Contribution ID: **17** Type: **Talk**

First direct tests of T and CPT symmetries in transitions of neutral kaons from KLOE-2

Wednesday, November 9, 2022 2:30 PM (15 minutes)

The comparison of neutral K-meson transition rates between flavour and CP eigenstates is used to perform independent tests of time-reversal T, CP and CPT symmetries. The analysis of 1.7 fb^{-1} of KLOE data acquired at the DAΦNE e^+e^- collider, using ratios of rates of the two classes of processes, $K_SK_L \to \pi^\pm e^\mp \nu, 3\pi^0$ and $K_SK_L \to \pi^+\pi^-, \pi^\pm e^\mp \nu$, provides the first direct and model independent tests of T and CPT symmetries in transitions of neutral kaons.

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Session Classification: High-intensity frontier

Track Classification: All