

**XXIV Cracow EPIPHANY
Conference on Advances in
Heavy Flavour Physics**

Report of Contributions

Contribution ID: 1

Type: **not specified**

Overview of Heavy Flavor results at LHCb

Tuesday 9 January 2018 09:45 (45 minutes)

Presenter: SILVA COUTINHO, Rafael (Universitaet Zuerich (CH))

Session Classification: B, D decays

Contribution ID: 2

Type: **not specified**

The Dynamics of Beauty & Charm Hadrons (& top quarks) in the Era of LHCb & Belle II (& ATLAS/CMS). Motto: Non-perturbative QCD & Many-body Final States

Wednesday 10 January 2018 09:00 (45 minutes)

Presenters: BIGI, Ikaros (University of Notre Dame); BIGI, Ikaros (Univ. of Notre Dame)

Session Classification: B, D decays

Contribution ID: 3

Type: **not specified**

Introduction

Tuesday 9 January 2018 08:45 (15 minutes)

Presenter: JEZABEK, Marek (Polish Academy of Sciences (PL))

Session Classification: Introduction

Contribution ID: 4

Type: **not specified**

Global fit of $b \rightarrow sll$ processes, an update: A further step towards New Physics Discovery

Tuesday 9 January 2018 09:00 (45 minutes)

In this talk we update the status of the global fit including the set of all coherent deviations or anomalies observed, with particular emphasis on the recently measured observables that violate lepton flavor universality (LFU). We discuss the properties of the new LFU observables. We focus on the model independent links and implications between different types of LFU violating observables of $b \rightarrow s$ and $b \rightarrow c$ type. We also show how the dominant LFU violating scenario reproduces exactly the anomaly in $B \rightarrow K^* \mu \mu$ at large-recoil dismissing all naïve arguments based on long distance charm contributions.

Presenter: MATIAS, Joaquim (Universitat Autònoma Barcelona)

Session Classification: B, D decays

Contribution ID: 5

Type: **not specified**

Recent results from Belle and Belle 2 experiments

Tuesday 9 January 2018 11:35 (45 minutes)

Presenter: BERNLOCHNER, Florian Urs (University of Bonn (DE))

Session Classification: B, D decays

Contribution ID: 6

Type: **not specified**

Mini review on V_{ub} , V_{cb} @ LHCb and B-factories

Tuesday 9 January 2018 12:20 (35 minutes)

Presenter: ROTONDO, Marcello (INFN e Laboratori Nazionali di Frascati (IT))

Session Classification: B, D decays

Contribution ID: 7

Type: **not specified**

Recent Heavy Flavour results from CMS

Tuesday 9 January 2018 13:55 (30 minutes)

Presenter: LACAPRARA, Stefano (INFN sezione di Padova)

Session Classification: B, D decays

Contribution ID: 8

Type: **not specified**

Long-distance effects in exclusive $b \rightarrow sll$ decays

Tuesday 9 January 2018 14:25 (30 minutes)

Presenter: VAN DYK, Danny (TU München)

Session Classification: B, D decays

Contribution ID: 9

Type: **not specified**

Overview of ATLAS Heavy Flavor Measurements

Tuesday 9 January 2018 14:55 (30 minutes)

Presenters: SEIDEL, Sally (University of New Mexico / ATLAS); SEIDEL, Sally (University of New Mexico (US))

Session Classification: B, D decays

Contribution ID: **10**Type: **not specified**

QED corrections to $B_s \rightarrow \mu \mu$

Tuesday 9 January 2018 15:25 (30 minutes)

In my talk, I will report on the computation of QED radiative corrections to the rare leptonic decay of strange B mesons. In the previous literature, only the QED corrections above the m_b scale have been included. I will outline an approach to compute corrections below the m_b scale using soft-collinear effective theory. It reveals an unexpected enhancement due to a “non-local annihilation” effect. Numerically, the enhanced corrections are thus far larger than previously estimated and therefore they constitute a necessary ingredient in precise theoretical prediction for the $B_s \rightarrow \mu^+ \mu^-$ decay rate as shown in arXiv:1708.09152.

