EPS-HEP2019



Contribution ID: 160

Type: Poster

New physics solutions for $b \rightarrow c \tau \bar{\nu}$ anomalies after the measurement of D^* polarization

Monday 15 July 2019 19:40 (20 minutes)

The anomalies in the flavor ratios R_D and R_{D^*} provide a hint of physics beyond the Standard Model. Previously it was shown that the polarization fraction of the D^* meson in the $B \to D^* \tau \bar{\nu}$ decay provides a defining signature for tensor new physics. Recently Belle collaboration measured this quantity to be $0.60 \pm 0.08 \pm 0.04$. Here we do a re-analysis of all the data in $b \to c \tau \bar{\nu}$ sector, including the D^* polarization fraction. We find that the Belle measurement rules out the tensor new physics solutions at 5σ . We also identify the presently allowed new physics solutions and the six variables needed to distinguish between them.

Authors: ALOK, Ashutosh (IIT Jodhpur); KUMAR, DINESH (IIT BOMBAY); KUMBHAKAR, Suman (IIT Bombay); UMASANKAR, Sankagiri (IIT Bombay)

Presenter: KUMBHAKAR, Suman (IIT Bombay)

Session Classification: Wine & Cheese Poster Session

Track Classification: Flavour Physics and CP Violation