

# **PHENOEXP 2024: LHC , HL-LHC Physics and beyond**



## **Report of Contributions**

Contribution ID: 3

Type: **not specified**

## Perturbative QCD around 2 GeV

*Thursday 9 May 2024 11:50 (15 minutes)*

We will discuss issues related to the use of perturbative QCD at relatively low energies. The theoretical problems that arise are often fundamental and touch, for instance, the very nature of the perturbative expansion. We have in mind applications to hadronic tau decays, which remains an important source of information about the strong coupling,  $\alpha_s$ . We will discuss renormalon singularities, scheme variations, and a novel approach to the violations of quark-hadron duality – which go beyond perturbation theory. The impact on the precise extraction of  $\alpha_s$  will be emphasised.

**Author:** BOITO, Diogo**Presenter:** BOITO, Diogo**Session Classification:** Short Communications

Contribution ID: **11**

Type: **not specified**

## **Looking for NP in 3rd generation observables at the LHC**

*Wednesday 8 May 2024 15:15 (15 minutes)*

We discuss how NP signals may show up in 3rd generation observables at the LHC.

**Author:** ALVAREZ, Ezequiel (ICAS)

**Presenter:** ALVAREZ, Ezequiel (ICAS)

**Session Classification:** Short Communications

Contribution ID: 18

Type: **not specified**

## CP violation in charmless three-body $B^\pm$ meson decays at LHCb

*Wednesday 8 May 2024 14:45 (15 minutes)*

Searches for CP violation in the decays of B hadrons without charmed particles in the final state offer rich opportunities to test the Standard Model. Charmless b-hadron decays are suppressed in the Standard Model by small CKM matrix elements which brings the tree amplitudes to levels comparable with loop amplitudes, and potentially New Physics amplitudes. CP violation measurements using Dalitz plot analyses in multi-body decays allow to disentangle these various contributions. We report the most recent measurements from LHCb on charmless  $B^\pm$  meson three-body decays, considering final states containing only charged light mesons:  $\pi^-\pi^-\pi^+$ ,  $K^-\pi^-\pi^+$ ,  $K^-\pi^+K^+$  and  $K^+K^-K^+$ . A study of the distribution of CP asymmetries in the  $B^\pm$  meson decay phase space is presented.

**Author:** Dr NASTEVA, Irina (Federal University of Rio de Janeiro (BR))

**Presenter:** Dr NASTEVA, Irina (Federal University of Rio de Janeiro (BR))

**Session Classification:** Short Communications

Contribution ID: **30**

Type: **not specified**

## BSM Theory

*Wednesday 8 May 2024 10:00 (40 minutes)*

**Presenter:** DA ROLD, Leandro (C)

**Session Classification:** Plenary Session

Contribution ID: **31**

Type: **not specified**

## QCD Theory

*Wednesday 8 May 2024 10:40 (40 minutes)*

**Presenter:** DE FLORIAN , Daniel (ICAS)

**Session Classification:** Plenary Session

Contribution ID: **32**

Type: **not specified**

## Higgs Theory

*Wednesday 8 May 2024 11:20 (40 minutes)*

**Presenter:** GERSDORFF, Gero (PUC-Rio)

**Session Classification:** Plenary Session

Contribution ID: 33

Type: **not specified**

## BSM: Experimental Status

*Thursday 9 May 2024 09:30 (40 minutes)*

**Presenter:** WAHLBERG, Hernan Pablo (National University of La Plata (AR))

**Session Classification:** Plenary Session



Contribution ID: **40**

Type: **not specified**

## Deep Learning in HEP

Deep Learning techniques applied to HEP

**Author:** SZNAJDER, Andre (Universidade do Estado do Rio de Janeiro (BR))

**Presenter:** SZNAJDER, Andre (Universidade do Estado do Rio de Janeiro (BR))

Contribution ID: 42

Type: **not specified**

## Flavor Physics and CP Violation at LHCb

**Presenter:** GOBEL BURLAMAQUI DE MELLO, Carla (Pontifical Catholic University of Rio de Janeiro (BR))