

## Study of the Lorentz structure of tau decays and the rare tau decays from Belle

*Saturday, July 7, 2018 4:50 PM (20 minutes)*

We evaluate the Michel parameters of  $\tau$  decays using the full data sample of Belle. This is important to reveal the Lorentz structure of  $\tau$  leptonic decays, which includes not only the V - A interaction but also contributions from scalar, tensor and others that may arise from New Physics, thus testing lepton universality as well. We use both  $\tau^+ \rightarrow l^+ \nu \nu$  and  $\tau^+ \rightarrow l^+ \gamma \nu \nu$ . We also measure branching fractions of  $\tau$  decays into three charged leptons and two neutrinos as well as charged pion, lepton-pairs and a neutrino. Recently, their precise theoretical prediction of the branching fractions are given ( $O(10^{-5} \dots -7)$ ) and the statistics of the Belle data allows us to achieve the first observation for them.

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