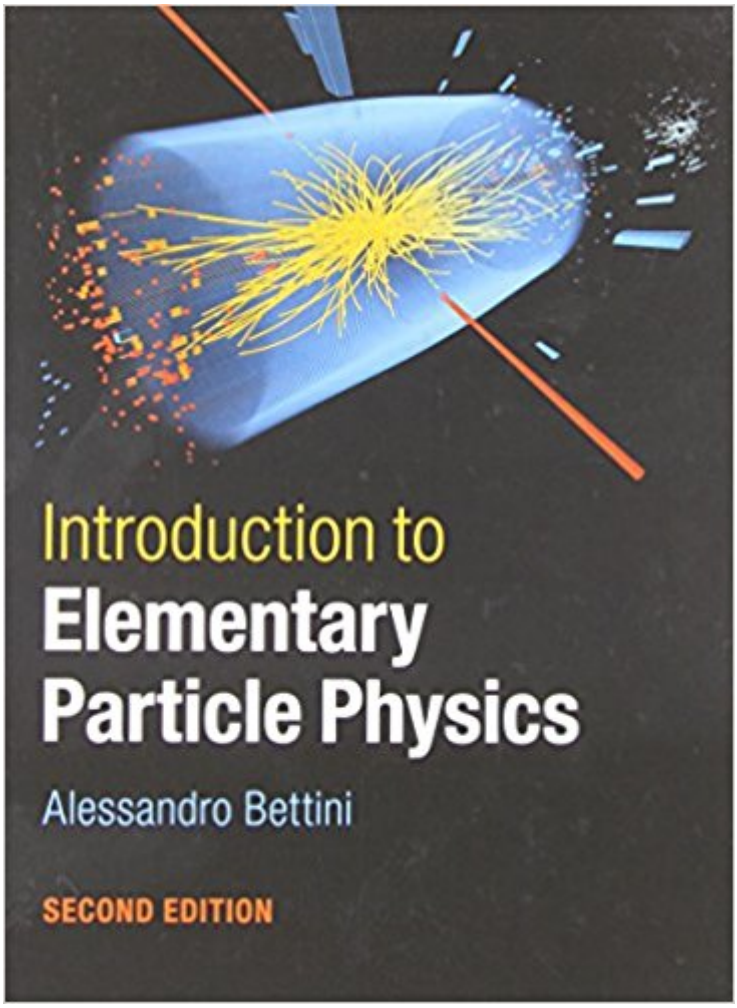
Introduction To Elementary Particle Physics



Synopsis

The second edition of this successful textbook is fully updated to include the discovery of the Higgs boson and other recent developments, providing undergraduate students with complete coverage of the basic elements of the standard model of particle physics for the first time. Physics is emphasised over mathematical rigour, making the material accessible to students with no previous knowledge of elementary particles. Important experiments and the theory linked to them are highlighted, helping students appreciate how key ideas were developed. The chapter on neutrino physics has been completely revised, and the final chapter summarises the limits of the standard model and introduces students to what lies beyond. Over 250 problems, including sixty that are new to this edition, encourage students to apply the theory themselves. Partial solutions to selected problems appear in the book, with full solutions and slides of all figures available at www.cambridge.org/9781107050402.

Book Information

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Customer Reviews

"I liked the first edition very much, and used it for my classes. I like the second edition even better ... Best of all, for the current version, there are some timely additions, most notably the discovery of the Higgs boson and an expanded chapter on neutrino oscillations ... Let us hope that Run 2 at the LHC will necessitate the writing of a third edition of this wonderful book." James W. Rohlf, CERN Courier"... [this] volume is complemented by ... exhaustive online material on the Cambridge University Press website, addressed and reserved to physics teachers: solutions of all the problems and exercises appearing throughout the volume ... and a series of colourful PowerPoint slides for

each chapter, containing key figures and basic plots. This novel feature of the second edition makes [the book] even more attractive ... [it] deserves [to be] more and more widely adopted in all our universities." L. Cifarelli, Il Nuovo Saggiatore"What is special about this book is that it requires very little effort for the [reader] to like it. It is very well presented and ... goes out of its way - or rather the author goes out of his - to be friendly and (relatively) easy, bearing in mind that elementary particle physics is, by a long shot, not. ... this book can readily be used by true beginners lacking or without prior background in the subject." B. Ishak, Contemporary Physics

Fully updated coverage of the basic elements of particle physics for undergraduates, including the Higgs boson discovery and other recent developments. Physics is emphasised rather than mathematical rigour and coverage of important experiments shows students how ideas developed. Over 250 problems, with solutions online, encourage students to apply the theory.

Very difficult to follow without excellent instruction. Oddly it starts with a particularly lackluster description of particle interactions and relativity instead of fundamental forces/particles and symmetries. The symmetries chapter in itself is lacking in clear explanation and all symmetries and conservation laws are not covered. The questions are poorly written and difficult to answer considering there is little emphasis on using the mathematics in the book. Only very brief solutions are given.

Well written and excellent graphics.

Introduction (Very Short Introductions) An Introduction to the Standard Model of Particle Physics Gauge Theories in Particle Physics: A Practical Introduction, Fourth Edition - 2 Volume set Nuclear and Particle Physics: An Introduction An Introduction to Particle Physics and the Standard Model The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Elementary Particles : The Building Blocks of the Universe - Physics and the Universe | Children’s Physics Books