

# Mini-workshop on $D(^*)$ tau nu and related topics

Contribution ID : 18

## Test of lepton universality with $B \rightarrow p \bar{p} l \nu$ decays

Tuesday 28 Mar 2017 at 14:30 (00h35')

### Content :

Given on behalf of the LHCb collaboration:

Should the discrepancy between theoretical predictions and measurements of  $R(D^*)$  and  $R(D)$  persist with new data at LHCb and Belle II it will be important to measure lepton non-universality in transitions other than  $b \rightarrow c$  in order to characterise the underlying physics causes. With the large dataset of semi-leptonic decays collected by LHCb in Run 1 and Run 2 even modes that are not CKM favoured are able to be probed. Here a proposal for such a measurement at LHCb with a  $b \rightarrow u$  transition via  $B \rightarrow p \bar{p} l \nu$  will be presented. Such an analysis will probe different and complementary physics to the previous  $R(D)$  and  $R(D^*)$  measurements. The steps towards a measurement of  $R(p \bar{p})$  at LHCb will be outlined with the experimental and theoretical challenges highlighted.

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