



Spectroscopy allows the precise study of astronomical objects and phenomena. Bridging the gap between physics and astronomy, this is the first integrated graduate-level textbook on atomic astrophysics. It covers the basics of atomic physics and astrophysics, including state-of-the-art research applications, methods and tools.

The content is evenly balanced between the physical foundations of spectroscopy and their applications to astronomical objects and cosmology. An undergraduate knowledge of physics is assumed, and relevant basic material is summarized at the beginning of each chapter.

The material is completely self-contained and contains sufficient background information for self-study. Advanced users will find it useful for spectroscopic studies. Websites hosted by the authors contain updates, corrections, exercises and solutions, and news items from physics and astronomy related to spectroscopy. A link to these can be found at [www.cambridge.org/9780521825368](http://www.cambridge.org/9780521825368).

"This is a very important book that bridges the gap between modern atomic physics and modern astrophysics. It covers all the essential subjects, and is very well written ... It will be of considerable value to research workers in both broad areas, to professors who wish to teach about the subjects, and to students ... I have learned a great deal from reading it myself."

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"Pradhan and Nahar have written the most coherent discussion of atomic processes that produce radiation in astrophysical thermal environments that I have read to date. Descriptions of the theoretical underpinnings of the processes are well balanced with the presentation of analytic relations that are necessary for the analysis of spectroscopic data. A great deal of ground is covered in the book. I highly recommend the book to spectroscopists as a fundamental resource."

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Cover designed by Zoe Naylor

Pradhan and Nahar

Atomic Astrophysics  
and Spectroscopy

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CAMBRIDGE  
UNIVERSITY PRESS  
[www.cambridge.org](http://www.cambridge.org)

ISBN 978-0-521-82536-8



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