

Notes

LHCb-ANA-2011-104

- Measurement of the Bs and Bd mixing frequency from semileptonic decays at LHCb
- First usage of Semileptonic Bs to determine D_{ms} , using 300 pb^{-1} of data.
- Note can be found in [\[\[CDS\]\]](#) [SVN](#)

LHCb-INT-2011-020

- Proper time for semileptonics, acceptance functions, resolution functions, and k-factors
- MC and data-based study of the features of the proper time of semileptonics at LHCb
- Note can be found in [CDS](#) [SVN](#)

LHCb-INT-2011-019

- 2D mass-IP fits in Semileptonic Decays of Neutral B-Mesons at LHCb
- MC and data-based study of the features of the logIP and D-mass distributions of semileptonic decays at LHCb, extracting the detached-to-prompt contributions in the 2010 data sample
- Note can be found in [CDS](#) [SVN](#)

LHCb-INT-2011-004

- Time dependent semileptonic studies:correcting for missing momentum and the effect of multiple interactions
- MC study of the correction with k-factor, neutrino reco, neural network, and multiple-interaction events
- Note can be found in [CDS](#) [SVN](#)

CERN-LHCb-2007-124

- Generator-level study of the production asymmetry in LHCb
- MC study of the distributions of many different particles
- Note can be found in [CDS](#) [SVN](#)

LHCb-note 2007-054:

- LHCb's Potential to Measure Flavour-Specific CP-Asymmetry in Semileptonic and Hadronic Bs Decays
- Sensitivity study for Afs using DC04 simulation
- Note can be found in [CDS](#) [SVN](#)

CERN-LHCb-2007-029:

- Selection of $B_s^0 \rightarrow D_s \mu \nu$ events in LHCb
- Selection study using DC04 simulation
- Note can be found in [CDS](#)

Theses

CERN-THESIS-2011-084: Thomas Bird

- Towards Measuring B Mixing in Semileptonic Decays at LHCb
- Thesis can be found in [CDS](#)

- There is a known problem that the equations used for the neutrino reconstruction are written wrongly in this thesis

CERN-THESIS-2010-076: Kenneth Lessnoff

- A Study of the LHCb Experiment's Sensitivity to CP Violation in Mixing and to Production Asymmetry in Bs Mesons, Using Semi-Leptonic Decays
- Proof-of-principle studies on determining Dms and Dmd with semileptonic decays, covering several of the aspects in detail which were previously only in various internal notes
- This is the main source to understand what's behind the 2011-data Dms&Dmd analysis.
- Thesis can be found in CDS [↗](#)

CERN-THESIS-2009-001: Robert Lambert

- LHCb Hybrid Photon Detectors and Sensitivity to Flavour Specific Asymmetry in Neutral B-Meson Mixing
- Reoptimisation of the selection for DC06 MC
- Sensitivity study for Afs for B0q->DqMuNuX0 using a toy-MC
- MC study of detector and production asymmetries
- Thesis can be found in CDS [↗](#)
- There are several new features which reduce the usability of this study, but it is still interesting as a general overview.
 1. There is a factor of two missing in some of the Afs equations. This was fixed in the latest afs presentations.
 2. It has been shown that the production asymmetry does not matter for Afs^s, by Stone et al, since it is washed out by the fast oscillations.
 3. Cross-talk backgrounds of D+ and Ds from other B-decays were not considered at that time
 4. A single resolution was assumed, we now know the resolution depends heavily on the proper time
 5. Since the k-factor depends on the Dmu mass, we cannot fit simultaneously in time and Dmu mass without having a Punzi term, maybe 2D. We have abandoned that approach, instead we fit 2D in KKpi and proper time, which means some of the B-peaking backgrounds are not fit explicitly, they are simply part of the signal fit

CERN-THESIS-2008-045: Paul Szczypka

- Study of the Sensitivity to Flavour-Specific Asymmetries with the LHCb Detector
- Sensitivity study for Afs for Bs->!DsPi using a toy-MC based on DC04
- Thesis can be found in CDS [↗](#)

-- KimVervink - 23-Jun-2010

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