supports X11 Window systems. The editor incorporates a large number of commands that can be executed directly (in command mode) or by using keypad and function keys (keypad and function key modes).

2. Data Analysis Workshop

The annual ESO/ST-ECF Data Analysis Workshop took place April 18–20. It consisted of 1½ day scientific meeting centred on reduction software for direct imaging followed by one day with user meetings for both MIDAS and ST-ECF. Approximately 100 people participated in the meeting where more than 15 papers were presented. Proceedings of the scientific session will be published.

The next Data Analysis Workshop is expected to take place in the week April 23–27, 1990, with emphasis on reduction procedures for spectral data.

3. Support of X11 Window Systems

The portable MIDAS has now a full set of graphics and image display facilities. To provide these capabilities for a majority of workstations, major emphasis was placed on the X11 Window Manager implementation. The X11 system, being the industrial standard for window display systems, will be offered by almost all vendors making workstations. The MIDAS implementation image display with X11 was developed partly in collaboration with Trieste Observatory where much of the initial work was done. The MIDAS Display routines were tested successfully on workstations from DEC, HP, Stellar and SUN. Of special interest is the verification for DEC windows which also will be offered with VAX/VMS on VAX stations.

4. MIDAS on New Systems

Two new systems were tested and benchmarked with MIDAS, namely: DEC station 3100 and IBM 6150 systems. The DEC station 3100 uses a R2000 MIPS processor and was tested with Ultrix 3.0 while the IBM 6150 has a ROMP RISC processor running under AIX 2.2. *Please note that the mentioning or testing of specific computer systems is not in any way an endorsement.*

5. Portable MIDAS

As of the 89 MAY release, the portable version of MIDAS is the only official version of MIDAS being maintained and developed. The portable MIDAS can be used on both UNIX and VAX/VMS systems. Only the lowest level of routines differs from system to system while all user interfaces and application programmes are identical, no matter which type of system is used.

The START and STEP descriptors in MIDAS images have in the portable version been changed from single to double precision in order to provide sufficient accuracy for spectral reductions. For people working on VAX/VMS systems, this modification is transparent since the new version can also read the old single precision descriptors; the opposite is *not* true. In general, data files in the internal MIDAS format cannot be used on other systems due to differences in the binary formats. Thus, it is strongly recommended to store data in the FITS formats which is computer independent.

The 89MAY release contains the vast majority of applications available in old VMS-MIDAS including full support of graphics and image display. The major exceptions are the CCD and Long-Slit packages which both are being improved to provide better support of ESO instruments. The final testing and verification of these package will be done in the coming months with an expected release in the 89NOV version.

6. MIDAS Hot-Line Service

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

- EARN: MIDAS@DGAESO51
- SPAN: ESOMC1::MIDAS
- Tlx.: 52828222eod, 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 or telex.

Test Images for Two-dimensional Photometry Software

F. MURTAGH, ST-ECF, ESO; affiliated to Astrophysics Division, Space Science Department, European Space Agency,
and R. WARMELS, ESO

A collection of test images was the focus of a satellite workshop of the recent Data Analysis Workshop. It was held on Monday, April 17, and provided an opportunity for the participants to compare analyses carried out with a wide range of 2-dimensional photometry packages.

The analyses carried out on the test images include the following: S. Ortolani (Padua Observatory) looked at the globular cluster 47 Tuc and NGC 3210 using DAOPHOT (P. Stetson, Dominion Astrophysical Observatory), INVENTORY (A. Kruszewski, Warsaw Observatory), and ROMAFOT (R. Buonanno et al., Rome Observatory). The last two packages have been incorporated into ESO's image processing system MIDAS, and are extensively documented in its user manual. F. Valdes (Kitt Peak National Observatory) carried out analyses on almost all test images using the FOCAS system (F. Valdes, KPNO). This UNIX-based package is available both as a stand-alone system or under Kitt Peak's IRAF image processing. A range of the test images was also investigated by M. Mateo (Mount Wilson and Las Campanas Observatories) using the DoPHOT package. D. Koo (Lick Observatory) studied the SA68 galaxy field images using a wide range of packages. These were APEX (Anglo-Australian Observatory), APM (Cambridge, England), COSMOS (Royal Observatory, Edinburgh), CURRIE (Rutherford-Appleton Laboratories), FOCAS, GROTH (Princeton University) and VIC (University of Victoria, British Colombia). Other analyses were carried out by A. Penny (Rutherford Appleton Laboratories), A. Kruszewski, N. Eaton (University of Durham), and M. Aurière (Observatoire du Pic-du-Midi). Results are also available for the CAPELLA package, which were obtained by A. Llebaria (LAS, Marseilles) and B. Debray (ESTEC).

Together with results of the Data Analysis Workshop, the results of the analyses will be published in an ESO Workshop and Conference Proceedings volume. It is foreseen that these pro-

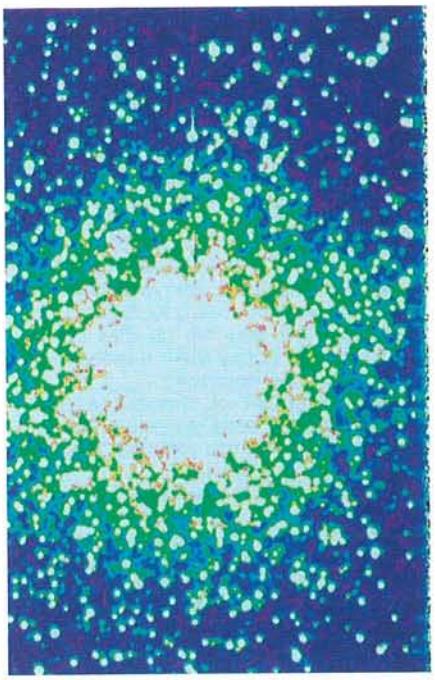

Figure 1: *Globular cluster: 47 Tuc, V, very crowded field with charge transfer problems; 15 sec. CCD (ESO No. 1) exposure taken with the Danish 1.5 m at La Silla. (S. Ortolani, Padua Observatory.)*

ceedings will appear later in 1989. Results of the analyses are also contained in the form of catalogues and other files in directory MISC$DISK:[TESTIMAGES] on ESO's VAX system. Together with the test images themselves, this information will be made available to the general public on magnetic tape by the authors of this report. Copies of the tape can be obtained upon request.

