

# On the Vertical Support of Astronomical Research in Cassegrain Cages

*Yes, you are right: these three chairs represent the latest in European modernity! ESO is proud to present, probably for the first time in the history of astronomy, the autumn 1976 fashion in astronomical furniture. But to avoid misunderstandings with the auditors, let us quickly affirm the great importance of these pieces of equipment for the safe performance of observational astronomy on La Silla. Briefly explained, since most human beings, astronomers included, unfortunately do not equal Tarzan in physical strength and agility, they must be firmly supported when taking a ride in the spacious Cassegrain cage of the ESO 3.6 m telescope (at the lower end of the telescope tube). To solve this mainly anatomical problem, the brain-trust of the ESO Mechanical Group in Geneva, headed by Mr. W. Richter, studied the suspension of astronomical bodies at various elevations and angles. We are happy to prove the survival of the courageous volunteers by publishing this report, which was compiled by Mr. Richter, after the successful termination of the experiments:*

To work as an astronomer at the Cassegrain focus of a big telescope often causes problems because the instruments there are not so easily accessible. Even if one assumes that the astronomer needs not to spend long time in the cage, because the observational data nowadays are transmitted directly to a computer terminal, there is always the necessity to go into the cage for the initial adjustment of the instrumentation which is becoming more and more complex.

Many trials have been made to design astronomer's chairs for the Cassegrain areas of large telescopes. However, most of these solutions must be abandoned because the chairs become too space-consuming in the cages.

Now ESO proposes for its 3.6 m telescope a new approach which is the result of a development which is shown by the three photos:



- The first version (No. 1) was designed for observations within a range of  $\pm 15^\circ$  around the zenith. We found that it was too difficult to handle this chair due to its weight of 24 kg.
- The second version (No. 2) was light enough (10 kg) and covered a much wider range, but it was much less comfortable to sit in such a big ring than we thought.
- The third version (No. 3) looks more promising: the chair can be used wherever the telescope points between zenith and horizon. Easy to operate are the adjustment

possibilities which allow to turn the chair around its stem, to move it up and down and to turn the chair in the ring. It is also not difficult to move the whole unit—only 10 kg—from one hole in the cage-floor to the next. The main technical problem was to get the overall size and the weight down. Now it is up to the astronomers to find out how this chair suits their needs. They will probably say that handling and sitting on this chair are sufficiently comfortable. However, one needs some experience to select the correct hole in the floor and sometimes it is difficult to climb up to the chair.