

# Exploring the Mystery of Matter: The ATLAS Experiment

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**E**xploring the Mystery of Matter: The ATLAS Experiment is an engaging and beautifully presented photo book that provides a captivating tour of the marvels of the large-scale particle detector experiments of the Large Hadron Collider (LHC) at CERN, the world's largest particle physics laboratory. The book focuses on just one of the LHC experiments: ATLAS, an experiment of epic proportions, involving an international collaboration of more than 2000 individuals from 170 institutions.

The book traces the history and key moments of the construction of the LHC. The authors balance technical details with an account of the people at CERN: the physicists, engineers and others who built the detector.

The first chapter puts the work done at ATLAS into perspective and explains its goals. The second chapter is about the human and capital resources invested in the project, while the next four chapters cover the designs, simulations, and inventions that were required to get it off the ground. The authors also comment on the project's personal, transportational and logistical challenges, and describe the piecing together of the finished ATLAS detector from its separate components.

*Exploring the Mystery of Matter* goes on to explain how other groundbreaking inventions at CERN have changed our world and the global

impact of any resulting technological spin-offs, such as the World Wide Web and the use of anti-matter in medical imaging. The final chapters describe the installation of the detectors, in a tunnel 23 km long and 100 m underground. Also covered is the work involved in designing the grid of computers that process and analyse the data from the LHC experiments. The book ends with extracts of interviews with CERN's leading physicists, including Lisa Randall, John Ellis and Peter Higgs.

*Exploring the Mystery of Matter* lays bare this extraordinary feat of engineering in a highly readable and visually appealing way. The book is written in concise and coherent language, which will be accessible to non-native English speakers and to readers from various scientific backgrounds. The carefully chosen images help to explain the text and add interest to the book.

Physics is not always popular at school, because it can be hard for students to relate to. However, this book might just capture their imagination and show them what an exciting subject physics can be.

## Details

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## Resources

A preview of *Exploring the Mystery of Matter: The ATLAS Experiment* can be found at [www.atlasbook.ch](http://www.atlasbook.ch)

To find out about the LHC, see:

Landua R, Rau M (2008) The LHC: a step closer to the Big Bang. *Science in School* 10: 26-33.

[www.scienceinschool.org/2008/issue10/lhcwhy](http://www.scienceinschool.org/2008/issue10/lhcwhy)

Landua R (2010) The LHC: a look inside. *Science in School* 10: 34-45. [www.scienceinschool.org/2008/issue10/lhchow](http://www.scienceinschool.org/2008/issue10/lhchow)

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