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Terms for astronomical telescopes

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 and GB/T 20000.1-2001.

This standard uses the redrafted method reference ISO 14132-4:2015 "Optics and optical instruments term system Part 4. Astronomy Telescope terminology ", the degree of agreement with ISO 14132-4:2015 is not equivalent.

This standard is proposed by the China Machinery Industry Federation.

This standard by the National Standardization Technical Committee of Optics and Photonics (SAC/TC103) centralized.

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1 Scope

This standard specifies the terminology of telescopes.

This standard applies to the field of astronomical telescope related research and applications.

2 Terms

Telescope astronomicaltelescope Specially designed for the observation of celestial objectives telescopic instruments.

Clear aperture of the objective clerapertureofobjective the maximum diameter of the (imaging) beam parallel to the optical axis at which the object is incident on the telescope objective.

Note 1: The objective lens refers to a reflective or refractive objective.

Note 2: The clear aperture is the entrance pupil diameter of the telescope.

Exit pupil diameter diameterofexitwindow the diameter of the aperture stop in the image space of the optical system.

Field of view 2omega the size of the object that can be imaged by the optical system. For telescopes, the size of the field of view is expressed in terms of angle, also called the angular field of view, the value of which is equal to the value observed. Observe the most fringe point of the field of view of the main light and telescope optical axis angle twice.

Magnification Objective focal length and eyepiece focal length ratio. This magnification is the object generated by the optical system like the human eye's opening angle and the direct observation with the naked eye the ratio of the opening angle of the object to the human eye corresponds to the ratio of the entrance pupil diameter to the exit pupil diameter.

Parallax paralax

On the optical axis, the difference between the image position of the objective lens on the object at infinity and the reticle position on reticle.

Resolution

2.7.1

Angular resolution Rayleigh criterion the ability of the optical system to distinguish between two independent points.

Note: The field of view expressed as object space, in radians.