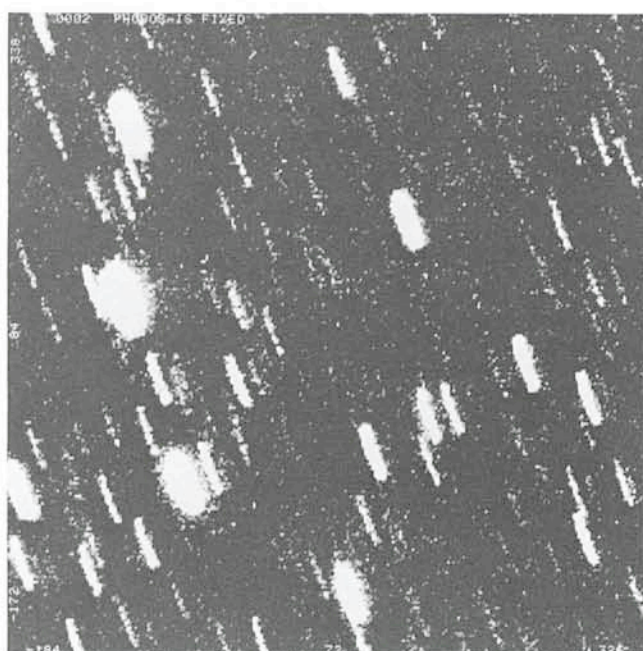
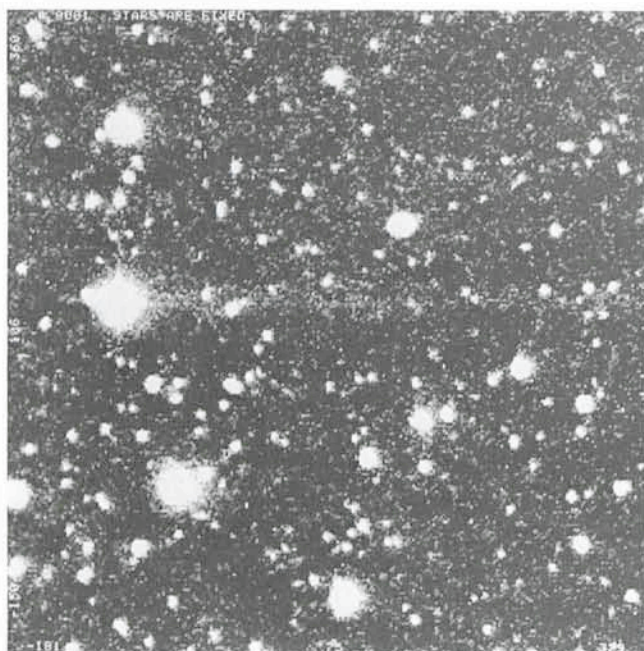


## Where is Phobos 1?



The Soviet spacecraft Phobos 1, launched in July this year and now en route to Mars and its major moon, was lost due to an incorrect ground control command. Many attempts were made to reestablish radio-contact, but unfortunately in vain.

On September 21, ESO received a request for observation of Phobos 1 from the Space Research Centre in Moscow. If it were possible to obtain a sequence of images of the spacecraft – of course only as a faint point of light – then its accurate position and perhaps even its rotational status could be determined. This would help the efforts to re-acquire contact.

At La Silla, the first possible night, September 22, was lost due to snow (see the "NTT Picture Gallery" in this issue) and no observations of such a faint object could be made during the ensuing full moon period. However, ob-

servations were carried out with the Danish 1.5-m telescope on October 1/2, 2/3, and 3/4, resulting in a total of fifteen 10-minute exposures with the CCD camera. Moreover, nine 3-minute exposures were made with the EFOSC instrument at the 3.6-m telescope during the night October 3/4. The observers were visiting astronomers D. Hatzidimitriou and C.A. Collins (Edinburgh); the image processing was made at La Silla by H.-U. Norgaard-Nielsen (Copenhagen) and H. Pedersen (ESO), who was also responsible for the coordination.

