

1. Record Nr.	UNINA9910346694403321
Autore	The ATLAS Collaboration
Titolo	ATLAS : a 25-year insider story of the LHC experiment / / the ATLAS Collaboration
Pubbl/distr/stampa	Singapore, : World Scientific Publishing Co. Pte Ltd., ©2019
ISBN	981-327-180-9
Descrizione fisica	1 online resource (372 p.) : ill
Collana	Advanced series on directions in high energy physics ; ; v. 30
Disciplina	539.7/36
Soggetti	Large Hadron Collider (France and Switzerland) - History
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Towards the ATLAS letter of intent -- The ATLAS detector today -- Building up the collaboration -- From the Lol to the detector construction -- Detector construction around the world -- Installation of the detectors and technical coordination -- Trigger, software and computing -- From testbeams to first physics -- Highlights of physics results (2010-2018) -- Towards the high-luminosity LHC -- ATLAS Collaboration: life and its place in society.
Sommario/riassunto	"This book is written by the ATLAS Collaboration at CERN's Large Hadron Collider (LHC), to document and reflect on its more than 25 years of history. It covers all aspects of this global science project at the forefront of particle physics. The historical part recalls first the early stages of discussions in the community leading to the formation of the collaboration in 1992. In a unique approach, the second part documents the evolution from early detector concepts to the final instrument, covering the technical, financial and human aspects. This includes the phases of construction of detector components in the various institutes around the world as well as their installation and commissioning in the underground cavern at CERN. An important part is devoted to the operation of the whole experiment. The book highlights the capabilities and physics accomplishments so far, including the Higgs boson discovery (jointly announced with CMS). It features the various aspects of a broad spectrum of activities needed to arrive at the physics results. The book includes also an outlook to the detector upgrade activities preparing the experiment for the high-

luminosity LHC phase of the next decades. Last but not least, it reveals the human aspects of the large ATLAS community working together pursuing common physics goals. The book is aimed at a broad readership with interest in large science projects and their history, as well as in the human endeavour of a worldwide collaboration."--
