

# **Implications of LHCb measurements and future prospects**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Introduction and welcome

*Wednesday, 17 October 2018 08:30 (5 minutes)*

Contribution ID: 2

Type: **not specified**

## **LHCb: Experimental overview on measurements with rare decays (25+5)**

*Wednesday, 17 October 2018 14:00 (30 minutes)*

**Presenter:** MARIN BENITO, Carla (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 3

Type: **not specified**

## Angular distributions of rare D decays (15+5)

*Wednesday, 17 October 2018 14:30 (20 minutes)*

**Presenter:** HILLER, Gudrun (Technische Universitaet Dortmund (DE))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 4

Type: **not specified**

## A gauged horizontal $SU(2)$ symmetry and $R_K$ (15+5)

*Wednesday, 17 October 2018 14:50 (20 minutes)*

**Presenter:** GUADAGNOLI, Diego

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 5

Type: **not specified**

## **A strategy to determine the $C_{7,8,9,10^{(\prime)}}$ Wilson coefficients (largely) eliminating hadronic uncertainties (15+5)**

*Wednesday, 17 October 2018 15:10 (20 minutes)*

**Presenter:** ZWICKY, Roman (edinburgh university)

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 6

Type: **not specified**

## **CPV in many-body final states of beauty (& charm) hadrons (25+5)**

*Thursday, 18 October 2018 10:50 (30 minutes)*

**Presenter:** BIGI, Ikaros (University of Notre Dame)

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: 7

Type: **not specified**

## **LHCb: Gamma: $B \rightarrow D^0 K^*$ (GLW/ADS) and GGSZ (15+5)**

*Thursday, 18 October 2018 11:20 (20 minutes)*

**Presenter:** HAINES, Susan Carol (University of Cambridge (GB))

**Session Classification:** Mixing and CP violation in Beauty and Charm



Contribution ID: 8

Type: **not specified**

## **Charm rescattering in $B \rightarrow KKK$ : a new CPV mechanism (20+5)**

*Thursday, 18 October 2018 11:40 (25 minutes)*

**Presenter:** MAGALHAES, Patricia

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: 9

Type: **not specified**

## **LHCb: Time-integrated CPV (15+5)**

*Thursday, 18 October 2018 12:05 (20 minutes)*

**Presenter:** VIEITES DIAZ, Maria (Universidade de Santiago de Compostela (ES))

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: **10**

Type: **not specified**

## **Gamma from three-body decays (15+5)**

*Thursday, 18 October 2018 12:25 (20 minutes)*

**Presenter:** BERTHOLET, Emilie (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: 11

Type: **not specified**

## **Constraints on PDFs and high-energy neutrino cross-sections (25+5)**

*Wednesday, 17 October 2018 16:00 (30 minutes)*

**Presenter:** Dr ROJO, Juan (VU Amsterdam and Nikhef)

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 12

Type: **not specified**

## **LHCb: Heavy flavour production (20+5)**

*Wednesday, 17 October 2018 16:30 (25 minutes)*

**Presenter:** ZHANG, Yanxi (CERN)

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 13

Type: **not specified**

## Vector meson photoproduction (25+5)

*Wednesday, 17 October 2018 16:55 (30 minutes)*

**Presenter:** GONÇALVES, Victor (Universidade Federal de Pelotas)

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 14

Type: **not specified**

## **LHCb: Ultraperipheral collisions & Central Exclusive Production (20+5)**

*Wednesday, 17 October 2018 17:25 (25 minutes)*

**Presenter:** GANDINI, Paolo (INFN Milano (IT))

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 15

Type: **not specified**

## **What Mixing and Lifetimes can tell us about NP (20+5)**

*Wednesday, 17 October 2018 10:45 (30 minutes)*

**Presenter:** Mr KIRK, Matthew (IPPP, Durham University)

**Session Classification:** Mixing and CP violation in Beauty and Charm



Contribution ID: **16**

Type: **not specified**

## **LHCb; Time-dependent CPV (15+5)**

*Wednesday, 17 October 2018 11:15 (20 minutes)*

**Presenter:** STEMMLE, Simon Benedikt (Ruprecht Karls Universitaet Heidelberg (DE))

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: 17

