

# CTIO

## OPERATIONS

### SOAR Update

*Steve Heathcote*

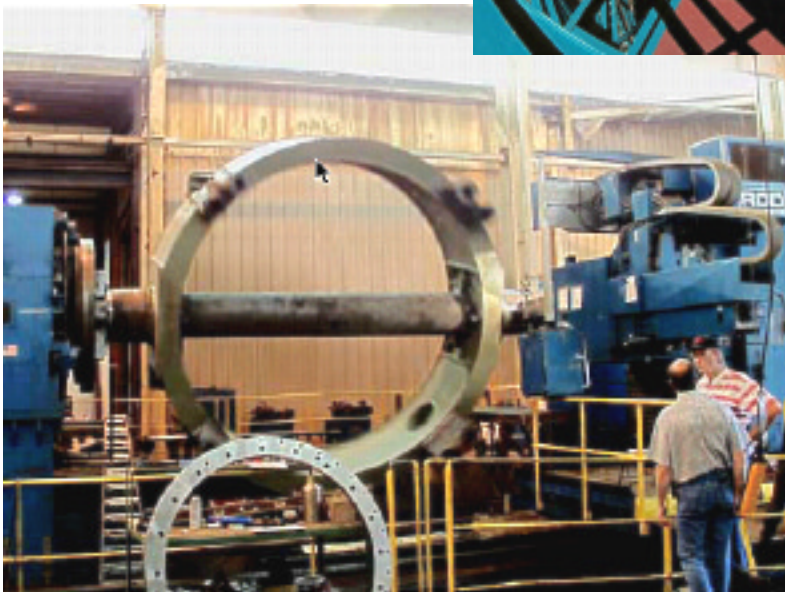
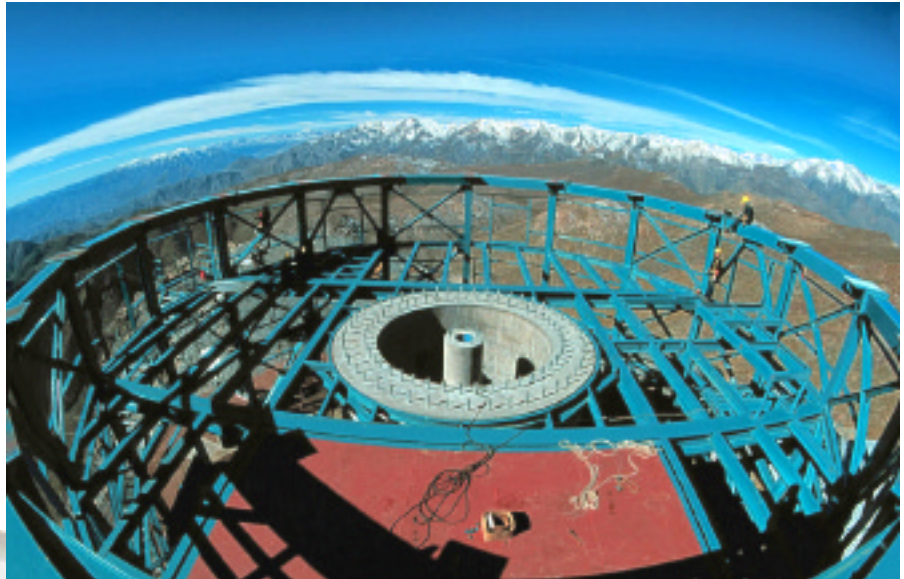
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*SOAR continues to make excellent progress to its first light in June 2002.*

Assembly of the structural steel skeleton of the SOAR facility building was completed in late September and the process of cladding this with metal siding is now all but finished.

The next task will be to add a circus tent-like temporary roof that will allow interior work, such as the installation of the heating and ventilation system (HVAC) and electrical equipment, to proceed prior to the arrival of the dome in March 2001.

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Meanwhile, fabrication of major components of the mount such as the elevation ring, seen here being machined at the facility of G&G Machine in Alabama, has continued on schedule.

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## CTIO Instruments and Telescopes—An Update

*Alistair Walker*

**C**CTIO's Web page showing the planned availability of CTIO telescopes and instruments over the next few years has been updated. Find the latest news through the link from the CTIO home page or directly at [http://www.ctio.noao.edu/telescopes/TheFuture/crystal\\_ball.html](http://www.ctio.noao.edu/telescopes/TheFuture/crystal_ball.html).

As previously stated, we are very conscious of the need to preserve access to stable instrumentation, particularly for survey and other long-term programs already underway. However, anyone who is contemplating initiating a long-term project on any of our telescopes is encouraged to consult with us well in advance of applying for telescope time.

The main changes involve the smaller telescopes. The YALO partners plan to meet in March 2001 to discuss the future of the consortium. The baseline plan is to continue the YALO operation on the 1.0-m through 2003, and *not* to move the operation to the 1.5-m when the present agreement expires at the end of 2001.

The 1.5-m will eventually only be offered with CCD imaging and spectroscopy. ASCAP will last be offered in 2001B, and IR astronomy will move to SOAR (with OSIRIS, and later the MSI IR Imager) and to the Blanco with ISPI. A few technical details still need to be resolved with

the OSIRIS move to SOAR; the plan assumes that satisfactory solutions can be found.

The Blanco complement remains as before. The IFU spectrograph is due for its first engineering run in November 2000. Thereafter, we will review the optical spectroscopy instrument suite in the light of its achieved performance.

