

1. Record Nr.	UNINA9910784072303321
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Titolo	Diffraction-limited imaging with large and moderate telescopes [[electronic resource] /] / Swapan K. Saha
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2007
ISBN	1-281-12193-2 9786611121938 981-270-888-X
Descrizione fisica	1 online resource (633 p.)
Disciplina	522/.2
Soggetti	Imaging systems in astronomy Telescopes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliography (p. 579-594) and index.
Nota di contenuto	Preface; Principal symbols; List of acronyms; Contents; 1. Introduction to electromagnetic theory; 2. Wave optics and polarization; 3. Interference and diffraction; 4. Image formation; 5. Theory of atmospheric turbulence; 6. Speckle imaging; 7. Adaptive optics; 8. High resolution detectors; 9. Image processing; 10. Astronomy fundamentals; 11. Astronomical applications; Appendix A Typical tables; Appendix B Basic mathematics for Fourier optics; Appendix C Bispectrum and phase values using triplecorrelation algorithm; Bibliography; Index
Sommario/riassunto	This book deals with the fundamentals of wave optics, polarization, interference, diffraction, imaging, and the origin, properties, and optical effects of turbulence in the Earth's atmosphere. Techniques developed during the last few decades to overcome atmospheric image degradation (including passive methods, speckle interferometry in particular, and active methods such as adaptive optics), are highlighted. Also discussed are high resolution sensors, image processing, and the astronomical results obtained with these techniques.