crease of precipitation by a factor of four or more.

In northern Chile, between latitude 24°30 S and 25 °S, influences of polar fronts and easterlies are at a minimum. Cloudiness and precipitation increase from the west to the east; thus, coastal cordillera summits have to be preferred. On that mountain range, the azoic zone over 1500 m extends from 24°20 S to 26°10 S. Absolute desert is limited to a strip of 80–110 km wide, and possibly due to a purely altitudinal effect, as narrow as 30 km at the latitude of Paranal. The aridity of the western cordillera area, north of 26 °S, appears to be stable, even in case of large amplitude climate changes (warmer or colder). The occurrence of rainfall is barely related to the El Niño phenomenon.

All the climatic indicators considered here, biogeographic and meteorological, lead to the conclusion that Paranal mountain is located in the best possible area of South America for the settlement of a modern astronomical observatory.

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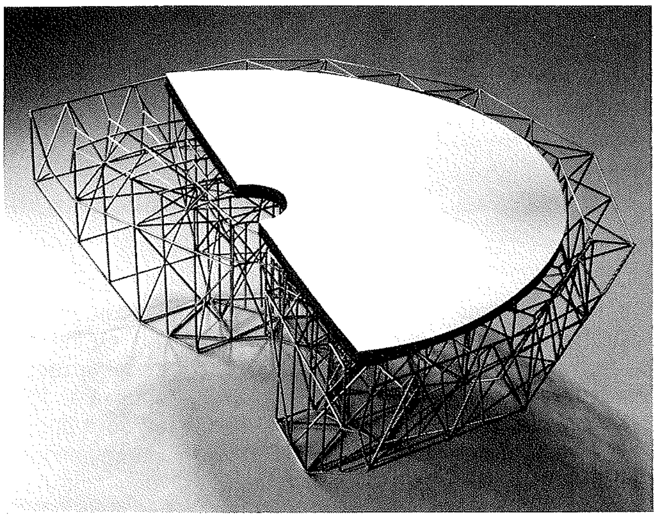
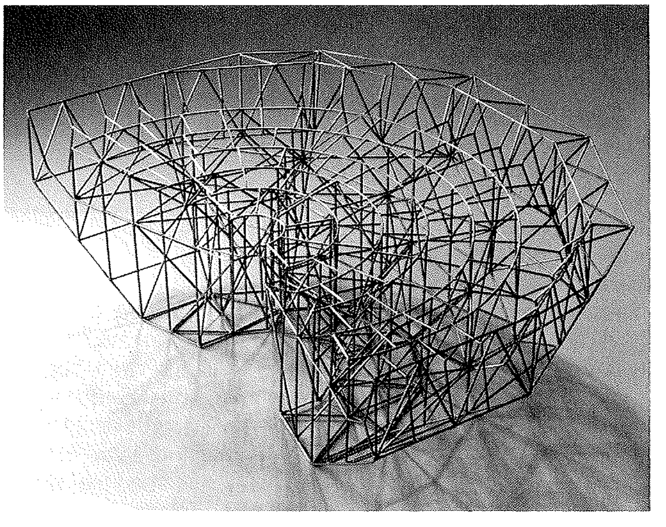
Progress on the VLT Mirror Cell Design





The NOTSA group at Risø (Denmark) is performing, under contract of ESO, the engineering of the VLT primary mirror cell.

A preliminary design has now been produced which however still needs to be optimized through computer modelling and finite element analysis. The NOTSA group thought that a preliminary "hardwire" modelling would be cost- and time-effective and decided to build several models with copper wire which can easily be soldered and rapidly modified. This approach has effectively permitted to discriminate rapidly between several designs, which would have had required much more effort through computer modelling. It also permitted to correct for a few errors which for such a complex structure are almost unavoidable, time consuming and ... sometimes may reach the manufacturing stage while still undetected.

The two photographs show one of these "hardwire" models, once with a half mirror cardboard model, once without. The actual VLT mirror cell will have a diameter of about 9 metres and it will be 3 metres high.

D. ENARD, ESO

Halley Enters Hibernation

Famous Comet Halley, now receding from the Sun after its perihelion passage in early 1986, has recently entered into a state of hibernation which will last until shortly before the next passage in 2061.