As always, feedback from the user community is most welcome and forms an important input as we strive to optimize the facilities we offer.



1.5-meter telescope at Cerro Tololo Inter-American Observatory.

## Was Your Night at CTIO Photometric?

*Nick Suntzeff*

**S**ince the opening of CTIO, mountain operations have kept records of the nighttime observing conditions. We have placed these pages on the Web at [http://www.ctio.noao.edu/diroff/phot/sky\\_conditions.html](http://www.ctio.noao.edu/diroff/phot/sky_conditions.html). You can consult these statistics to see if your night was photometric.

These pages contain the nightly observer reports from CTIO. Every telescope reports the sky conditions over the four quarters of each night. The sky is reported on a scale from 0 (clear) to 8 (totally overcast). The information from all the telescopes is then averaged by TelOps, and a final sky report is given.

For instance, a report of 0-0-0-0 means the whole night was photometric. A report of 8-5-5-0 means that the first quarter of the night was totally cloudy, the next two quarters were partly cloudy, and the final quarter appeared to be clear. Seasoned photometrists would tell you that if a good part of the night was cloudy, the whole night probably should be considered suspect.



## Mosaic II Maturing

*Knut Olsen and Chris Smith*

**M**osaic II has now been in use for one and a half semesters, with many happy users going away with gigabytes of data. For the latest updates, keep an eye on the Mosaic II support page, available through links from CTIO's home page or directly at <http://www.ctio.noao.edu/mosaic/>. We are continually trying to improve the Mosaic experience and are pleased to report on the following enhancements to the system:

- Sixteen channel readout: Perhaps the most significant change that users will be seeing next semester (2001A) will be the upgrade from eight channel to sixteen channel readout. This upgrade will bring the readout time down from 160 sec to 100 sec. In performing the upgrade, Roger Smith has also managed to improve the full-well capacity of several of the CCDs. Only a few software issues remain before release of 16 channel mode to the general user community.
- Several new filters have been purchased. The chipped V filter has been replaced, a full SDSS g'r'i'z' filter set has been purchased, as have two new narrowband filters, one centered 80 Å to the red of H $\alpha$  and the other on the [OIII] emission line. Users are welcome to bring their own filters if the CTIO set doesn't fill their needs; the dimensions should be 146 × 146 mm square and no more than 12 mm thick.
- The filter information written into image headers now contains a unique identifier in addition to a short description of the filter. This system was implemented in order to avoid confusion for duplicate filters or filters with similar names.
- The data storage and analysis machine at the CTIO 4-m has been given two new 70-Gigabyte disks and upgraded to 1 Gigabyte of memory. Since readout time limits the data volume per night to ~20 Gb, the increased disk space will be able to store all of the data from a typical run, including space for reductions. The increased memory will increase data handling speed during periods of heavy usage.
- Following periodic maintenance of the camera and detectors, we generally compute new cross-talk coefficients. The name of the latest cross-talk calibration file now contains a date stamp to indicate the dates over which the file should be used; as before, the name of the appropriate cross-talk file is written into the header. Users can copy this file at the telescope or, soon, through the NOAO Mosaic Web page.
- The external IRAF Mosaic reduction package *mscred* version 4.1 is available. Version 4.1 contains a number of new useful tasks. Among them are *mscgetcatalog*, which downloads stellar positions from the USNO-A2 catalog given the RA and DEC in the image header; *mscfindgain*, which allows easy calculation of gain and read noise in Mosaic images; and *xtcoeff*, which allows computation of cross-talk coefficients given an appropriate image. The *mscred* package, along with release notes, can be obtained from <ftp://iraf.noao.edu/irafextern/mscredV4.0/>.
- If fast readout is very important, users can choose to bin by up to 4 × 4 pixels. Switching between binning modes takes only a few seconds. The command *snap*, which is usually used to set up on fields and to zero point the telescope at the start of the night, incorporates 4 × 4 binning.
- For those rare users who really don't want a 36' × 36' field of view and 135 megabyte images, Mosaic II now supports region-of-interest readout mode. The region of interest is limited to a strip of lines of variable height centered on the Mosaic; the number of columns cannot be controlled. ROI readout mode is still tagged with the 25-second overhead at the beginning of every exposure.



## Guest House Changes

*Elaine Mac-Auliffe*

The AURA-O Council of Directors, at their meeting on 30 September 2000, endorsed changes in the functional mode of the Santiago Guest House to make it a cost-efficient operation. The following changes will be effective starting 1 November 2000:

- Meals will no longer be provided in-house, except for breakfast.
- Breakfast will be provided on a routine basis and included in the cost of the room.
- The rate will increase to US \$50 per night. This rate is for single or double occupancy; a surcharge of US \$10 will be added for each extra person (in excess of two) occupying the same room. No extra charge will be made for children aged five and under sharing their parents' room.

Day room rate remains at US \$20.

Guests can opt to eat out at nearby restaurants or order from restaurants with home delivery service. We remind guests that meal preparation in the kitchen is not permitted.



Cerro Tololo is featured in a set of stamps issued by the US Postal Service to celebrate the accomplishments of American space exploration. The next time you need a stamp to send an international letter, consider using one of these special issue stamps.

### How to Contact CTIO

The Web	<a href="http://www.noao.edu/ctio">http://www.noao.edu/ctio</a>
Questions	<a href="mailto:ctio@noao.edu">ctio@noao.edu</a>
E-mail a Staff Member	<a href="mailto:first initial+last name@noao.edu">first initial+last name@noao.edu</a>