Contribution ID: **93** Type: **not specified**

Prospects for τ lepton physics at Belle II

Monday 24 September 2018 14:40 (20 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 accelerator has already successfully completed the first phase of commissioning in 2016 and first electron positron collisions in Belle II are expected for April 2018. The design luminosity of SuperKEKB is 8×1035 cm−2s−1 and the Belle II experiment aims to record 50 ab−1 of data, a factor of 50 more than the Belle experiment. Belle II broad programme of τ physics, in particular in searches of lepton flavor and lepton number violations (LFV and LNV), benefiting from the large cross section of the pairwise τ 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 τ decays by an order of magnitude. Any experimental observation of LFV or LNV in τ 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 τ lepton physics program of Belle II.

Presenter: HERNANDEZ VILLANUEVA, Michel (Cinvestav)

Session Classification: Session