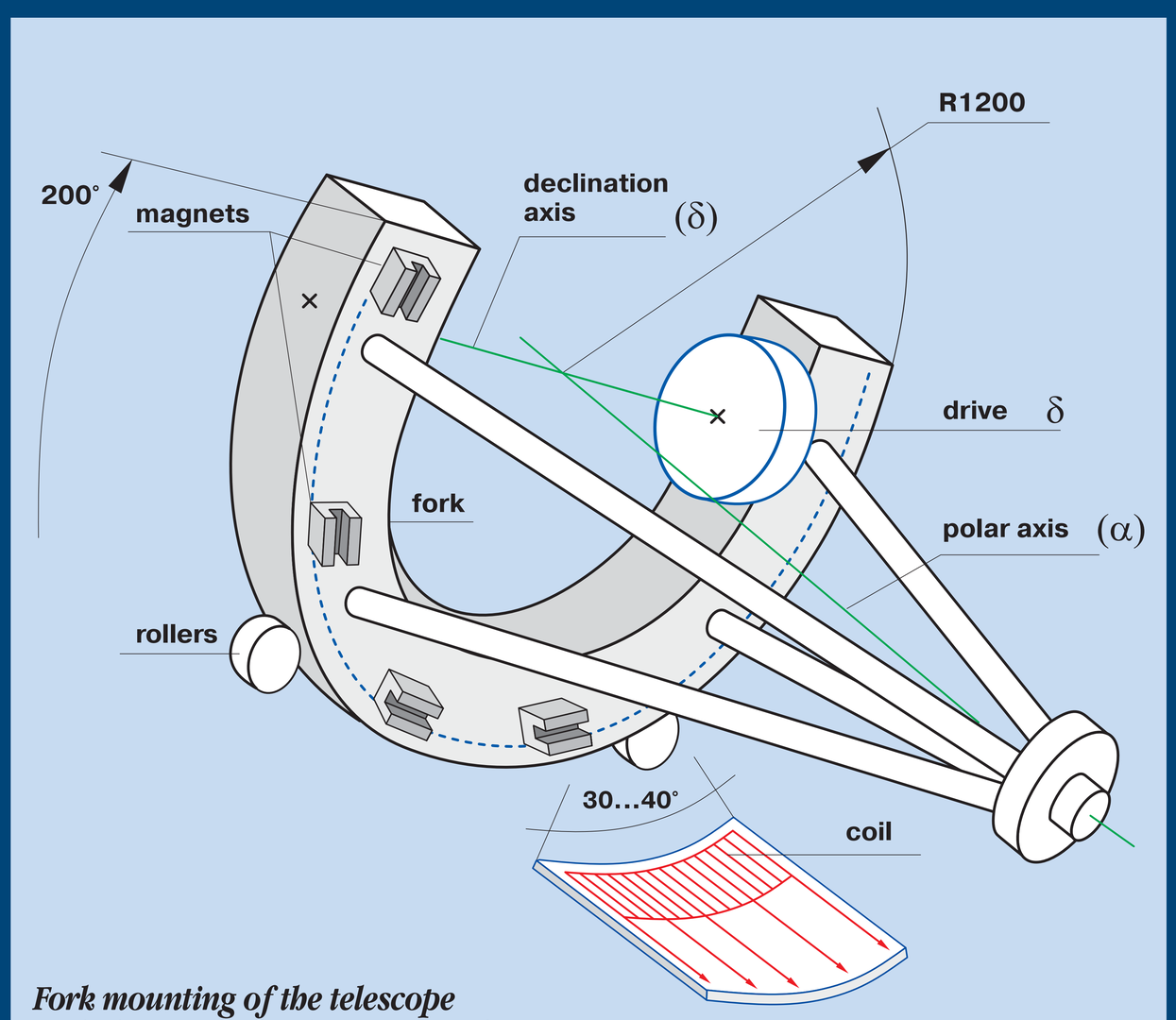
IVAN FRANKO NATIONAL UNIVERSITY OF LVIV

CREATION OF THE AUTOMATED NETWORK 80 cm TELESCOPE FOR EDUCATION AND ASTROPHYSICAL RESEARCH



Fork mounting of the telescope with the parts of reduction-free drive

The aim of the project is to create the first Ukrainian completely automated remote controlled reflecting telescope with the mirror diameter of 80 cm and connect it to the International Small Telescopes Network. The telescope may become the beginning of Ukrainian National Small Telescope Network.

