

# The 21st International Workshop on Neutrinos from Accelerators (NUFACT2019)

Contribution ID: 28

Type: **Oral Presentation**

## Searches for LFV and LNV at Belle II

*Friday 30 August 2019 15:15 (25 minutes)*

The Belle II experiment is a substantial upgrade of the Belle detector and will operate at the SuperKEKB energy-asymmetric  $e^+e^-$  collider. The design luminosity of the machine is  $8 \times 10^{35} \text{ cm}^{-2}\text{s}^{-1}$  and the Belle II experiment aims to record  $50 \text{ ab}^{-1}$  of data, a factor of 50 more than its predecessor. From February to July 2018, the machine has completed a commissioning run and main operation of SuperKEKB has started in March 2019. Belle II has a broad  $\tau$  physics program, in particular in searches for lepton flavor and lepton number violations (LFV and LNV), benefiting from the large cross section of the pairwise  $\tau$  lepton production in  $e^+e^-$  collisions. We expect that after 5 years of data taking, Belle II will be able to reduce the upper limits on LF and LN violating  $\tau$  decays by an order of magnitude. Any experimental observation of LFV or LNV in  $\tau$  decays constitutes an unambiguous sign of physics beyond the Standard Model, offering the opportunity to probe the underlying New Physics. In this talk we will review the  $\tau$  lepton physics program of Belle II.

### Working Group

WG4 : Muon Physics

**Authors:** PERUZZI, Ida (Laboratori Nazionali di Frascati dell'INFN); KONNO, 今野智之

**Presenter:** KONNO, 今野智之

**Session Classification:** Working Group 4