Type: **not specified**

## **CP violation in Charm decays (20+5) – cancelled**

*Wednesday, 17 October 2018 11:35 (30 minutes)*

**Presenter:** DE BOER, Stefan

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: **18**

Type: **not specified**

## **LHCb: Mixing & time-dependent CPV in Charm (15+5)**

*Wednesday, 17 October 2018 12:05 (20 minutes)*

**Presenter:** JURIK, Nathan Philip (University of Oxford (GB))

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: **19**

Type: **not specified**

## **LHCb: Time-integrated CPV in Charm (15+5)**

*Wednesday, 17 October 2018 12:25 (20 minutes)*

**Presenter:** BETTI, Federico (Universita e INFN, Bologna (IT))

**Session Classification:** Mixing and CP violation in Beauty and Charm

Contribution ID: 20

Type: **not specified**

## **LHCb: Spectroscopy highlights from LHCb's run 1+2 and outlook for the upgrade (20+5)**

*Wednesday, 17 October 2018 09:05 (25 minutes)*

**Presenter:** STAHL, Marian (Ruprecht Karls Universitaet Heidelberg (DE))

**Session Classification:** QCD spectroscopy and exotic hadrons

Contribution ID: 21

Type: **not specified**

## **Doubly-heavy baryons and exotics in the quark model (25+5)**

*Thursday, 18 October 2018 09:30 (30 minutes)*

**Presenter:** RICHARD, Jean-Marc Rene (Centre National de la Recherche Scientifique (FR))

**Session Classification:** QCD spectroscopy and exotic hadrons

Contribution ID: 22

Type: **not specified**

## **Exotic hadrons - a semiempirical approach (25+5)**

*Thursday, 18 October 2018 09:00 (30 minutes)*

**Presenter:** ROSNER, Jonathan (University of Chicago)

**Session Classification:** QCD spectroscopy and exotic hadrons

Contribution ID: 23

Type: **not specified**

## **LHCb: New inclusive approach to double b hadrons at LHCb (15+5)**

*Thursday, 18 October 2018 10:00 (20 minutes)*

**Presenter:** GERSHON, Timothy (University of Warwick (GB))

**Session Classification:** QCD spectroscopy and exotic hadrons



Contribution ID: 24

Type: **not specified**

## **LHCb: Experimental overview on measurements on $B \rightarrow D l X$ (including $R(D^*)$ and friends) (25+5)**

*Thursday, 18 October 2018 14:00 (30 minutes)*

**Presenter:** KLAVER, Suzanne (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 25

Type: **not specified**

## Overview form-factors, $V_{cb}/V_{ub}$ , R-ratios using lattice QCD (25+5)

*Thursday, 18 October 2018 14:30 (30 minutes)*

**Presenter:** JUTTNER, Andreas (University of Southampton (GB))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 26

Type: **not specified**

## **Overview of form factors from QCD sum rules (including rare decays) (25+5)**

*Thursday, 18 October 2018 15:00 (30 minutes)*

**Presenter:** RUSOV, Aleksey (University of Siegen)

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 27

Type: **not specified**

## **New predictions for $\Lambda_b \rightarrow \Lambda_c$ semileptonic decays and tests of heavy quark symmetry (15+5)**

*Thursday, 18 October 2018 15:30 (20 minutes)*

**Presenter:** LIGETI, Zoltan (University of California Berkeley (US))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 28

Type: **not specified**

## **From $R(D^*)$ to $R(D\pi)$ : the role of longitudinal corrections (15+5)**

*Thursday, 18 October 2018 16:20 (20 minutes)*

**Presenter:** TOLEDO, Genaro (UNAM)

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 29

Type: **not specified**

## Comments on $D^*$ measurements in B decays (15+5)

*Thursday, 18 October 2018 16:40 (20 minutes)*

**Presenter:** ROUDEAU, patrick (Laboratoire de l'Accélérateur Linéaire (LAL))

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: **30**

Type: **not specified**

## **Soft photon correction for $R(D^{(*)})$ (15+5) (cancelled)**

*Thursday, 18 October 2018 17:00 (20 minutes)*

**Presenter:** DE BOER, Stefan

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 31

Type: **not specified**

## Lepton Flavour Universality tests in the angular observables of $\overline{B} \rightarrow D^{(*)} \ell \bar{\nu}$ (15+5)

