



Figure 3: NGC 3115-S0 galaxy;  $B_T = 9.75$ . Left panel: original CCD frame ( $1.7 \times 0.9$ ). Right panel: Hunt deconvolution.

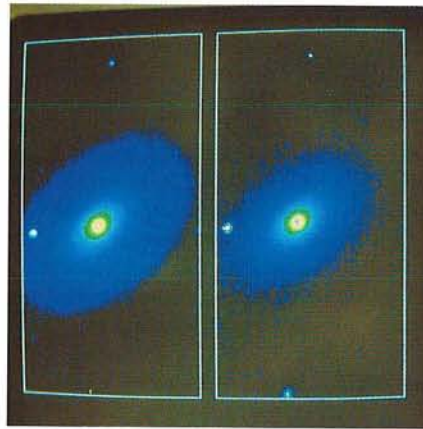


Figure 4: NGC 3585, also ESO 502 G 25-E galaxy;  $B_0 = 11.40$ . Left panel: original CCD frame ( $1.7 \times 0.9$ ). Right panel: Hunt deconvolution.

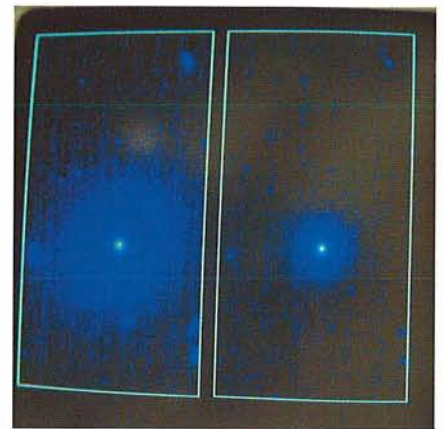


Figure 5: ESO 440 G 37-E-S0 galaxy;  $B_0 = 14.30$ . Left panel: original CCD frame ( $1.7 \times 0.9$ ). Right panel: Hunt deconvolution.

to dominate in any tested object the galaxy mass distribution on scales of tens to hundreds of parsec has tentatively been identified with a black hole by many authors.

The debate on the presence of black holes in the centre of galaxies is still quite open since the data seem only to imply that some additional mass is required on rather small scales in the centre of galaxies.

Hence any deconvolution method which will permit to constrain the mass distribution in the core of galaxies may

be regarded as a step forward towards the understanding of galaxies themselves and the existence of black holes in their centres.

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## MIDAS Memo

### ESO Image Processing Group

#### 1. Application Developments

The main efforts were placed on validation of basic MIDAS commands and the subsequent correction of problems reported. Since the next major release 90 NOV will be frozen in September already, only a limited number of these improvements will be available in that release.

The COPY/DISPLAY command which can produce hard copies of the image display has been upgraded to be able to provide output for colour PostScript printers. This makes it possible to get good working hard copies in both B/W and colour directly from the image display in MIDAS.

#### 2. New Positions

Two additional short-term positions (with durations of up to two years) have been allocated to the MIDAS group. They will be used mainly for improve-

ments and developments of new application programmes in MIDAS. Not only will this make it possible to have new algorithms and applications included into MIDAS after a period of limited improvements in this area, but will spread long-term, detailed knowledge of MIDAS in the community when people in these positions return to their home institutes.

In addition to these positions, it will be possible to invite people who have made interesting algorithms and programmes, to ESO for an implementation of them into the MIDAS environment. People interested in contributing and/or making new applications to MIDAS may contact the IPG with detailed descriptions.

#### 3. Distribution Policy

The ESO Council, during its last meeting in June 1990, defined the policy for usage and distribution of MIDAS. It

states that MIDAS is the image processing system of ESO to be used both for off-line data reductions and for on-line evaluation of data from ESO telescopes including the VLT. MIDAS is available to all non-profit research organizations. Such organizations must sign a User Agreement with ESO before obtaining the package. This agreement will regulate the usage of MIDAS and ensure that it is not exploited commercially. This policy will be implemented as of the 90 NOV release of MIDAS.

#### 4. MIDAS on New Systems

The 90 MAY release of MIDAS was installed on an IBM System 6000 Model 540 (the new RISC CPU) made available by IBM. Only very minor problems were detected, all relating to the operating system AIX 3.1 which was a preliminary version during the tests. Those problems have been resolved in the official release of AIX 3.1. The system had an



ESO, the European Southern Observatory, was created in 1962 to . . . establish and operate an astronomical observatory in the southern hemisphere, equipped with powerful instruments, with the aim of furthering and organizing collaboration in astronomy . . . It is supported by eight countries: Belgium, Denmark, France, the Federal Republic of Germany, Italy, the Netherlands, Sweden and Switzerland. It operates the La Silla observatory in the Atacama desert, 600 km north of Santiago de Chile, at 2,400 m altitude, where fourteen optical telescopes with diameters up to 3.6 m and a 15-m submillimetre radio telescope (SEST) are now in operation. The 3.5-m New Technology Telescope (NTT) has recently become operational and a giant telescope (VLT=Very Large Telescope), consisting of four 8-m telescopes (equivalent aperture = 16 m) is under construction. Eight hundred scientists make proposals each year for the use of the telescopes at La Silla. The ESO Headquarters are located in Garching, near Munich, FRG. It is the scientific-technical and administrative centre of ESO, where technical development programmes are carried out to provide the La Silla observatory with the most advanced instruments. There are also extensive facilities which enable the scientists to analyze their data. In Europe ESO employs about 150 international Staff members, Fellows and Associates; at La Silla about 40 and, in addition, 150 local Staff members.

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X11 display manager and could be used directly for image display and graphics with MIDAS. The configuration included 128 Mb of memory which made it difficult to judge the disk I/O performance. The system gave a very good response with MIDAS benchmarks indicating a performance in the order of 3 times faster than other workstations.

Please note that the mentioning or testing of specific computer systems is not in any way an endorsement.

### 5. MIDAS Hot-Line Service

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

- EARN:MIDAS@DGAESO51
- SPAN:ESO::MIDAS
- FAX.: +49-89-3202362, attn.: MIDAS HOT-LINE
- Tlx.: 52828222 eo 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 only in urgent cases. To make it easier for us to process the requests properly we ask you, when possible, to submit requests in written form through either electronic networks, telefax or telex.

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