PATENT CLAIMS

1. An optical reflecting telescope (30), comprising:

a primary mirror (1);

a secondary mirror (2); and

a support structure (20) including

a beam inlet (24),

a primary support (21) for the primary mirror (1),

a secondary support (22) for the secondary mirror (2),

struts (23) which extend between the primary support (21) and the secondary support (22), and

a beam outlet (25),

wherein an optical axis of the primary mirror (1) or an optical axis of the secondary mirror (2) deviates from a geometrical axis of the respective primary or secondary mirror (1; 2),

wherein the support structure (20) has a contour of a single shell hyperboloid (7),

wherein the primary support (21), the secondary support (22) and the struts (23) are configured so that they support the primary mirror (1) and the secondary mirror (2) so that a z-shaped beam path (11) is provided between the beam inlet (24), the primary mirror (1), the secondary mirror (22) and the beam outlet (25), and

wherein the struts (23) have identical length, and

wherein the support structure (20) is configured so that

a sectional plane (9) of the hyperboloid (7) extends on a main axis of inertia (10) of the optical reflecting telescope (30),

a geometric connection line L of the primary mirror (1) and the secondary mirror (2) extends on the main axis of inertia (10) of the optical reflecting telescope (30), and

a section of the z-shaped beam path (11) extends parallel to the sectional plane (9) of the hyperboloid (7).

2. The optical reflecting telescope (30) according to claim 1, wherein end points of the struts (23) are arranged symmetrical to geometric axes of the primary mirror (1) and the secondary mirror (2).

3. The optical reflecting telescope (30) according to claim 1 or 2, wherein the hyperboloid (7) is based on a rotation of a straight line and has a closed or a segmented structure (7a, b).

4. The optical reflecting telescope (30) according to one of the preceding claims, wherein the struts (23) respectively extend coaxial to tangents (8) of the hyperboloid (7).

5. The optical reflecting telescope (30) according to one of the preceding claims, further comprising:

at least one deflection support (41, 51) for a deflection mirror (4, 5), wherein the support structure is arranged to run at least one section of the beam path (11) along a tangent (8) of the hyperboloid (7).

6. The optical reflecting telescope (30) according to one of the preceding claims, further comprising:

a fine orientation support (31) for a fine orientation mirror (3), wherein the fine orientation support (31) is arranged so that an optical axis of the fine orientation mirror (3) is arranged in a first sectional plane (11) of the hyperboloid (7).

7. The optical reflecting telescope (30) according to one of the preceding claims, wherein the support structure (20) has a contour of a closed single shell hyperboloid.