Presenters: SZAFRON, Robert (TU München); Dr SZAFRON, Robert

Session Classification: B, D decays

Contribution ID: **11**

Type: **not specified**

TBA

Presenter: DESCOTES-GENON, Sebastien (Laboratoire de Physique Théorique d'Orsay)

Session Classification: B, D decays

Contribution ID: 12

Type: **not specified**

TBA

Presenter: MARTIN CAMALICH, Jorge (CERN)

Session Classification: B, D decays

Contribution ID: 13

Type: **not specified**

Lepton universality in semileptonic $L_b \rightarrow L_c^*$ decays

Presenter: BORDONE, Marzia (University of Zurich)

Session Classification: B, D decays

Contribution ID: 14

Type: **not specified**

Radiative decays of the B meson: a progress report

Wednesday 10 January 2018 11:10 (30 minutes)

Presenter: MISIAK, Mikolaj Krzysztof (University of Warsaw (PL))

Session Classification: B, D decays

Contribution ID: 15

Type: **not specified**

Semileptonic penguin decays of the B meson

Wednesday 10 January 2018 11:40 (30 minutes)

Presenter: HURTH, Tobias (Johannes Gutenberg Universitaet Mainz (DE))

Session Classification: B, D decays

Contribution ID: 16

Type: **not specified**

Searching New Physics with Beauty mesons

Wednesday 10 January 2018 12:10 (30 minutes)

Presenter: SINHA, Rahul (NIT - National Inst. of Technology (IN))

Session Classification: B, D decays

Contribution ID: 17

Type: **not specified**

New Look at Hidden Charm Tetra and Pentaquark States

Wednesday 10 January 2018 13:30 (30 minutes)

Presenter: REHMAN, Abdur (National Centre for Physics, Islamabad)

Session Classification: B, D decays

Contribution ID: **18**

Type: **not specified**

Combined interpretation of B-physics anomalies and model building

Thursday 11 January 2018 12:00 (30 minutes)

Presenter: MARZOCCA, David (INFN Trieste)

Session Classification: B, D decays

Contribution ID: 19

Type: **not specified**

Recent global fit results from the GAMBIT collaboration

Wednesday 10 January 2018 14:30 (30 minutes)

The Global And Modular BSM Inference Tool (GAMBIT) is a new, open-source tool for performing global statistical fits of generic models of BSM physics, and the GAMBIT collaboration are also actively involved in performing tests of new physics models with the tool. I will present highlights of our recent results, including (potentially) studies of weak- and GUT-scale supersymmetric models, studies of Higgs portal dark matter scenarios, and studies of axion models.

Presenter: WHITE, Martin John (University of Adelaide (AU))

Session Classification: B, D decays

Contribution ID: 20

Type: **not specified**

The Return of Kaon Flavour Physics

Presenter: BURAS, Andrzej (Technical University Munich)

Session Classification: Strange Physics

Contribution ID: 21

Type: **not specified**

The Return of Kaon Flavour Physics

Thursday 11 January 2018 09:00 (45 minutes)

Kaon flavour physics has played in the 1960s and 1970s a very important role in the construction of the Standard Model (SM) and in the 1980s and 1990s in its tests in particular with the help of CP violation in $K_L \rightarrow \pi\pi$ decays represented by ε_K and the ratio ε'/ε . In this millennium this role has been taken over by $B_{s,d}$ and D mesons. However there is no doubt that in the coming years we will witness the return of kaon flavour physics with the highlights being the measurements of the theoretically clean branching ratios for rare decays

$K \rightarrow \pi\nu$ and the improved theory of the ratio ε'/ε , of the $K^0-\bar{K}^0$ mixing mass difference ΔM_K and of the decays $K_L \rightarrow \mu^+\mu^-$ and $K_L \rightarrow \pi^0\ell^+\ell^-$. They all are very sensitive to new physics (NP) contributions. $B_{s,d}$ mixing observables and decays like $B_{s,d} \rightarrow \mu^+\mu^-$, $B \rightarrow K(K^*)\ell^+\ell^-$, $B \rightarrow K(K^*)\nu\bar{\nu}$ and $B \rightarrow D(D^*)\tau\nu_\tau$ will be crucial. This talk summarizes several aspects of this exciting field.