Two of the test images are shown in the figures. They will be of particular interest to those investigating globular clusters and faint galaxy fields. Images with different exposure times are included. A few further images will be included in the future. These include simulated Hubble Space Telescope Wide Field/Planetary Camera (WF/PC) images – a typical globular cluster at distance 1 Mpc with an exposure of 300 seconds as seen using different filters.

The advantages of using this set of test images are two-fold. They provide a set of results which can be used for benchmarking future software packages and alternative algorithms devised by anyone working in this field. They also provide a common point of interest for those who develop 2-dimensional software for stellar and galaxy photometry. One hopes that such systems can be used as building-blocks for systems of the future rather than the all-too-common restarting from first principles.

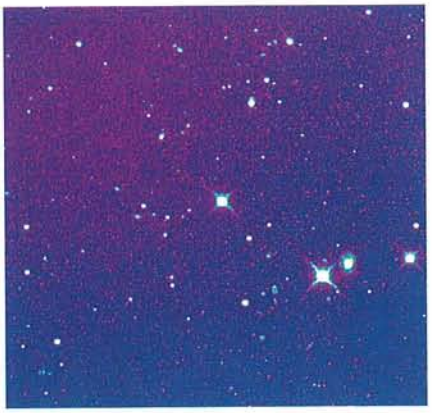

Figure 2: *Faint galaxy field: SA 68, contains very faint BV standards; 75 min. J. plate taken with Kitt Peak National Observatory 4 m. (D. Koo, Lick Observatory.)*

TEX and MATHOR3-TEX for Astronomy and Astrophysics Journal and Supplement Series

Main Journal

H.-U. DANIEL

Springer-Verlag is pleased to announce an important development which will bring "Astronomy and Astrophysics" to the absolute forefront of scientific publication technology: In addition to the traditional route of manuscript processing and in response to the growing number of authors using TEX, such authors have now the opportunity to submit their papers to the journal editors on disk or tape. Springer-Verlag has developed a style template for "Astronomy and Astrophysics" contributors using PLAIN-TEX, the Springer-Verlag A+A macro package 1988.

The A+A macro package is designed to achieve two goals:

1. TEX-contributions coded only with the A+A macros will comply in width, height, title head, headings, fonts, captions, etc. with the regular layout of the journal.
2. Having reformatted the TEX input file using the M-TEX format file, the resulting DVI file will be run directly into the monotype typesetting machine. As the print-out with the M-TEX fonts will look exactly like the usual page proofs, there will be no need for checking page proofs. Authors using TEX and the layout macros but not the M-TEX fonts will still receive page proofs as usual.

The Springer-Verlag A+A macro package 1988 (including the M-TEX software) can be obtained from the editors. Disks and tapes (format 5.25 inches or 1,600 bpi) together with instructions have also been given to the directors of the following institutions; authors working here are encouraged to make use of this possibility:

Observatoire de Paris, Meudon; MPI für Astrophysik, Garching; MPI für Radioastronomie, Bonn; Institut du CNRS, Paris; Kapteyn Astronomical Institute, Groningen; Laboratory for Space Research, Utrecht; Landessternwarte Königstuhl, Heidelberg; Observatoire de Genève, Sauverny; Astronomical Institute, Amsterdam; Sterrewacht Leiden; Osservatorio Astronomico di Trieste; Osservatorio Astrofisico di Arcetri, Firenze; Astronomisches Institut, Tübingen; ESO, Garching.

The instructions for TEX-authors will also appear in the journal "Astronomy and Astrophysics".

In order to minimize the loss in style uniformity of the journal, authors are urgently requested to follow the special instructions given on the disk or tape. The editors of the journal may return accepted contributions, should they fail to comply with the A+A style.

We, the authors, editors and publisher, are entering an interesting time of innovation. continuing, patient cooperation will be necessary until the usual smooth processing of manuscripts at Springer-Verlag has been extended to "electronic" manuscripts.

Supplement Series

J. BERGER and D. SAVARY

Les Editions de Physique are pleased to announce that the A+A Supplements Series is now produced using MATHOR3-TEX. This went into effect, beginning with the January 1989 issue.

For all subsequent issues authors themselves may send submissions to the series in either MATHOR3 or TEX format. Les Editions de Physique will provide the appropriate "Supplements Series Macro Package" to any authors who wish to use plain TEX for the preparation of their articles. Additionally, a special version of the MATHOR3-TEX software package is now available to help authors and their staff who are not "TEXperts".

What are TEX, MATHOR3-TEX and MACROS?

TEX is a powerful text formatting programme designed specifically for scientific texts. TEX macros are programme routines which can "automate" or control the style of the pages which TEX produces, for example to ensure than they conform to the house style of a journal. You can create TEX documents in one of two ways:

The first way is to learn how to code your text using the special description language which TEX requires and then to create the necessary code using a standard text editor. You should bear in mind that TEX is not a word processor.

The second, much easier, way is to use MATHOR3-TEX which is a full feature "WYSIWYG" (What You See Is What You Get) scientific word processor and interactive preprocessor for TEX. What that means in plain English is that you have all the power of a word processor available to you and that you