

T1T – the Trebur-1 Meter-Telescope

The development of a public astronomy centre

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The dome of the public observatory, which is situated in the heart of Trebur, is visible from quite a distance from the outlying fields surrounding the village. The dome has a diameter of 5.4 meters and houses one of the largest private telescopes of the world.

The original intention of starting this excellent project was to offer a worthwhile cultural attraction to the residents of Trebur and neighbouring areas. This project was initialised and founded by Michael Adrian and with the expert assistance of Jürgen Bommarius, Dr. Johannes Ohlert and Horst Tremel, planning and implementing these plans began in summer 1995. These included decisions as to which dome, telescope, accessories, computing equipment, and educational facilities would best serve the public of the Rhein-Main area.

On the 29th of April, 1997, one year after the dome was placed on the top of the nearly completed three story building, the eagerly awaited telescope components, consisting of the primary and secondary mirrors, the tube, and fork mount of the telescope, arrived. The "marriage" of the mirror, which was casted and finished in St. Petersburg/Russia, and the tube, which was produced in Switzerland, took

place on a cold and rainy day on the street directly in front of the building which was to be its future home. However, this was not regarded as a bad omen for the future of the telescope. All the planned assembly steps were performed very precisely and smoothly barring a couple of minor incidents.

The light collecting optics of the Cassegrain-type telescope is one meter in diameter. This means its light collecting capacity exceeds that of the human eye by a factor of 25,000. This tremendous visual power allows the visitors to observe even very faint cosmic nebulas and galaxies as well as learn the secrets of the moon and the planets.

First light of the telescope was on the night from of the 2nd of May. The most critical calibrations had been finalised by Philipp Keller and Beat Kohler by 2 am - all four of present people were eagerly awaiting to see what this telescope would reveal. The first stellar object observed was M3. The telescope offered an awe-inspiring view of this globular cluster of a viewing field crowded by innumerable glowing points of stars on a black background. Even in the Alps, skilled observers haven't been able to obtain such a spectacular view with their large portable telescopes. In anticipation of further memorable views, the telescope was pointed to M57, M51, M92, M13 and M82.

After this first experience with the T1T, everyone unanimously agreed that the efforts over the last few years were worth the time and energy. And it was unanimously agreed it is clearly worthwhile and useful to observe the night sky with an instrument of such dimensions close to a major city even with its air and light pollution. These exciting observations affirmed the basic concept of the foundation, that is to invest in such an instrument even in a populated area - see also: Daniel Fischer in Skyweek 7/1996 S.4 "Erfahrungen mit großen Teleskopöffnungen unter Großstadtbedingungen" (experiences with large diameters under the conditions of big cities).

The following weeks were filled with fine tunings and adjustments. Of course, we took every chance to make observations with the telescope. Despite turbulence which interfered with our observations, Mars showed more details than an 11" Maksutov-Newton with excellent optics in a more favourable

location. In moments without air turbulence, smallest details on the moon could be detected. While looking through a binocular viewer and moving the telescope slowly with the joystick, one can imagine how the Apollo Astronauts felt when they sailed over the moon's surface.

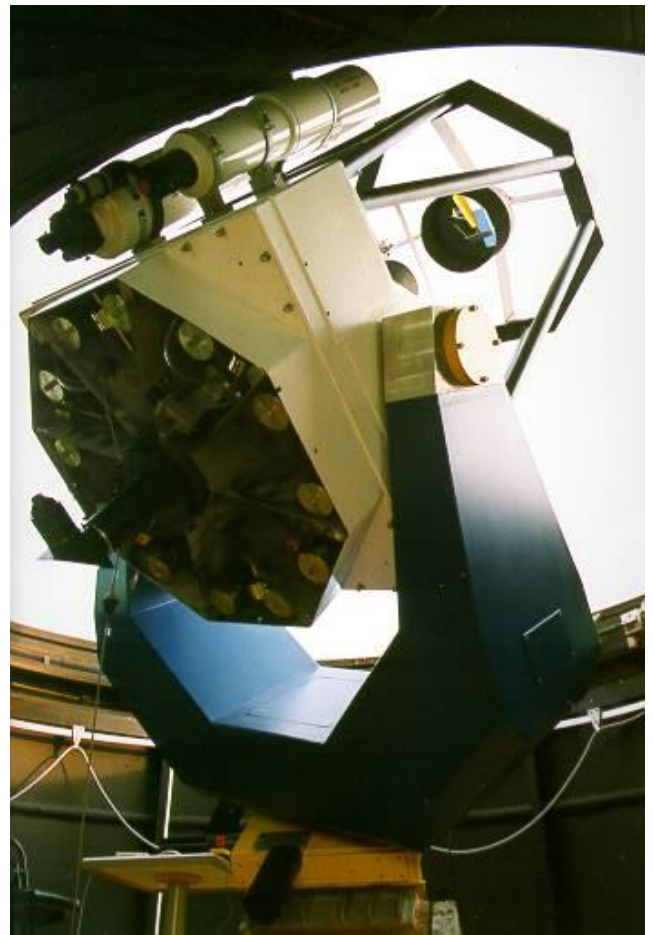
On the platform surrounding the dome, further smaller telescopes are available. The dome is constructed out of two halfdomes, where the smaller half can be slid into the larger one, allowing the visitors to see nearly a complete view of the sky as compared to the view through a small slot as in typical domes housing telescopes.

A library, a lecture room, a photo laboratory, a computer room and sleeping quarters for tired stargazers are also housed in the new astronomy centre. Live broadcasts from the telescope to the screen in the lecture room are also planned, an option that's part of the modern multimedia equipment at the centre. For the well-being of the visitors and sky observers, there is a cafeteria on the ground floor of the building where you can sit, eat, drink and discuss from 12am to 12pm.

The main aim of the astronomy centre will be to make the public familiar with astronomical events. Regular tours as well as lectures and courses are planned. Furthermore, the public observatory will be connected to the international public via the Internet, making its observations and contributions available to an even wider audience. There are already requests from scientists to implement TIT in astronomical research projects. Of course, the activities of amateur astronomers are considered of equal importance. And their results will complement the lectures that are held for the public.

The TIT and its technical equipment offers a wide variety of engineering science projects for students of engineering, under the supervision of Prof. Dr. Johannes M. Ohlert from the University of Applied Sciences Gießen-Friedberg.

Although the astronomy centre is not yet officially but it is already opened for the public every Wednesday from 7pm because of strong public interest.



Admission is free!

The founder and its boardmembers are convinced that this public observatory, with the up to now largest private telescope in Germany, will be an astronomical attraction for more than just the local public.

„Announcement of the founding of the Trebur Astronomy Foundation and the construction of the large telescope in the June 1997 issue of the journal of the Vereinigung der Sternfreunde e.V.“

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