



ESO Celebrates its New Technology Telescope

In the presence of a distinguished audience of ministers and high-ranking officials, as well as representatives of European industry and scientists from the member states, the European Southern Observatory officially inaugurated its revolutionary 3.5-metre New Technology Telescope (NTT) on February 6, 1990.

The festive act took place simultaneously at ESO's Headquarters in Garching near Munich, F.R. Germany, and at the La Silla Observatory in the Atacama desert, Chile. The two ESO sites, 12,000 kilometres apart, were connected with several transatlantic communication links, including a direct TV connection. This is the first time live TV images have been transmitted between ESO establishments in South America and Europe. During the ceremony, the NTT at La Silla was remotely controlled from Europe.

The NTT inauguration was well reported in the international press, and also in the TV evening news in various ESO member countries and in Chile. Bavarian television devoted the entire 30-minute "Abendschau" on this day to ESO and its new telescope.

The texts of the official speeches are brought in this Messenger issue on page 6 ff.

The Programme in Europe

At the ESO Headquarters, the day started with a press conference which was attended by about 50 media representatives from all over Europe. A

comprehensive press kit had been prepared, including the new NTT brochure, technical fact sheets and photos of the NTT as well as more than two dozen astronomical images recently obtained with the new instrument.

On the European side, the inaugural ceremony took place in the ESO Auditorium under the watchful cameras of five national TV companies and in the

presence of representatives of most major newspapers and news agencies in the ESO member countries.

The solemn event was officially opened by Professor Harry van der Laan, ESO Director General, who welcomed the guests and briefly outlined the importance of the NTT. He was followed by Dr. Raymond Wilson, ESO Senior Optical Scientist and father of the



At the Press Conference in Garching. From left to right: Manfred Ziebell, Daniel Enard, Raymond Wilson, Harry van der Laan, Massimo Tarenghi. The photos accompanying this report about the NTT inauguration were obtained by ESO photographers J. Quebatte and H.-H. Heyer (Garching) and by the newspaper "El Dia" (La Silla).



The international press in Garching.

revolutionary "active optics" concept, now incorporated into the NTT. Professor Massimo Tarenghi, Manager of the NTT project, spoke about the first, extremely promising astronomical results from the NTT and stressed the crucial role played by European industry in this high-tech venture.

Then a 25-minute BBC-made film about ESO was shown for the first time. The producers, Peter Mopurgo and Patrick Moore from the "Sky at Night" programme, both present in the auditorium, received a hearty applause for their excellent work.

In the subsequent address, Professor Per-Olof Lindblad, President of the ESO Council, stressed the important interplay between astronomy and technology and the need to provide the very best. The NTT is a great gift to European astronomy.

At this moment, the first live TV images from La Silla could be seen on the screen in Garching. After transmitting a panorama of the mountain, the camera from Chile's Televisión Nacional focused on the NTT building and the assembled guests under the sun shade. On behalf on the observatory staff, Daniel Hofstadt, Chairman of the La Silla Management Team, recapitulated the developments which have now led to the installation at La Silla of the technologically most advanced optical telescope in the world.

From the ESO Headquarters in Garching, Professor Antonio Ruberti, Italian Minister of University, Scientific and Technological Research, now addressed the audience on both sides of the ocean. He mentioned the essential contribution of his country to the NTT project and the enthusiasm of par-

ticipating Italian industries. Pushing a button on the control terminal installed in the Auditorium for this purpose, the Minister then rotated the NTT building; this could be followed live on the TV screens.

The next speaker was Ambassador Jean-Pierre Keusch, Director of the Directorate of International Organizations, Bern, Switzerland. Although he "felt a slight disappointment not to be physically at La Silla", he was fascinated by the possibilities of remote control and thought that the Swiss entrance fee to ESO had been well spent. The Ambassador opened the NTT doors with a push of a button.

Dr. Heinz Riesenhuber, German Federal Minister of Research and Technology, saw the NTT as the latest achievement in a long chain of advances in astronomical technology, reaching all the way back to Stonehenge. It is also a "financial masterpiece", having stayed well within the originally foreseen budget. Expressing the hope that this would also be the case for ESO's next project, the Very Large Telescope, the Minister sent a command to the NTT which was soon seen to move obligingly towards a horizontal position.

At this moment, Monsignor Cox, Coadjutor Archbishop of La Serena – the capital of the IVth Region in Chile, in which La Silla is located – pronounced a blessing of the new instrument. Hereafter, the ESO Director General declared the NTT officially inaugurated.

Professor Hubert Curien, French Minister of Science and Technology, added his appreciation of ESO "as one of the most interesting European organizations" and underlined the paramount im-



Patrick Moore from the BBC.