We show here the central areas of two images from EFOSC. The one to the left is a direct exposure of the Phobos 1 field; the right one is a combined frame in which the 3.6-m telescope was set to follow the motion of the spacecraft; the stars are therefore seen as trails. The limiting magnitude in both cases is magnitude 25 or fainter. Since Phobos 1 is

not seen, it must either have been outside the field (did a rocket fire after the contact was lost?) or it was positioned so unluckily in space that the sunlight reflected from its surface in our direction was too faint to be detected, even with the present, extremely sensitive equipment.

A final attempt was made with EFOSC on October 9/10, by visiting astronomers G. Suchail and Y. Mellier (Toulouse). Four frames, totalling 36 minutes were obtained, but again there was no sign of Phobos 1.

It is a pity that this last-ditch effort was unsuccessful and that it was not possible to help our space colleagues this time. But it is a good example of the collaborative spirit that reigns in our field of science, and which transgresses all borders.

*The editor*

## Open-House at ESO

On October 22, 1988, the science institutes in Garching again jointly organized an open-house day. With the help of many of the staff members, a well-defined path was established through the ESO Headquarters with demonstrations and exhibitions along the route.

This year, around 1,800 persons visited ESO. They were received at the entrance by the most "photogenic" staff members and guided towards the auditorium, where a new ESO slide show was running at 20-minute intervals.





Next, the NTT and VLT projects were explained in the Council room; this included a full-scale model of an 8.2-metre VLT mirror! (See the picture; this room was the only one at the Headquarters which was big enough.) In the terminal room, the advanced image processing systems caught the eyes of computer-minded persons of all ages and also the interesting demonstration by the ST/ECF of artificial intelligence. An overview of the Hubble Space Telescope was followed by a visit to the "Remote Control Room", from where two telescopes at La Silla are used for observations.

As usual, the names and orbits of minor planets attracted much interest and an impressive demonstration of a

CCD camera ("seeing" in a completely dark room) convinced quite a few visitors about the witchcraft of modern astronomical technology.

Finally, there was a possibility to participate in the "ESO Astroquiz". Well over 1,200 response sheets were counted in the box at the end of the day and when the prize-winners were drawn, the first three were found to come from places as far apart as München, Wolfratshausen and Regensburg. Each of them received a copy of the ESO Book "Entdeckungen am Südhimmel".

For them and many others, ESO was "worth the journey".

R. M. WEST

## NOTE

### ESO/NOAO Workshops

In the *Messenger* No. 52 and in the Proceedings of the NOAO/ESO Conference on "High Resolution Imaging" it was announced that the next ESO/NOAO Workshop on experimental astrophysics with the title "Infrared Array Detectors" would be held in Tucson, Arizona, in the autumn of 1989.

We regret to inform you that this Workshop has been cancelled. Information on the next joint Workshop will be given in due time.

F. MERKLE, J. BECKERS

## Upcoming ESO Exhibitions

As reported in the last issue of the *Messenger*, ESO organized a special exhibition booth at the XXth IAU General Assembly in Baltimore (see photo). After the exhibitions in Malmö (Sweden) which is still running and another in Innsbruck (Austria) during November–December, the following are planned for next year:

The Hague, Netherlands, Museum, opening on January 27;  
Münster, F.R. Germany, Museum für

Naturkunde, opening on April 20;  
Klagenfurt, Austria, Planetarium, opening end of June;

Copenhagen, Denmark, Tycho Brahe Planetarium, opening in October;  
Stuttgart, F.R. Germany, Planetarium, opening before Christmas.

We hope that our local readers will take the opportunity to visit these events.

Potentially interested organizers of future exhibitions are kindly requested to

contact the ESO Information Service (address on last page), since the planning for 1990 is about to start.

The exhibition has now been enlarged to include more information about the newest scientific and technological developments. Of particular interest is the full-scale model of a VLT mirror (53 m<sup>2</sup>) and the fischertechnik VLT model of a unit telescope, described elsewhere in this *Messenger* issue.

