



## Particle Physics: A Very Short Introduction

*Frank Close*

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# Particle Physics: A Very Short Introduction

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## Particle Physics: A Very Short Introduction Frank Close

In Particle Physics: A Very Short Introduction, best-selling author Frank Close provides a compelling and lively introduction to the fundamental particles that make up the universe. The book begins with a guide to what matter is made up of and how it evolved, and goes on to describe the fascinating and cutting-edge techniques used to study it. The author discusses particles such as quarks, electrons, and the neutrino, and exotic matter and antimatter. He also investigates the forces of nature, accelerators and detectors, and the intriguing future of particle physics. This book is essential reading for general readers interested in popular science, students of physics, and scientists at all levels.

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## Particle Physics: A Very Short Introduction Details

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Author : Frank Close

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# From Reader Review Particle Physics: A Very Short Introduction for online ebook

**Bojan Tunguz says**

One of the most intriguing and fascinating scientific stories of the 20th century has been the incredible advance in our understanding of matter in its most fundamental form. In a nutshell, the 20th century has seen the vindication of the atomic hypothesis: all of the nature, the matter and even the interactions of matter, can be reduced to a finite number of indivisible particles. It turns out that atoms, the original candidates for irreducible particles as their name suggests, are in fact composed of a myriad other particles which to the best of our knowledge and understanding are truly fundamental. Furthermore, we have discovered many other particles that cannot be found in an atom, and many of those turned out to be composites of other fundamental particles. Considering how many different kinds of these extra-atomic particles were discovered, it is quite remarkable that we were able to reduce this "zoo" to just a few basic ones. This book presents an interesting and accessible account of how we managed to get to this point. The book presents both the experimental and theoretical developments in Particle Physics that has led us to the point where we are at. The book is intelligible to anyone who has any interest in the subject, and it doesn't require any special mathematical knowledge. And yet, like most books in this series, it does not condescend to the reader but tries to educate him and bring him up to the latest in our understanding of this fascinating field. All of that makes this book an enjoyable and worthwhile read.

## **Hussain Ali says**

**Aaron says**

There is some special sense of futility tied to the task of presenting physics without math. It's like parents trying to explain their impending divorce to their eight-year-old daughter. Bereft of any sort of background knowledge that would allow her to actually understand the reasons for what is happening, the parents must rely upon absolute pronouncements and the deployment of similes even more tortured than this one. But much like that child, I am lacking in background experience. I never learned the mathematics that would allow me to really understand what Close is getting at, so this is the book for me. I'm a scientist with an embarrassing lack of physics and I fear that one day I'll be corned by an actual scientist who corners me at some science house party, discovers my intellectual short-comings and drums me out of the community of scientists forever. Reading this introduction was a desperate ploy that I'll at least be able to bullshit my way through a brief conversation on particle physics without sounding overconfused.

What I actually got out of this book was about as much as I could hope for: I refreshed my understanding of the families of quarks and have a substantially improved understanding of the Large Hadron Collider. On the down side, the section on Exotic Matter (and antimatter) scaled a bit too rapidly, often leaving me somewhat confused after multiple readings, but overall I found this book more useful than trying to understand the field by reading a collection of wiki articles, which has become my ad hoc metric for judging these Very Short Introduction books.

**Donya says**

Knowing that much about atom and each part of it, it's like a journey to another world we never know about!. Physics is the real magic that's what I believe in.

**Komail says**

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## a very short introduction

## **Mohamed IBrahim says**

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**Yasser says**

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**Bushra says**

## **Mohammed Othman says**

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## James Hartley says

Good, but not as good as his other VSI book, *Nothing*, but a great read nevertheless. You'd be amazed how empty things are on the atomic and subatomic levels - far emptier than space, relatively speaking. This book is filled with plenty of great nuggety details like this - Close explaining the size of an atom: "...look at the dot at the end of this sentence. Its ink contains some 100 billion atoms of carbon. To see one of these with the naked eye, you would need to magnify the dot to 100m across".

And the atomic nucleus? Well to see that - "you'd need the dot to be enlarged to 10,000km: as big as the earth from pole to pole."

And that's only for starters...

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### **Muhamed Sewidan says**

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### **Mohammed-Makram says**

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### **Ahmad Sharabiani says**

Particle Physics: A Very Short Introduction (Very Short Introductions #109), Frank Close

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### **Osman Ali says**

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Guess what ... ?! :D

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