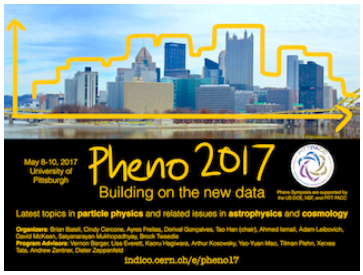

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D^* polarization as a probe to discriminate new physics in $\bar{B} \to D^* \tau \bar{\nu}$

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\begin{abstract}
The confirmation of excess in R_{D^*} at the LHCb is an indication of lepton flavor non-universality. Various different new physics operators and their coupling strengths, which provide a good fit to R_D, R_{D^*} and q^2 spectra, were identified previously. In this work, we try to find angular observables in $\bar{B} \to D^* \tau \bar{\nu}$ which enable us to distinguish between these new physics operators. We find that D^* polarization fraction $f_L(q^2)$ is a good discriminant of scalar and tensor new physics operators.
The change in $\langle f_L(q^2) \rangle$, induced by scalar and tensor operators, is about three times larger than the expected uncertainty in the upcoming Belle measurement.

Summary

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