*Thursday, 18 October 2018 17:20 (20 minutes)*

**Presenter:** FEDELE, Marco (ICC Barcelona)

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality



Contribution ID: 32

Type: **not specified**

## New Physics Models for the B Decay Anomalies (20+5)

*Thursday, 18 October 2018 17:40 (25 minutes)*

**Presenter:** BLANKE, Monika

**Session Classification:** Semileptonic decays, rare decays, and tests of lepton flavour universality

Contribution ID: 33

Type: **not specified**

## HNL models, signals at LHCb (25+5)

**Presenter:** FISCHER, Oliver (Karlsruhe Institute of Technology)

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 34

Type: **not specified**

## **LHCb: Recent results on EW and top physics (20+5)**

*Friday, 19 October 2018 08:30 (25 minutes)*

**Presenter:** MEAD, James (University of Liverpool (GB))

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 35

Type: **not specified**

## **LHCb: Recent results on exotica searches (20+5)**

*Friday, 19 October 2018 08:55 (25 minutes)*

**Presenter:** Mr MARINANGELI, Matthieu (EPFL - Ecole Polytechnique Federale Lausanne (CH))

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 36

Type: **not specified**

## **New quarkonium studies with the LHCb detector (25+5)**

*Friday, 19 October 2018 09:20 (30 minutes)*

**Presenter:** LANSBERG, Jean-Philippe (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: 37

Type: **not specified**

## **LHCb: Recent results on heavy ions (20+5)**

*Friday, 19 October 2018 09:50 (25 minutes)*

**Presenter:** CHEN, Shanzhen (Universita e INFN, Cagliari (IT))

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Contribution ID: **38**

Type: **not specified**

## **LHCb: Exotic hadrons at LHCb: current highlights and outlook for Run 3 (25+5)**

*Thursday, 18 October 2018 08:30 (30 minutes)*

**Presenter:** DEY, Biplab (CCNU)

**Session Classification:** QCD spectroscopy and exotic hadrons

Contribution ID: 39

Type: **not specified**

## **Prospects for the discovery of stable doubly-bottom tetraquarks at the LHC (20+5)**

*Wednesday, 17 October 2018 09:50 (25 minutes)*

**Presenter:** ALI, Ahmed

**Session Classification:** QCD spectroscopy and exotic hadrons



Contribution ID: 40

Type: **not specified**

## Lattice Predictions for Bound Heavy Tetraquarks (15+5)

*Wednesday, 17 October 2018 09:30 (20 minutes)*

**Presenter:** FRANCIS, Anthony Sebastian (CERN)

**Session Classification:** QCD spectroscopy and exotic hadrons

Contribution ID: 41

Type: **not specified**

## **LHCb: CODEX-b simulation updates [TBC] (15+5)**

*Friday, 19 October 2018 10:45 (20 minutes)*

**Presenter:** DEY, Biplab (CCNU)

Contribution ID: 42

Type: **not specified**

## **Experimental keynote (45+15)**

**Session Classification:** Keynote

Contribution ID: 43

Type: **not specified**

## Theory keynote (45+15)

*Friday, 19 October 2018 11:05 (1 hour)*

**Presenter:** PICH, Antonio (IFIC, U. Valencia -.)

**Session Classification:** Keynote

Contribution ID: 44

Type: **not specified**

## Closeout (10)

*Friday, 19 October 2018 12:05 (10 minutes)*

**Presenter:** CHARLES, Matthew John (LPNHE Paris, CNRS/IN2P3 UPMC and UPD)

**Session Classification:** Keynote

Contribution ID: 45

Type: **not specified**

## **LHCb overview (25+5)**

*Wednesday, 17 October 2018 08:35 (30 minutes)*

**Presenter:** LANGENBRUCH, Christoph Michael (Rheinisch Westfaelische Tech. Hoch. (DE))

Contribution ID: 46

Type: **not specified**

## HNL models, signals at LHCb (25+5)

*Wednesday, 17 October 2018 17:50 (30 minutes)*

**Presenter:** FISCHER, Oliver (Karlsruhe Institute of Technology)

**Session Classification:** Electroweak physics, heavy flavour production, implications for (n)PDFs, heavy ions, and exotica searches

Implications of ... / Report of Contributions

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Contribution ID: 47

Type: **not specified**

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**Session Classification:** QCD spectroscopy and exotic hadrons