

Department of Physics and Astronomy

University of Heidelberg

Master thesis

in Physics

submitted by

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born in Mannheim

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A study of the decay

$$\Lambda_b^0 \rightarrow D^0 p \mu^- \bar{\nu}_\mu X$$

with the LHCb experiment

This Master thesis has been carried out by (Name Surname)

at the

(institute)

under the supervision of

(Frau/Herrn Prof./Priv.-Doz. Name Surname)

(Titel der Masterarbeit - deutsch):

(Abstract in Deutsch, max. 200 Worte. Beispiel: ?)

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(Title of Master thesis - english):

(abstract in english, at most 200 words. Example: ?)

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1 Introduction

2 The LHCb detector

2.1 Tracking detectors

2.1.1 Vertex locator (VELO)

2.1.2 Trigger Tracker / Tracker Turicensis (TT)

2.1.3 Inner Tracker (IT)

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2.2.1 Ring Imaging Cherenkov Detector (RICH)

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2.3 Trigger

2.3.1 L0-Trigger

2.3.2 High Level Trigger (HLT)

3 Theory and motivation

3.0.3 The Standard Model of Particle Physics

3.0.4 Baryons

3.0.5 Resonances

Part I

Appendix

A Lists

A.1 List of Figures

A.2 List of Tables

Erklärung:

Ich versichere, dass ich diese Arbeit selbstständig verfasst habe und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt habe.

Heidelberg, den (Datum)