Optical parameters of the telescope:

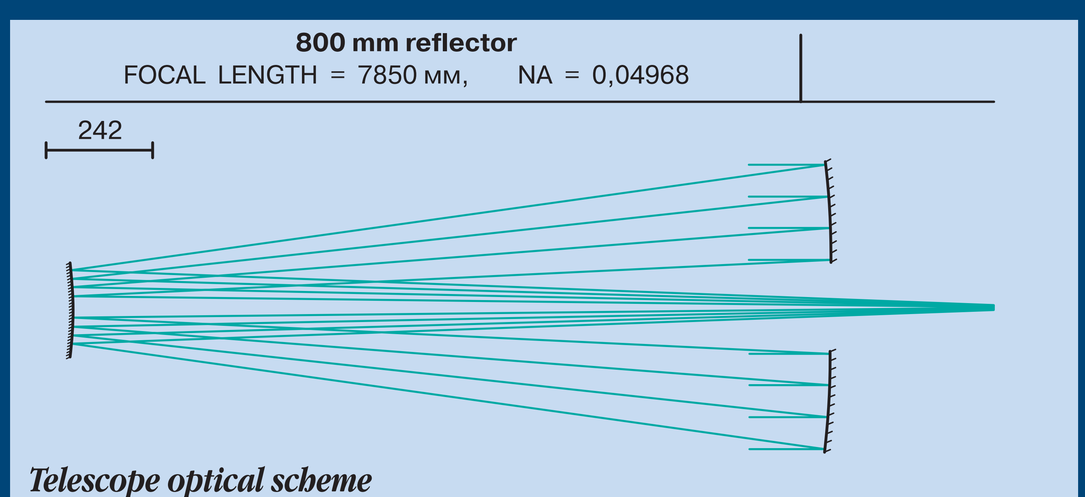
Main mirror –	**diameter**	**80 cm**
	Mass	**78 kg, glass ceramic**
Focal ratio		**f/10**

Airy disk in the equivalent focus accounts to 15 μm or 0.4 arcsec. Field of view with image aberrations about Airy disk equals 28 mm or 2ω = 0.2 degree.

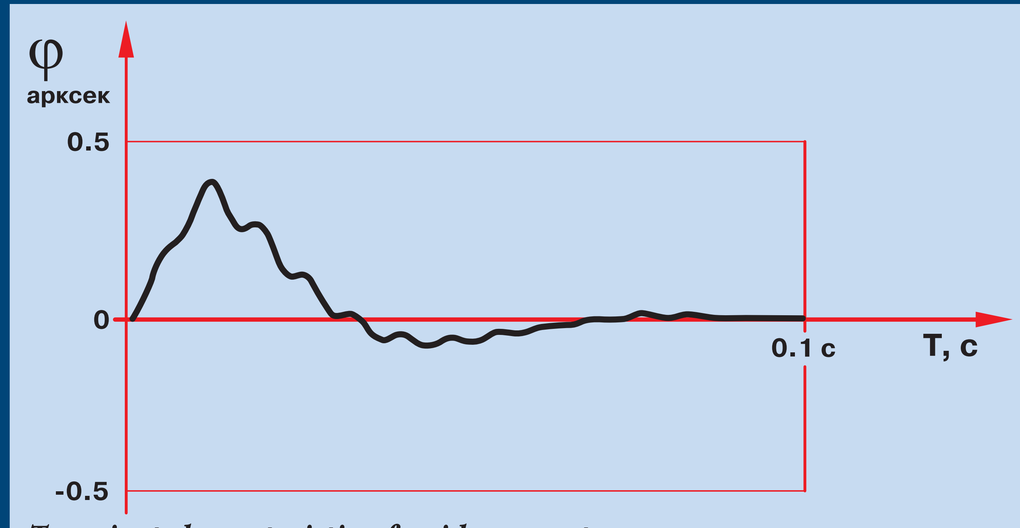
Radiation detector – 14 Mpixel (4560 x 3048 active pixels) CMOS camera; pixel dimensions 8 x 8 μm2; matrix dimensions 36 x 24 mm2; optical dynamic range – 65 dB.

Equatorial fork mounting of American type. Such mounting will allow using reductionfree high-torque drives, which enable pointing with up to 10 arcsec accuracy, guiding – up to 0.1 arcsec, and horizon-to-zenith flip-over time 5 sec.

Area of application: search for potentially dangerous asteroids, comets, and Supernova stars, space debris monitoring, observations of artificial Earth's satellites; studies of optical counterparts of gamma-ray bursts and gravitational lenses; education.



Telescope optical scheme



Transient characteristic of guidance system

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