ICHEP 2022



Contribution ID: 1045

Type: Parallel Talk

Status of the KL->pi0 nu number study at the J-PARC KOTO experiment

Thursday, 7 July 2022 17:51 (17 minutes)

The KOTO experiment studies the CP-violating rare decay $K_L \rightarrow \pi^0 \nu \overline{\nu}$, conducting with the 30-GeV Main Ring Proton Synchrotron at J-PARC in Japan. In the previous analysis on data taken in 2016-18, we found three candidate events in the signal region with a single event sensitivity of 7×10^{-10} , which is statistically consistent with the background expectation. The dominant background source then was the charged kaon contamination in the neutral beam.

Since 2020, we have accumulated data with a new detector that detects the charged kaon in the beam to suppress such backgrounds. We are analyzing data, taken in 2021 in particular, whose statistics corresponds to a similar sensitivity. We will report the status of the analysis and plans for the next run.

In-person participation

No

Primary authors: NOMURA, Tadashi (KEK/J-PARC); TUNG, Yu-Chen (National Taiwan University)

Presenter: TUNG, Yu-Chen (National Taiwan University)

Session Classification: Quark and Lepton Flavour Physics

Track Classification: Quark and Lepton Flavour Physics