

91 cm Telescope

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Optical configuration
Cassegrain

Mount type
German

Main mirror
diameter 91 cm

curvature paraboloid
focal length
4.143 m

focal ratio
f/4.6

Secondary mirror
diameter 24 cm

focal length
-1.427 m

Cassegrain focus
equivalent focal length
14.275 m

equivalent focal ratio

f/16

The 91 cm telescope is a classical Cassegrain. The mirrors have been made and polished by Tinsley (Berkeley, USA). The mount of german type was built by Marchiori (Rome) on design of Ing. L. Majorana. In addition to the Cassegrain, the primary and the newtonian foci are available. Due to the access difficulties their use is not encouraged. The telescope went into operation by the end of 1965.

Pointing and tracking

A personal computer acts as interface to the observer, and provides commands and information to a microprocessor board that controls the telescope position and the brushless engines. The pointing and tracking speed can be set within large intervals. The telescope operation software

[Asterix](#)

is user friendly, and is described in detail by the **automation group**.

An intensified TV camera fed by a removable 45° mirror allows the fine pointing and off-set

tracking. A focal reducer, with a reduction factor of 3, provides a field of view (FoV) of about 5x5 arcmin on the camera cathode. The limiting magnitude is about $V=15.5$.

Another intensified camera is connected to the interface box that holds the optical fibers feeding the echelle spectrograph. A beam-splitter brings a 10% fraction of the star light toward this camera, whose FoV is of about 3x3 arcmin. The limiting magnitude is about $V=12.5$.

Finally, an auxiliary finder of 80 mm aperture and 1 m focal length, equipped with another intensified camera, provides a FoV of about 40x30 arcmin. This telescope is useful for field and object identification. A better description of the TV system can be found [here](#) .

Fine tracking corrections can be done automatically by [Panoramix](#) , the auto-guiding system purposely implemented. Depending on the focal-plane instrument and the observing mode, the input of Panoramix can be switched from the above mentioned cameras.