

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

Contribution ID : 15

Hints in semi-tauonic B meson decays: The physics case for high-pT LHC

Tuesday 28 Mar 2017 at 16:15 (00h35')

Content :

We study the implications of the long-standing anomaly in semi-tauonic B meson decays for direct searches with ATLAS and CMS detectors at the LHC. We first identify collider signatures at high energies correlated with the anomaly at low energies. Several representative models put forward to explain the anomaly are examined in details: color-neutral vector triplet, 2HDM, scalar and vector leptoquark model. We find that in general di-tau searches impose serious challenge to new physics explanations of the anomaly. After recasting present 8 and 13 TeV analyses stringent limits are set on all the models. Future projections are also derived.

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