In the Auditorium: Former ESO Director General Adriaan Blaauw, between delegates Mats Ottosson (S) and Peter Creola (CH).



There were many known faces in the ESO Auditorium.

From left to right: Ambassador Keusch (CH), Minister Riesenhuber (D), Minister Curien (F), Minister Tobback (B).

portance of European collaboration in all fields. Astronomy may serve as a good example.

A short video film with a summary of the most recent astronomical images from the NTT and their scientific significance was then shown. It was based on CCD images obtained by ESO staff astronomers towards the end of the commissioning phase in December 1989 – January 1990 and had been prepared by the ESO Information Service during the days (and nights) preceding the inauguration.

At the end of the official programme, two ESO staff members who have carried a particularly large measure of responsibility for the success of the NTT project were honoured in a brief ceremony. Massimo Tarenghi was elevated to the rank of "Commendatore dell'Ordine al Merito della Repubblica Italiana" by Minister Ruberti, and Raymond Wilson received the "Medal of the University of Geneva" with accompanying descriptive scroll from the hands of Professor Marcel Golay, Director of the Geneva Observatory. As a token of gratitude for cheerful support to their busy husbands throughout the long years of the NTT project, the Director General presented Mrs. Tarenghi and Wilson with flowers.

After a break for refreshments, a scientific session followed with talks by three distinguished European astrophysicists, Professors G. Miley (Leiden, the Netherlands), F. Pacini (Florence, Italy)

and G. Tammann (Basel, Switzerland). They all stressed the NTT's great observational possibilities in various astronomical fields of particular actuality.

Events in Chile

In Chile, the inaugural events commenced with dinners in La Serena and at the La Silla Observatory during the evening of February 5. Many distinguished guests had come from Santiago and La Serena, including most of the Ambassadors of the ESO member states and many official representatives of Chilean institutions and organizations. The Chilean media were well represented and reported widely about the NTT and ESO, also during the days before.

In the morning of February 6, the guests and ESO staff members



A happy moment.



Massimo Tareghi receives an order from Minister Ruberti.



Raymond Wilson thanks Marcel Golay.



Minister Riesenhuber and the ESO Director General are interviewed by Bavarian Television.

gathered under a sunshade in front of the NTT building. The simultaneous proceedings in Europe could be followed via an audio link during part of the ceremony. Unfortunately, this link broke down towards the end, but a running commentary was provided to the guests instead.

It was also possible to transmit TV pictures at a slow rate through the new 64 kbaud digital link from Garching to La Silla.

The guests at La Silla experienced the remote control commands from Europe at close quarters and, after the ceremony, were able to visit the NTT building under the guidance of ESO engineers and astronomers.

The New Technology Telescope

The centre of attention on this memorable day, the ESO 3.5-m New Technology Telescope, is an astronomi-



George Miley talks about distant objects and early times. To the left former ESO Director General Lo Woltjer.



Franco Pacini reveals the secrets of supernovae.



Gustav Tammann discusses the distance scale and other observational facts.

cal instrument for the 21st century and incorporates many new technologies, in particular within optics, mechanics and electronics. Moreover, the NTT building has been especially conceived to ensure a minimal influence on the observations.

Already during the night of "first light" (cf. *Messenger* 56, p. 1), the 24 million DM (14 million US \$) NTT has demonstrated its enormous observational

possibilities. In the meantime, this has been fully confirmed by a great variety of astronomical observations, carried out by ESO staff astronomers in the course of the start-up phase. A small gallery of recent astronomical images from the NTT is shown on page 14ff.

Unprecedentedly sharp images have been obtained (down to 0.33 arc-seconds FWHM) and extremely faint objects have been recorded (under seeing

conditions not unusual at La Silla, stars near 26th magnitude are registered in 15-minute CCD exposures; this corresponds to magnitude 27 in one hour). For more information about the new CCD detectors, now in use at the NTT, the reader is referred to the article by S. D'Odorico on page 59.

This indicates that, in the optical region of the spectrum, the NTT achieves a spatial resolution only three times worse than that predicted for the Hubble Space Telescope (which is now expected to be launched in mid-April 1990). The introduction of adaptive techniques at the NTT (cf. *Messenger* 58, p. 1) may further reduce this gap during the next years. The limiting magnitude of the two telescopes in the optical region is about equal.

The first visiting astronomers from ESO member countries to the NTT were received at La Silla on January 17, 1990. The first programme was dedicated to Supernova 1987A in the Large Magellanic Cloud.

The NTT, while an excellent telescope in its own right, is also the forerunner of ESO's next telescope project, the 16-metre Very Large Telescope, which is expected to be ready in 1999. Consisting of four 8.2-metre telescopes, it will become the largest ground-based telescope in the world.

The Editor



Official guests at La Silla.