



# Nuclear and Particle Physics: An Introduction

By Brian R. Martin

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**Nuclear and Particle Physics** is an accessible, balanced introduction to the subject and provides a readable and up-to-date overview of both the theoretical and experimental aspects of nuclear and particle physics. The emphasis is on the phenomenological approach to understanding experimental phenomena.

The text opens with an introduction to the basic concepts used in nuclear and particle physics and then moves on to describe their respective phenomenologies and experimental methods. Later chapters explore the interpretation of data via models and theories, including the standard model of particle physics and the liquid drop model and shell model of nuclear physics. Several applications of nuclear physics are discussed, including nuclear medicine and the production of power from nuclear fission and fusion. The book closes with a chapter on outstanding problems, including extensions to the standard model, implications for particle astrophysics, improvements in medical imaging and the prospects for power production. Problems are included at the end of each chapter, with a full set of solutions provided. Accessible overview of nuclear and particle physics suitable for a first course in the subject.

- Chapters are supplemented by an extensive set of problems with full solutions.
- Includes Appendices on some topics in quantum mechanics and relativistic kinematics.
- An invaluable text for all physics and astronomy students.

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"This is a text that would be good for both lecturer and student." (*The Higher Education Academy Physical Sciences Centre*, December 2008)

"Enthusiastically recommended as a useful addition to any college or university library." (*CHOICE*, December 2006)

### From the Back Cover

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### About the Author

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