Presenter: BURAS, Andrzej (Technical University Munich)

Session Classification: Strange Physics

Contribution ID: 22

Type: **not specified**

Review and Outlook of Kaon Physics

Thursday 11 January 2018 09:45 (45 minutes)

Presenter: CECCUCCI, Augusto (CERN)

Session Classification: Strange Physics

Contribution ID: 23

Type: **not specified**

The quantity ε'/ε measures direct CP violation in Kaon decays.

Thursday 11 January 2018 10:30 (30 minutes)

Presenter: CERDA SEVILLA, Maria

Session Classification: Strange Physics

Contribution ID: 24

Type: **not specified**

D Dbar asymmetry at low and high energies and possible consequence for prompt atmospheric neutrinos

Tuesday 9 January 2018 16:55 (30 minutes)

Presenter: SZCZUREK, Antoni (Institute of Nuclear Physics)

Session Classification: B, D decays

Contribution ID: 25

Type: **not specified**

Simultaneous production of D and B mesons

Tuesday 9 January 2018 17:25 (30 minutes)

Presenter: MACIULA, Rafal (Institute of Nuclear Physics PAN)

Session Classification: B, D decays

Contribution ID: 26

Type: **not specified**

Searching for NP with $b \rightarrow s \tau \tau$ processes

Tuesday 9 January 2018 11:00 (35 minutes)

Presenter: DESCOTES-GENON, Sebastien (Laboratoire de Physique Théorique d'Orsay)

Session Classification: B, D decays

Contribution ID: 27

Type: **not specified**

Observables, EFT and model-building aspects of B-decay anomalies

Wednesday 10 January 2018 09:45 (30 minutes)

Presenter: MARTIN CAMALICH, Jorge (CERN)

Session Classification: B, D decays

Contribution ID: 28

Type: **not specified**

Three-site Pati-Salam gauge model for flavour anomalies

Wednesday 10 January 2018 10:15 (25 minutes)

Presenter: BORDONE, Marzia (University of Zurich)

Session Classification: B, D decays

Contribution ID: 29

Type: **not specified**

New Look at Hidden Charm Tetra and Pentaquark States

Presenter: REHMAN, Abdur (National Centre for Physics, Islamabad)

Session Classification: B, D decays

Contribution ID: **30**

Type: **not specified**

Reparametrization invariance in HQET

Wednesday 10 January 2018 16:00 (30 minutes)

Presenter: Dr VOS, Keri (Siegen University)

Session Classification: B, D decays

Contribution ID: **31**

Type: **not specified**

Belle 2 prospects for CP-violation measurements

Wednesday 10 January 2018 16:30 (30 minutes)

Presenters: LA LICATA, Chiara (Universita e INFN, Trieste (IT)); TBA

Session Classification: B, D decays

Contribution ID: 32

Type: **not specified**

Theoretical overview of charm physics

Session Classification: Charm Physics

Contribution ID: 33

Type: **not specified**

Overview of experimental results in charm sector

Presenter: SCHWARTZ, Alan (University of Cincinnati)

Session Classification: Charm Physics

Contribution ID: 34

Type: **not specified**

Neutrinos and the current landscape of particle physics

Friday 12 January 2018 09:00 (45 minutes)

