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By the time you are reading this article, the NTT will have returned to full operations. At the time of writing we are in the final stages of the commissioning and tidying up of the control system. In May we will perform the last major software intervention on the telescope for the foreseeable future. This intervention is dominated by the installation of the May 97 release of the VLT control software and the Data Flow software release 1.0.

Since I last wrote for *The Messenger*, a few activities have been undertaken on the telescope side. We have made some improvements in the usability of the control system and introduced a number of software 'fuses' to improve the robustness especially in the areas of autoguiding and active optics. The telescope tracking is now within the specifications. Differential tracking has been verified with a number of exposures on comets. A large effort has been made on the instrumentation side. In particular the EMMI control software has been our efforts.

During the past few months we have also been working on the operational procedures for the telescope and the training of the operations crew in the use of the new control system. Although the operations crew has been involved in most aspects of the upgrade, it has been difficult for them to get extensive experience operating the telescope. In early February and the first half of March we ran the telescope in service mode. This gave us an opportunity to see the telescope and SUSI perform in a truly integrated manner and also to provide the operations crew with the necessary experience. A large number of problems were identified during this period, and some were rectified during the bright period at the end of March. In early April, during the dark period, further service observing with SUSI was undertaken. In late April, the telescope was taken off-line again to perform the first system wide tests of the EMMI control software. In early May and June we plan to perform some more service observations.

The overall performance of the telescope and instruments is good. We are still, at the time of writing, experiencing reliability problems with EMMI. These problems are being tracked down and

*The NTT upgrade has the following goals:*

1. *Establish a robust operating procedure for the telescope to minimise down time and maximise the scientific output.*
2. *Test the VLT control system in real operations prior to installation on UT1.*
3. *Test the VLT operations scheme and the data flow from proposal preparation to final product.*

resolved. On the SUSI side the system is robust. The commissioning of EMMI is proceeding at full speed and an extensive series of pre-planned tests are being undertaken. Although the instruments have not been changed, a number of small but very useful improvements to the software have now been tested. For example, the automatic focusing of the EMMI cameras based on the temperature of the instrument is now a tested and verified option. In any case, the days of using a calculator to work out the encoder value to drive the focus mechanism are over. The use of templates and phase 2 proposal preparation as an effective mechanism for using the telescope has been validated. The use of these tools to operate the NTT makes observing more efficient independently of whether you are working in classical or service mode. For this reason, we strongly encourage future users of the NTT to use the phase 2 proposal preparation software to build their observations before starting at the telescope. The software for P2PP runs in Garching and at the telescope and we aim to release it to the community at large during the next months.

In May, under the new release of the software, we will have an improvement in the usability of the Data Flow. New versions of the pipeline, archiving and P2PP software will be made available.

The May intervention is the last significant change to the NTT control system. The May 97 release of the VLT software contains a number of fixes to problems identified during the past six months and a number of general improvements in the robustness of the system. The NTT experiment has proved itself without a shadow of a doubt to be invaluable in the preparation of ESO for the VLT era. I wish to thank those of you who through your applications and your use of the P2PP software have helped us identify pitfalls and operational procedures that will make the system more effective. I believe that the NTT will prove to be useful for the community to prepare for the VLT era. During May we shall also be washing the NTT primary. According to the experience of the optics support team on La Silla this should make the NTT nearly as efficient as when the mirrors were realuminised almost ten months ago. In May we shall also be replacing the lamps in the Altitude and

Rotator A encoders. The lamps have a finite lifetime and this is a standard maintenance operation.

During the upgrade we had hoped to install the CD-ROM writing hardware and software within the NTT. Unfortunately, we have been unable to deliver on this aspect of the NTT upgrade. For the time being, DAT tapes shall continue to be used until the CD-ROM software and hardware can be integrated into the La Silla wide operations environment. At the time I last wrote for *The Messenger*, we were aiming to start limited service observing with EMMI in April. As mentioned earlier, the EMMI commissioning did not start until mid-April. In addition, some of the Data Flow software to support the EMMI operations was not available at that time. We therefore had to limit the amount of observing we expect to be able to execute during the first half of period 59 to those programmes allocated the highest priority by the OPC. I apologise to those users that submitted applications but will not receive data. The instrument re-commissioning must take preference so that we can deliver the fully functional system to the astronomers in July. We had hoped to provide scientific access through the service mode at times during the re-commissioning. We achieved this for SUSI and aim to provide some scientific data for EMMI but, as mentioned above, shall not be able to execute all programmes that were submitted to the OPC for the first half of period 59.

## Staff Movements

I would like to welcome Chris Lidman to the NTT Team. Chris who has been working already on La Silla with the IRAC cameras, has joined the NTT as the SOFI astronomer. I also take this opportunity to bid the NTT team farewell. I shall be leaving the team at the transition to full operations on June 27. The NTT shall then be in the capable hands of Gautier Mathys, who has had full responsibility for the day-to-day operations of the telescope for the past two years. My thanks and best wishes go out to all the team members, not only for doing a great job but making it fun also.

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