Contribution ID: **1** Type: **Regular Talk (15'+5')**

Search for new physics in the final state $B - \tau - \nu$

Friday 3 December 2021 11:05 (20 minutes)

The $R_{D^{(*)}}$ Anomaly is a taint in the Lepton Flavor Universality. With recent data the anomaly has a statistical significance more than 3σ between BaBar, LHCb and Belle. Many theoretical models had been proposed to solve this problem, extending the Standard model in different sectors. In this talk we will discuss about the road to look for a charged mediator in two different mass spectra with the final state $B - \tau - \nu$ in proton-to-proton colissions using computational tools as MadGraph5, Pythia8 and Delphes to develop montecarlo samples, calculating the cross-section between the partons, simulating the hadronization cascade and showering and emulating the CMS response for these particles and finally how touse python for the analysis. This work in order to explain the $R_{D^{(*)}}$ Anomaly taking into account the crossing symmetry in the LHC experimental context.

Authors: RUIZ, Jose (Universidad de Antioquia (CO)); ATEHORTUA GARCES, Tomas (Universidad de Antioquia (CO))

Presenter: ATEHORTUA GARCES, Tomas (Universidad de Antioquia (CO))

Session Classification: Theory - Phenomenology

Track Classification: Beyond the standard model