tively, with significantly higher accuracy, on smaller fileds (e.g. VLA, VLBI positions, etc.). This procedure, unless it is further adapted, is unlikely to provide the expected precision. Therefore, we would recommend that the MIDAS environment provide the opportunity of processing images obtained with different projections, mapped in different equinoxes as well as related header information fully compatible with those obtained with other standard packages.

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The 94NOV Release of ESO-MIDAS

SCIENCE DATA ANALYSIS GROUP

Introduction

The new 94NOV release of ESO-MIDAS will contain several improvements and new features in the core system as well as in the application areas. In this article you will find a summary of the most interesting new ones. More detailed descriptions can be found in the recent *ESO-MIDAS Courier* (October 1994).

The new release has been tested on a variety of platforms: SUN/SunOS 4.1.n and SUN/Solaris 2.3, HP/HP-UX, SG/IRIX, IBM/AIX, VAX/VMS, DEC/OSF1, DEC/Ultrix, VAX/Open-VMS and VAX/VMS, and PC/Linux. At the time this *Messenger* is distributed, the official 94NOV version will be released and all registered sites informed about its availability in the "midas" ftp account.

In order to optimize the distribution of this new release we request that MIDAS sites with Internet connectivity retrieve it from the "midas" ftp account. Sites with no connectivity can obtain the new release on magnetic media after having sent a completed ESO-MIDAS Request Form to the MIDAS Group (midas@eso.org).

System

New Line Editor for the 94NOV Release

One of the most prominent changes that (Unix) users will immediately experience is the implementation of a new line editor. In previous releases of ESO-MIDAS the monitor used the "TermWindows" library for its line-editing capabilities. "TermWindows" was implemented on VMS and UNIX systems and contained line-editing features inspired by those working on VAX/VMS. The 94NOV release of MIDAS includes and uses a new line-editor for the monitor based on the GNU "readline" library (also used in the GNU "bash" shell). This library, widely supported on UNIX platforms, enhances the line-editor capabilities of MIDAS with features like a history stack of commands, emacs or vi editing functions, command and filename completion functions and a communication channel to the MIDAS GUI "help" for on-line help. This line-editor will be the default one for UNIX systems. For VMS systems the 94NOV release of MIDAS still provides the same line-editor as before.

FITS data decompression on the fly

The 94NOV release will contain an automatic "decompression on-the-fly" procedure from which commands like `INTAPE/FITS` can benefit. The biggest improvement is that previous processing sequences like e.g. separate decompression of files, removal of the compressed files to save disk space, and finally reading the decompressed files by `INTAPE/FITS` are now greatly simplified: `INTAPE/FITS` now takes care of the decompression without the need for extra disk space for the decompressed data.

Applications

Upgrade of the CCD package

In order to monitor the quality of the CCDs used on La Silla, ESO has started a programme of standard CCD tests. To support this programme from the software side, a number of new commands are incorporated in the CCD context. These commands operate on catalogues of images like bias, dark and low-count flat frames and will for example give the hot and cold pixel locations, the linearity and transfer curves, the shutter pattern, and the charge transfer efficiency.

A new astrometry context

A new context ASTROMET contains the astrometry package previously known as the programme POS1 originally written by Richard West and implemented in MIDAS by Olivier Hainaut. For the MIDAS implementation the algorithm was not changed as it proved to be extremely accurate. While the original POS1 was doing everything in one programme, the MIDAS version has been split into 3 steps.

Firstly, read the measurements and standard stars, and compute the transformation parameters (this step is performed by command `ASTROMETRY/TRANSFORM`. Secondly, edit the standard star table to remove/restore some stars. This step is performed by the command `ASTROMETRY/EDIT`. Finally, compute the converted coordinates by the command `ASTROMETRY/COMPUTE`.

Graphical user interfaces

Two new graphical user interfaces (GUIs) will be included in the 94NOV release: a GUI for the Data Organizer (DO) and one for the infrared spectroscopy package IRSPEC.

Because the DO is particularly intended to be used in an on-line environment, it is essential that observers can interact efficiently with the tools offered to them. Therefore, a versatile graphical user interface has been fitted to the DO. The main interface window contains the Observation Summary Table on which all subsequent operations can be performed. With a number of special widgets the user can e.g. edit the classification rules, classify the biases, etc. A customized on-line version of the DO is now running at the NTT.

A second new GUI was created for the IRSPEC context by Cristian Levin at La Silla. Its main purpose is to provide an easy way to reduce infrared data on-line at the NTT, but it can also be very useful for off-line data reduction. The main features are:

- It has interfaces to all the commands of the existing context to reduce infrared data.
- A file management feature that allows to keep sets of input frame names in ASCII files.
- Some commands were grouped in the interface, and default values are provided for most of the parameters, so the user can reduce the data very quickly.

From the main menu of the IRSPEC graphical interface the user can create

sub-windows to start up the different steps of the reduction process.

User Support

ESO-MIDAS on the WWW

A description of the ESO-MIDAS project is now available via the ESO World Wide Web server (WWW). The information contains an overview of the MIDAS hard- and software requirements, distribution policy (including the ESO-MIDAS Request Form), documentation and support, and User Guides. Registered ESO-MIDAS sites can also start the MIDAS Xhelp Graphical User Interface directly from the XMosaic ESO-MIDAS home page. Besides consulting the on-line MIDAS help documentation, this facility also enables the users to send problem reports and questions to the MIDAS account at ESO headquarters in a pre-specified format that facilitates automatic processing. The ESO-MIDAS WWW pages can be accessed via the ESO home page (`http://http.hq.eso.org/eso-homepage.html`) or directly reached using the ESO-MIDAS page `http://http.hq.eso.org/midas-info.html`. We hope to extend this service with e.g. information about the 94NOV release and further ongoing developments.

Handling of problem reports

Until the beginning of this year the handling of incoming problem reports was almost completely manual and rather time consuming, and an increase in efficiency would certainly free our hands for other priorities. For that reason we looked into products that administer problem reports (semi-)automatically. After evalution of a few of these software products we have chosen to use the GNU Problem Report Management System, GNATS.

In GNATS, each problem report arriving at ESO is stored as a separate file within a main GNATS repository (directory). All these repositories make the entire Problem Report database that can be accessed by regulated editing to maintain consistency. However, anyone with access to electronic mail may submit Problem Reports. Provided a submitted Problem Report contains a minimal set of field descriptors, GNATS is able to forward the PR automatically to the responsible person, and keep track of its status.

One of the most important requirements of a new system is the user friendliness, in particular for new and inexperienced users who even more than experienced ones are in need of a good reporting system. This requirement is fulfilled via two possibilities of forwarding problem reports to ESO. The first one is by simply composing a text file containing the obligatory fields and forwarding it to the MIDAS e-mail address (midas@eso.org). The second way, however, is simpler and also saves time of the Problem Report manager at ESO: the XHelp Graphical User Interface.