MODERN OPTICAL TELESCOPES

V.Yu. Terebizh

Moscow, FIZMATLIT, 2005, 80 pp.
ISBN 5-9221-0586-8

During a quarter of century the total area of mirrors of all astronomical telescopes working in the optical range of wavelengths has increased by almost ten times. The modern instruments allow getting more detailed images of objects than their predecessors; in particular, the "atmospheric barrier" of the image quality has been overcome. Why the so fast progress became possible? How are the new telescopes made? What projects will be realized in the coming years? Just these questions are discussed in the book. The historical continuity is traced of ideas determining development of the telescope making.

The book is intended for students and graduates specializing in astronomy, specialists in adjacent fields and a wide circle of the people interested in natural sciences.

Contents

Resolution, Overcoming Resolution Limitations, Space Telescopes, Adaptive Optics, Recording Telescope Data, Modern Optical TelescopesOperation of a telescope, Types of telescope, Alternative wavelengths. The telescope is an instrument which collects and analyzes the radiation emitted by distant sources.Â Light gathering. The primary function of a telescope is that of light gathering. As will be seen below, resolution limits on telescopes would not call for an aperture much larger than about 30 in (76 cm). Modern optical telescopes. Alternative wavelengths. Resources. The telescope is an instrument that collects and analyzes the radiation emitted by distant sources. The most common type is the optical telescope, a collection of lenses and/or mirrors that is used to allow the viewer to see distant objects more clearly by magnifying them or to increase the effective brightness of a faint object. In a broader sense, telescopes can operate. at most frequencies of the electromagnetic spectrum, from radio waves to gamma rays.