tures of the original. The first release will still be based on the internal ROMAFOT data format; subsequent future releases will work on MIDAS images directly and will use the table file system for the storage of the extracted parameters.

In the new release the plot package will be upgraded by adding the possibility of specifying the formats of the axis tick labels. In addition, a command PLOT/GRAY is now implemented which allows the production of gray scale plots on all graphic devices supported. The 88JAN15 release of MIDAS will use the AGL version 2.1.4.

A new context has been included in collaboration with M. Pierre. The context, in this preliminary version, contains three commands to model interstellar lines.

Work on the reduction and analysis of IRSPEC data is in progress.

2. Manual

As the MIDAS manual has now outgrown its present folder, it has been decided to split it into two volumes. The first volume will contain a description of the MIDAS system including system commands, syntax, data structures and general applications. It will also give the full help text of all available commands. The second volume will deal with data reduction using MIDAS. There will be chapters describing the general reduction of different types of astronomical data and several appendices each devoted to a specific ESO instrument.

3. Measuring Machines

The upgrade of the OPTRONICS measuring machine with a high speed scanning is in progress. The problems associated with the reticon array were solved and it is now possible to digitize and calibrate its 256 elements in approximately 20 msec. The main limitation on the speed is the MC68010 processor which does the dark current and flat field corrections. Due to significant delays in the delivery of disk drives and network equipment it is unfortunately not yet possible to offer the scan mode to users. We expect to switch to the new microprocessor control system in the spring of 1988 and offer the scanning mode to visitors in the summer.

After reviewing the usage of the GRANT machine it has been decided to discontinue its operation as of August 1988. After this date, measurement of coudé spectra must be done on the OPTRONICS machine. Those who want to use the GRANT machine are strongly encouraged to arrange for time as soon as possible.

4. MIDAS Hot-Line Service

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

- EARN: MIDAS@DGAESO51
- SPAN: ESOMC1::MIDAS
- Tlx.: 528 282 22 eso d, attn.: MIDAS HOT-LINE
- Tel.: +49-89-32006-456

Also, users are invited to send us any suggestions or comments. Although a telephone service is provided, 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.

NTT Status

M. TARENGHI, ESO

Work on the NTT telescope is progressing at full speed both in Europe and on its location at La Silla. During September and October this year there was extensive preparation of the ground and roads on La Silla. Civil engineering work began on the small hill next to the 3.6-m telescope at the place which was used during the past years for the Geneva Observatory Telescope. About 3000 m^3 of earth was removed by means of a sequence of minor and finely controlled dynamite explosions. Figure 1 shows the Chilean workers in the process of checking the locations of 28 explosions. The picture also shows their precautions to avoid excessive damage to the surrounding area. Large lorry tyres are placed on the ground and a strong metallic net is used as a protective cover. Figure 2 shows the explosion some minutes later. The smoke on the top of the hill indicates the future location of the NTT.

Following the excavation work the task of ensuring a flat surface began and a bulldozer opened the way for the 3 access roads foreseen in the project. Figure 3, taken on 28 October 1987, shows the subsequent preparation of the concrete slab upon which the NTT will stand.

The civil engineering work is expected to be completed in February 1988. In the meantime construction of the rotating building has been completed in Europe and it will be shipped to Chile during the course of the next weeks. The unconventional shape of the building optimally combines the highest thermo-fluid dynamic demands resulting in greater protection of the telescope without introducing a dome seeing component.

The rotating building was conceived by F. Franza and W. Bauersachs at ESO

Figure 1.

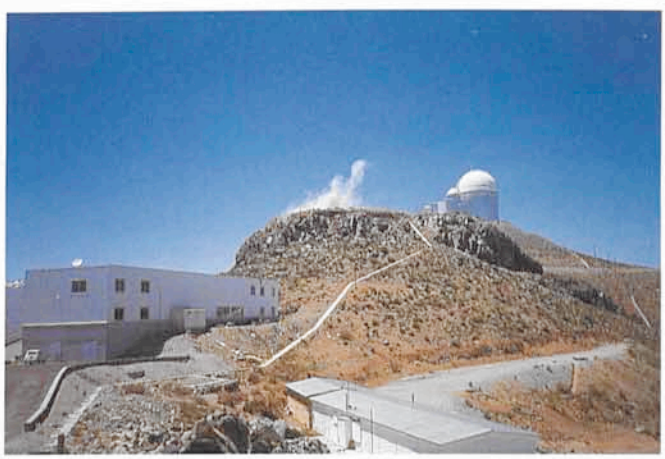

Figure 2.

Figure 3.

Figure 4.

and the design and manufacture was the result of a consortium of Italian companies (MECNAFER, Marghera; ZOLLET, Belluno; ANSALDO Componenti, Genova) in close cooperation with a number of European industries, one of which is RKS France who manufactured a roller bearing of 7 m diameter which will be the key unit of the rotation system. Some of the more sensitive elements of the construction have been premounted and tested in Europe to avoid unpleasant "surprises" on La Silla. Figure 4 shows a picture of the large square base measuring 8 m × 8 m which will be directly coupled with the RKS bearing which will support the entire load of the rotating building.

Figure 5 shows the preassembled 12 m high windscreen undergoing a series of functional tests at MECNAFER, Marghera (Italy). This permeable windscreen was specially designed for the NTT telescope. The red frame supported by scaffolding which is used only for the tests in Europe, guides horizontal bars with interconnecting strong, permeable material (of the type used for yacht sails). It operates by slowing down the speed of the wind and thus protects the telescope. It will be integrated in the complete structure and will operate automatically when the wind speed increases. Erection on La Silla of the rotating building will take almost 6 months to complete, starting in February 1988.

At INNSE, Brescia (Italy) the mechanical structure and electronic hardware has been completed and the software integration phase has started. The telescope can already perform elementary functions such as pre-setting, slewing, and tracking. Particular attention has been given to the measurement of the resonance frequency of the telescope resulting in the lowest resonance frequency of around 9.5 Hertz in perfect accordance with the calculation values.

The telescope's expected shipment to Chile in March 1988 has been confirmed by the present progress of work.

The telescope will be equipped with a Schott Zerodur primary mirror (M1) of the meniscus type with aspect ratio D/h = 15, F-number F/2.2 and a weight of 6 tons. The mirror blank was delivered to the optical workshop of Carl Zeiss in June 1986. After 78 axial invar pads had been glued to the back of the mirror unit and adjustment of the delicate support system, the aspherical deformation of about 200 μ took place under IR-interferometric control.

Just above the polishing machine is a laser-interferometer set-up with 3D stabilization which monitors accurately the figuring process and responds with full computational evaluation via a direct wire to a μVax computer.

With "high tech" equipment of this kind, Carl Zeiss is on the way to reach the intrinsic optical quality requested by ESO, so that 80 % of the light energy is concentrated in 0.15 arcsec at the Nasmyth focus. At the end of October 1987, progress with the M1 mirror was extremely encouraging and the average radial profile was smoothed to a rms of 32 nanometers. The small flat tertiary mirror has been completed with an intrinsic quality of 8 nanometers rms. The polishing process is well within the time schedule and completion is expected around the middle of 1988.

Considering the present situation with the project we feel confident that we shall have the first light at the end of 1988.

Figure 5.