Presenter: VALLE, Jose

Session Classification: Neutrino physics

Contribution ID: 35

Type: **not specified**

Current and future neutrino experiments

Friday 12 January 2018 09:45 (45 minutes)

Presenters: LAGODA, Justyna (National Centre for Nuclear Research (PL)); TBA

Session Classification: Neutrino physics

Contribution ID: **36**

Type: **not specified**

Signatures from sterile neutrinos at the FCC

Friday 12 January 2018 10:30 (30 minutes)

Presenter: FISCHER, Oliver (u)

Session Classification: Neutrino physics

Contribution ID: 37

Type: **not specified**

Muon g-2, Current experimental status and future prospects

Friday 12 January 2018 11:30 (35 minutes)

Presenter: LUSIANI, Alberto (Scuola Normale Superiore e INFN di Pisa)

Session Classification: g-2

Contribution ID: **38**

Type: **not specified**

The muon g-2 in progress

Friday 12 January 2018 12:05 (35 minutes)

Presenter: JEGERLEHNER, Fred (Unknown)

Session Classification: g-2

Contribution ID: 39

Type: **not specified**

Flavor physics at the FCC-ee

Friday 12 January 2018 14:25 (35 minutes)

Presenter: LESIAK, Tadeusz (Polish Academy of Sciences (PL))

Session Classification: Future of Particle physics

Contribution ID: 40

Type: **not specified**

SHIP experiment

Friday 12 January 2018 13:40 (45 minutes)

Presenter: SERRA, Nicola (Universitaet Zuerich (CH))

Session Classification: Future of Particle physics

Contribution ID: 41

Type: **not specified**

Beauty asymmetries and Future Colliders

Presenter: Dr SOPICKI, Pawel (Institute of Nuclear Research Polish Academy of Sciences (PL))

Session Classification: Future of Particle physics

Contribution ID: 42

Type: **not specified**

Muon collider: LEMMA proposal

Friday 12 January 2018 15:00 (35 minutes)

Presenters: ANULLI, Fabio (Sapienza Universita e INFN, Roma I (IT)); TBA

Session Classification: Future of Particle physics

Contribution ID: 43

Type: **not specified**

LFU and LFV results at LHCb

Wednesday 10 January 2018 15:30 (30 minutes)

Presenter: PESCATORE, Luca (EPFL - Ecole Polytechnique Federale Lausanne (CH))

Session Classification: B, D decays

Contribution ID: 44

Type: **not specified**

Theoretical predictions and fits in hadronic tau decays.

Thursday 11 January 2018 16:15 (15 minutes)

Presenter: ZAREMBA, Jakub

Session Classification: Young scientists session

Contribution ID: 45

Type: **not specified**

Majorana neutrino search at LHCb experiment

Thursday 11 January 2018 14:15 (15 minutes)

Presenters: OSSOWSKA, Anna (Polish Academy of Sciences (PL)); PIKIES, Malgorzata Maria (Henryk Niewodniczanski Institute of Nuclear Physics Polish Academy of Sciences)

Session Classification: Young scientists session

Contribution ID: 46

Type: **not specified**

cLFV searches at LHCb

Thursday 11 January 2018 14:30 (15 minutes)

Presenter: PIKIES, Malgorzata Maria (Henryk Niewodniczanski Institute of Nuclear Physics Polish Academy of Sciences)

Session Classification: Young scientists session

Contribution ID: 47

Type: **not specified**

CEP measurements at LHCb

Thursday 11 January 2018 17:00 (15 minutes)

Presenter: GONCERZ, Mateusz Jacek (AGH University of Science and Technology (PL))

Session Classification: Young scientists session

Contribution ID: 48

Type: **not specified**

Analysis of multibody beauty to open-charm decays at LHCb

Thursday 11 January 2018 16:45 (15 minutes)

Presenter: KRUPA, Wojciech (AGH University of Science and Technology (PL))

