A new package for reduction of data from the ESO Infrared Spectrograph, IRSPEC, has been developed in collaboration with M. Tapia. The package is described in more detail in a contribution of this issue of The Messenger. The new software, available as a CONTEXT inside MIDAS, includes a tutorial procedure that can be used as an on-line manual for first time users and also as a test for certifying new installations. This software and the corresponding manual will be released with the 88NOV version of MIDAS!

The package CLOUD, used for the analysis and modelling of interstellar absorption lines, has been substantially upgraded by M. Pierre.

A new project to organize and define the calibration information inside MIDAS has been started in collaboration with L. Johansson.

With the completion of the reduction software for IRSPEC, the first priority project in the area of applications is now the support of EFOSC in its different modes.
2. MIDAS Workshop

The MIDAS Workshop on April 28, 1988, was attended by approximately 70 people, 50 of whom came from other institutes. The morning was reserved for presentations of the general status of MIDAS and new applications such as the IRSPEC package. J. Nichols-Bohlin from the IUE project at NASA, Goddard Space Flight Center, presented the implementation of the IUESIPS package in a MIDAS environment which is now used for the production calibrations.

The standard Image Display Interfaces were described briefly with a more detailed discussion of the first IDI implementation for X-window systems made in Trieste Observatory.

The afternoon was devoted to the portable MIDAS. The new portable set of Standard and Table interfaces was reviewed. These new interfaces represent an enhanced version of the old ST and TBL routines which will still be supported for VAX/VMS systems.

The version 3.0 of AGL, used for plotting in the portable MIDAS, was presented by L. Fini from ASTRONET. Further, the increased capabilities of the plotting package available in the portable MIDAS was demonstrated with a new plotting tutorial. Finally, an extensive set of tests and benchmarks on work-stations from 12 vendors was discussed.

MIDAS courses were discussed again and a decision made to try and arrange these once the portable MIDAS has been released.

3. New Release Dates for MIDAS

With the growing number of institutes now receiving MIDAS (more than 80 sites), our workload is increasing with each release and the summer release is causing problems due to the vacation period. It has therefore been decided to change the MIDAS release dates to May 1st and November 1st. Thus, the next release will be made November 1st, 1988, and be named 88NOV. A first version of the portable MIDAS will be offered at this release. The present VAX/VMS version of MIDAS with minor updates will also be made available to sites which e.g. at that time have not updated their IDI routines to the final standard used in the portable MIDAS.

4. Portable MIDAS

The basic tests of the portable version of MIDAS have been completed successfully by implementing and benchmarking the system on more than 18 different computer models from 12 vendors. These vendors include: HP, Apollo-Domain, SUN, Bull, Tektronix, Masscomp, Alliant, IBM, DEC, Prime, PCS and Eltec. The very high degree of portability was demonstrated by the easy installation of MIDAS on all these systems representing 13 different operating systems (VAX/VMS and 12 UNIX-like systems from pure BSD to SYS V), 5 RISC CPU's and 3 CISC processors. For a typical system, the full installation, testing and benchmarking were performed in less that two working days.

These tests have fully proven the design and portability concept of MIDAS. The main task is now to migrate and test the application programmes with the portable MIDAS. At this stage, the table and plotting applications have been redesigned and implemented in the portable version of MIDAS. This part includes about 40 commands now running in the VMS and UNIX environments. It is expected that a major part of the applications will be available before the 88NOV release.

5. MIDAS Hot-Line Service

The following MIDAS Support services can be used in case of problems to obtain fast help:

- EARN: MIDAS@DGAESO.51
- SPAN: ESOMC1::MIDAS
- Tlx.: 52828222 eso d, attn.: MIDAS
- Tel.: +49-89-32005-456

Also, users are invited to send us any suggestions or comments. Although a telephone service is provided it should be used in urgent cases only. We prefer that requests are submitted in written form through either electronic networks or telex. This makes it easier for us to process the requests properly.

IRSPEC Spectra Reduced within MIDAS

D. PONZ, M. TAPIA*, ESO

1. Introduction

The ESO 32-channel infrared (1-5 μm) grating spectrometer, IRSPEC, was put into operation and made available for Visiting Astronomers in October 1986. In this contribution we describe the reduction scheme implemented in MIDAS to process IRSPEC data taken in any of the two - discrete or continuous - instrumental modes. The Instrument itself has already been described in detail in another contribution to the Messenger (ref. 1).

The main purpose of this package is to provide the tools for converting the raw data counts into spectral flux, calibrated in wavelengths. The design of the reduction method is very flexible, in the sense that the user can process the data in different ways, using the basic tools provided by MIDAS, according to his/her own preferences. One important point in the design is to allow for the propagation of errors when an arithmetic operation is performed between two spectra and, of course, the ability to display and plot the error bars. This may be important as the present range of spectral resolutions available in IRSPEC is such that the intrinsic noise level of a measurement may not be well represented by the average pixel to pixel variations in the final spectra. Plotting the final error bars will, for example, tell the observer whether the main source of noise was introduced by bad cancellation of telluric absorption features or detector noise.

All the intermediate data are stored in tabular format. The calibrated flux can then be converted into a one-dimensional image, so that it is possible to use the spectral analysis facilities already available in the system to compute line intensities, equivalent widths, central wavelengths, etc.

2. The Reduction Steps

Spectra obtained with IRSPEC are read from magnetic tapes written in FITS format. Therefore, if a visiting astronomer anticipates reducing these data using MIDAS, he/she should request the computing centre at La Silla to write his/her magnetic tapes in FITS format. Otherwise, the IHAP tapes can be copied into FITS format before reduc-