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Titolo	The Road to Discovery : Detector Alignment, Electron Identification, Particle Misidentification, WW Physics, and the Discovery of the Higgs Boson // by John Alison
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Soggetti	Particle acceleration Mathematical physics Physical measurements Measurement Particle Acceleration and Detection, Beam Physics Theoretical, Mathematical and Computational Physics Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction and Theoretical Background -- The Large Hadron Collider -- The ATLAS Experiment -- Reconstruction and Commissioning -- Detector Alignment -- TRT Alignment -- Electron Identification -- WW Physics -- The Fake Factor Method -- WW Cross Section Measurement.
Sommario/riassunto	The research presented here includes important contributions on the commissioning of the ATLAS experiment and the discovery of the Higgs boson. The thesis describes essential work on the alignment of the inner tracker during the commissioning of the experiment and development of the electron identification algorithm. The subsequent analysis focuses on the search for the Higgs boson in the WW channel, including the development of a method to model the critical W+jet

background. In addition, the thesis provides excellent introductions, suitable for non-specialists, to Higgs physics, to the LHC, and to the ATLAS experiment.
