

Frederick R. Chromey introduces the fundamental topics in optical and infrared observational astronomy with a lively yet rigorous and quantitative approach for undergraduates. Beginning with the basic principles of light detection, telescope and instrument design, coordinate systems and data analysis, the text introduces students to modern observing techniques and measurements. Approaching cutting-edge technologies such as advanced CCD detectors, integral field spectrometers, and adaptive optics through the physical principles on which they are based, it helps students to understand the power of modern space and ground-based telescopes, and the motivations for and limitations of future development.

- New topics have been added, including Gaia, the Large Synoptic Survey Telescope, and photometry at large redshifts, bringing the book up to date.
- The most relevant physical concepts are reviewed and an introduction to elementary statistics provides students with the essential foundation they need.
- Over 130 exercises and problems strengthen understanding while key in-text examples, figures, and end-of-chapter problems have been added or revised.

Chromey's clear exposition of both simple and complex ideas make this an essential resource for all students of observational astronomy.

FREDERICK R. CHROMEY is Professor of Astronomy on the Matthew Vassar, Jr. Chair at Vassar College, and Director of the Vassar College Observatory. He has almost 45 years' experience in observational astronomy research in the optical, radio, and near infrared on stars, gaseous nebulae and galaxies, and has taught astronomy to undergraduates at Brooklyn College and Vassar.

Cover illustration: The Class of 1951 Observatory, Vassar College, Poughkeepsie, New York. Image courtesy of Will Fowler.

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"Chromey's text is a careful cogent presentation of the theory and practice of observational astronomy – something otherwise learned piecemeal over a career. I appreciated his end-of-chapter problems and not being tied to a particular software or instrument choice because of the text. This is the textbook I wished I could have had when I was a student!"

Jeffrey A. Larsen,
US Naval Academy

"I have been using this book in my courses since it was first published, and I find it to be an excellent resource for my students. I'm excited about the new edition – the changes bring it up to date and make it even clearer than before, just as I'd expect from an expert teacher and astronomer like Fred Chromey."

Eric L. N. Jensen,
Swarthmore College

CAMBRIDGE
UNIVERSITY PRESS
www.cambridge.org

ISBN 978-1-107-57256-0



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