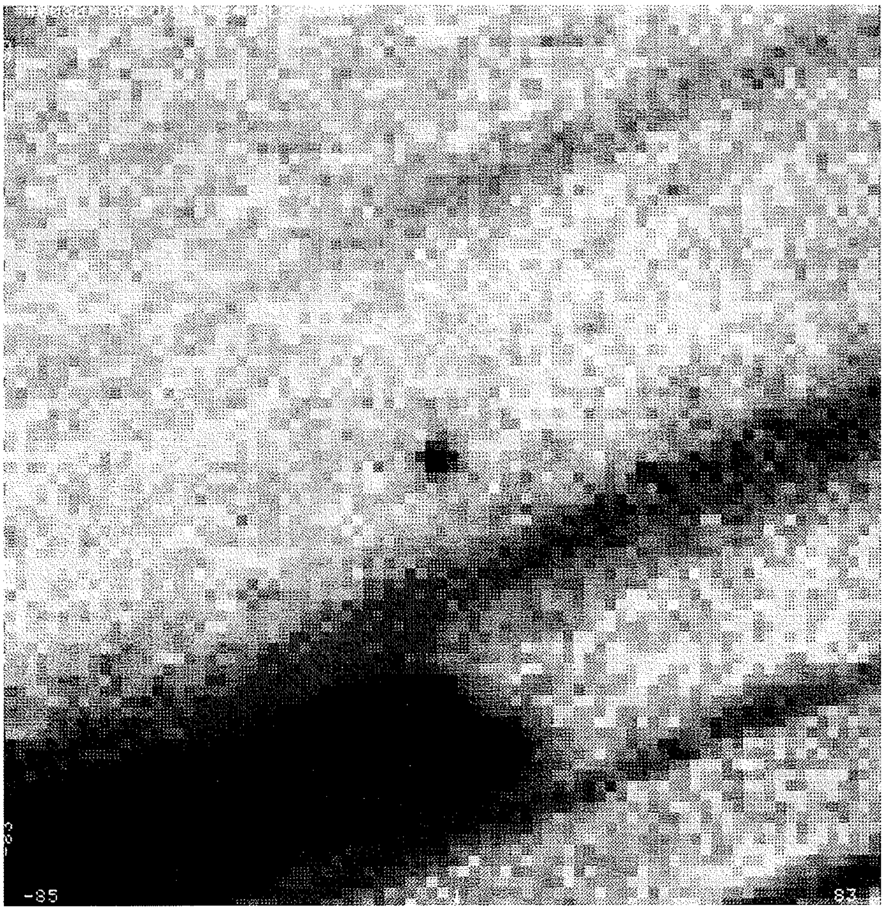
This is the main result of a series of observations in late February 1990, during which the comet was imaged with a CCD camera attached to the Danish 1.5-m telescope at La Silla. The seeing conditions were mediocre, ~1.3 arcsec. At this time Halley was 11.6 AU (1735 million km) and 12.5 AU (1870 million km) from the Earth and the Sun, respectively, that is well outside the orbit of the giant planet Saturn.

Exposures totalling 980 min (16 hrs 20 min) were obtained and the "negative" picture shown here is a composite of 23 frames, each individually cleaned. The image of Halley at the centre is pointlike; the straight lines are trails of stars and galaxies in the field, because the telescope was set to follow the comet's motion. The mean, visual brightness of Halley during the observing period was V = 24.4 mag and the brightness varied between approx. 23.7 and 25.0 mag. The field covered is 39 × 39 arcsec (84 pixels square); North is up and East is to the left.

The measured magnitude is about 0.35 mag brighter than what would be expected from Halley's nucleus alone, an avocado-shaped, 15 km long "dirty snowball", consisting of a variety of ices and dust. The brightness variations are caused by the tumbling motion of this nucleus, whereby the amount of reflected sunlight depends on the changing profile seen from the Earth.

Of particular interest is the fact that the extended coma (i.e. the dust cloud around the nucleus), which was observed with the same telescope in 1989 at heliocentric distance 10.1 AU (see the *Messenger* **56**, p. 45; June 1989), has now completely disappeared. In fact, no coma is visible at the 29 mag/sq.arcsec surface brightness level, corresponding to 1500 times less than the sky background emission.

It is therefore fairly certain that the release of dust from the nucleus must have ceased somewhere between 10.1 and 12.5 AU heliocentric distance. The former coma has now dispersed into the surrounding space and it is no longer being replenished by dust from the nucleus. In other words, Halley seems to have entered a long period of hibernation which is likely to last until about early 2061 when it again comes within about 5 AU from the Sun and will again be awakened by the sunlight.



Still, an accurate evaluation of the seemingly point-like image seen on this picture indicates that it is somewhat elongated in the direction opposite to the Sun. Together with the extra light observed, this could mean that a very low level of activity is still present and that there may still be some dust in the immediate neighbourhood of the nucleus.

This will most probably not be the last image of Halley obtained during the present passage. Modern, large reflectors are able to image objects of 27th magnitude or even fainter, so it should be possible to follow this famous comet some years more.

R. M. WEST, ESO

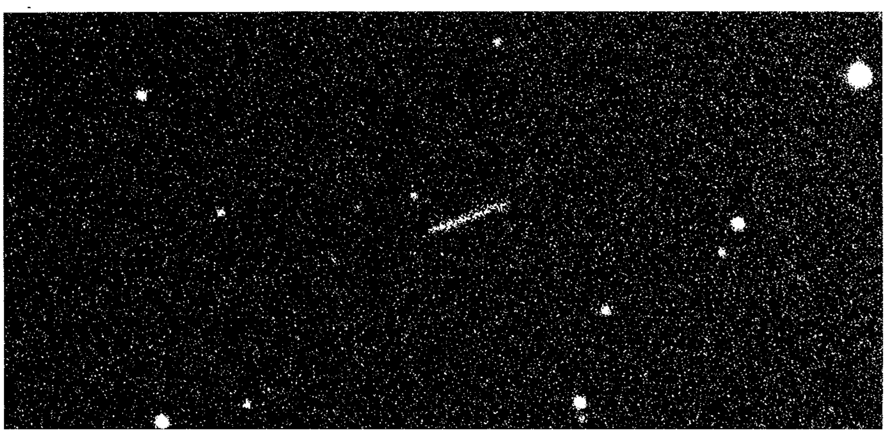
Minor Planet Named After Lo Woltjer

In the most recent issue of the Minor Planet Circulars, published by the Minor Planet Bureau of the IAU, the following naming of a minor planet is found on page 16591:

"(3377) Lodewijk = 4122 P-L

Discovered 1960 Sept. 24 by C.J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Named in honor of Lodewijk Woltjer, former editor of the *Astronomical Journal* and former director of the European Southern Observatory, well known for his studies on the Crab nebula. Name proposed by J.H. Oort."



We congratulate Lo Woltjer to this extremely well-deserved honour and show here a picture of his minor planet, obtained on 17 April 1988 with the ESO Schmidt telescope. Because of its motion, it is seen as a short trail on this blue 60-min exposure. On this date, "Lodewijk" was near opposition at a geocentric distance of 308 million kilometres.

The Editor