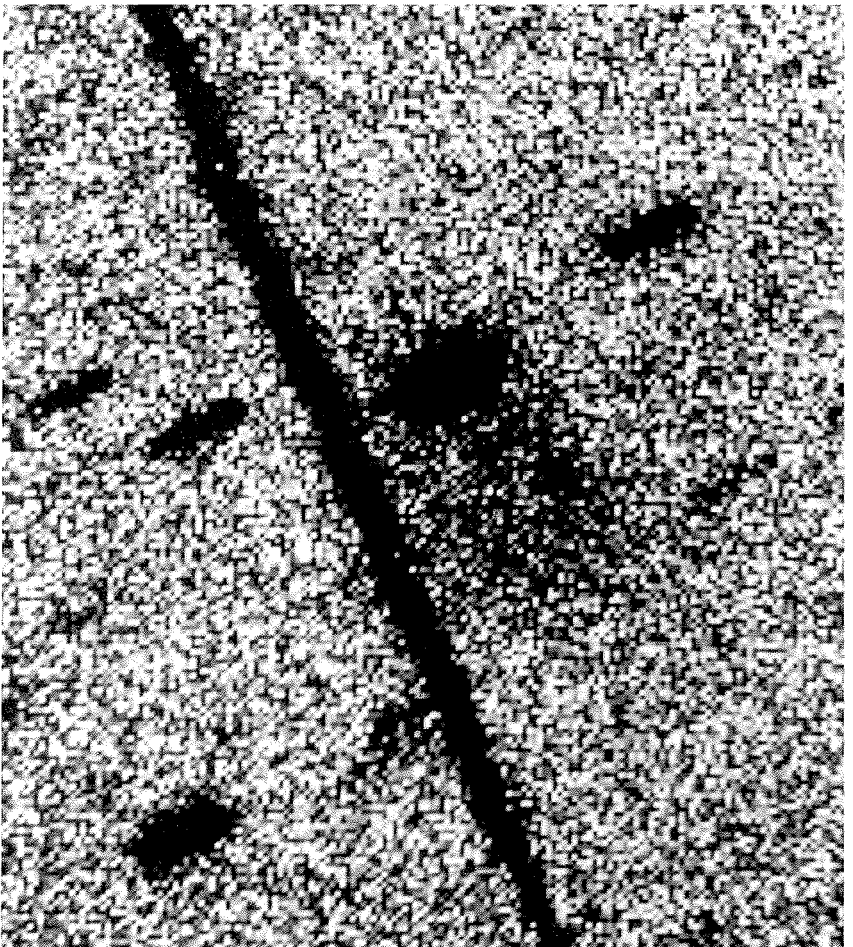
*ing light for all interested in our science.*

*But there are other things in the sky. The fall of a rocket stage was recently seen by thousands of people along the Chilean coast and was photographed by an astronomer at ESO – the story is told in this issue. This is the type of event that gives rise to myths; unless a scientifically sound explanation is quickly found, there is little doubt that another UFO story will soon spread all over the world through the news-hungry media.*

*And then there is the third... What to believe? Two reliable observers see a not-so-fast-moving object which does not look natural, and might even be a small comet passing very close to the Earth. There is no doubt that the object was real, the photos show that. But what was it really?*

*An old proverb says (at least in Scandinavia): "There is more between the sky and the Earth than what meets the eye". Some astronomers might say: too much!*

The editor



*Satellite trail crossing the CCD image of P/Halley on March 14, 1991 between UT 3<sup>h</sup>48<sup>m</sup> and 4<sup>h</sup>33<sup>m</sup>, i.e. just before local midnight at La Silla. The Danish 1.54-m telescope followed the motion of the comet, so the images of the stars are trailed.*