Session Classification: Young scientists session

Contribution ID: 49

Type: **not specified**

MCMC for roofit

Thursday 11 January 2018 15:15 (15 minutes)

Presenter: DAHME, Oliver (Universitaet Zuerich (CH))

Session Classification: Young scientists session

Contribution ID: 50

Type: **not specified**

Search for the rare decay $B^+ \rightarrow l^+ \nu$ gamma at Belle and Belle I

Thursday 11 January 2018 16:00 (15 minutes)

Presenter: GELB, Moritz (KIT)

Session Classification: Young scientists session

Contribution ID: 51

Type: **not specified**

Belle 2 prospects for CP-violation measurements

Presenter: LA LICATA, Chiara (Universita e INFN, Trieste (IT))

Session Classification: Young scientists session

Contribution ID: 52

Type: **not specified**

Prospects for data-driven analyses of the decays $B \rightarrow K^* l l$

Presenter: MAURI, Andrea (Zurich University)

Session Classification: Young scientists session

Contribution ID: 53

Type: **not specified**

Updated fits to bsl1 data”.

Thursday 11 January 2018 11:30 (30 minutes)

Presenter: MAHMOUDI, Nazila (Universite Claude Bernard Lyon I (FR))

Session Classification: B, D decays

Contribution ID: 54

Type: **not specified**

Angular correlations between heavy and light jet-particles as a means to study in-medium heavy-quark energy loss

Tuesday 9 January 2018 16:25 (30 minutes)

Presenter: ROHRMOSER, Martin (SUBATECH/Ecole des Mines de Nantes)

Session Classification: B, D decays

Contribution ID: 55

Type: **not specified**

Charm Physics: another Route towards New Physics

Wednesday 10 January 2018 14:00 (30 minutes)

Presenter: SCHWARTZ, Alan (University of Cincinnati)

Session Classification: B, D decays

Contribution ID: 56

Type: **not specified**

Future contributions to phi_s measurements

Thursday 11 January 2018 14:00 (15 minutes)

Presenter: BATOZSKAYA, Varvara (National Centre for Nuclear Research (PL))

Session Classification: Young scientists session

Contribution ID: 57

Type: **not specified**

Top quark differential cross-section measurement with the ATLAS detector

Thursday 11 January 2018 16:30 (15 minutes)

Presenter: SCORNAJENGHI, Matteo (Universita della Calabria (IT))

Session Classification: Young scientists session

Contribution ID: 58

Type: **not specified**

Hunting stops with tau leptons using the ATLAS detector

Thursday 11 January 2018 15:00 (15 minutes)

Presenter: HOLZBOCK, Michael Helmut (Ludwig Maximilians Universitat (DE))

Session Classification: Young scientists session

Contribution ID: 59

Type: **not specified**

Measurement of the $t\bar{t}\gamma$ production cross section in proton-proton collisions at $\sqrt{s}=8$ TeV with the ATLAS detector

Thursday 11 January 2018 14:45 (15 minutes)

Presenter: GHASEMI, Sara (University of Siegen (DE))

Session Classification: Young scientists session

Contribution ID: **60**

Type: **not specified**

New physics in charged-current semileptonic decays

Thursday 11 January 2018 12:30 (30 minutes)

Presenter: JUNG, Martin (TUM IAS / Excellence Cluster Universe)

Session Classification: B, D decays

Contribution ID: 61

Type: **not specified**

Impact of LHC heavy flavour data on nuclear gluon PDF

Wednesday 10 January 2018 17:00 (30 minutes)

Presenter: KUSINA, Aleksander (Institute of Nuclear Physics PAN)

Session Classification: B, D decays

Contribution ID: 62

Type: **not specified**

Cosmic-Ray Extremely Distributed Observatory: new research perspectives in astroparticle physics

Friday 12 January 2018 15:35 (30 minutes)

Presenter: Dr NIRAJ, Dhital (IFJ PAN)

Session Classification: Future of Particle physics